Short title: **Does multilingualism shape personality?**
Full title: **Does multilingualism shape personality?**
Author: Jean-Marc Dewaele, Elouise Botes
Acknowledgment: Many thanks to the participants for providing valuable data.
Postal address:
Department of Applied Linguistics and Communication
Birkbeck, University of London
26 Russell Square
WC1B 5DT London
UK
Email address: j.dewaele@bbk.ac.uk

Abstract

The present study based on quantitative feedback from 651 multilingual foreign language learners from around the world suggests that knowing more languages is linked to significantly higher scores on three out of five broad personality traits, namely Flexibility, Social Initiative and Openmindedness (van der Zee, van Oudenhoven, Ponterotto & Fietzer, 2013). Correlations coefficients indicated significant weak, positive correlations between the level of multilingualism of the participants and total scores of the Flexibility, Social Initiative and Openmindedness subscales. This finding was further strengthened by the acceptable fit statistics of a parceled structural equation model examining the influence of multilingualism on the three personality subscales. In addition, the model indicated significant weak, positive path coefficients furthering the argument that the level of multilingualism may affect an individual's standing on three personality traits. It confirms and expands earlier research that showed that multilingualism and multiculturalism can be considered to be enduring social factors that contribute to the shaping of personality profiles.

Keywords: Multilingualism**,** Flexibility, Social Initiative, Openmindedness, Emotional Stability, Cultural Empathy

Introduction

Personality traits "summarize a person's typical behavior" (Pervin & Cervone, 2010, p. 229) and there is broad agreement among psychologists that there are five broad, bipolar dimensions, the so-called Big Five, which are situated at the summit of the hierarchy (Pervin & Cervone, 2010). There are a large number of "lower-order" personality traits, that are often correlated with Big Five traits but also explain unique variance. Although psychologists agree that personality is determined both by physiological and social factors (Furnham & Heaven, 1999), relatively less research has been carried out on the effect of social factors. The present study is situated within this avenue of research as multilingualism (and possibly multiculturalism (cf. Grosjean, 2014)) is an enduring social variable with the potential to shape a person's personality (Dewaele & van Oudenhoven, 2009). The literature review will focus on the research that has linked measures of multilingualism and personality traits measured with the Multicultural Personality Questionnaire (van der Zee, van Oudenhoven, Ponterotto & Fietzer, 2013) and will briefly mention research on "lower-order" personality traits and emotions. This will be followed by the research question and the methodology section. The results section will present the nonparametric statistical analyses which will be discussed in the following section and, finally, some tentative conclusions will be presented.

Literature review

Van der Zee and van Oudenhoven (2000) developed the Multicultural Personality Questionnaire (MPQ). Just like Big Five personality inventories, the MPQ scales consider five dimensions. The main difference is that the MPQ scales are more geared toward predictions of multicultural success compared to general personality questionnaires. The first dimension is Cultural Empathy: the ability to empathise with cultural diversity, understanding feelings, beliefs and attitudes different from heritage ones. The second dimension is Flexibility: the

ability to learn from new experiences, adjusting behaviour according to contingency and enjoying novelty and change. The third dimension is Social Initiative: the tendency to approach social situations actively, taking the initiative and engaging in social situations. The fourth dimension is Emotional Stability: the tendency to remain calm in stressful situations controlling emotional reactions. The final dimension is Openmindedness: an open, unprejudiced attitude towards diversity. Even the MPQ dimensions that closely correspond with Big Five scales are more specifically focused on aspects that are relevant to multicultural success (van Oudenhoven & van der Zee, 2002). The MPQ dimension of Cultural Empathy, for example, is similar to Agreeableness from the 'Big Five' construct as both refer to the ability to empathise with other's feelings. However, Cultural Empathy also includes empathizing with and understanding the feelings of members of different cultural groups. The MPQ has been used around the world. It has been applied to various age groups and professional groups: students, employees, expatriates and their family members, and refugees. In all cases, the dimensions were found to be reliable and to show consistent patterns of correlations with related variables (Leone et al., 2005). Construct validity is strong as the dimensions show correlations as predicted with related personality and attitudinal variables (Leone, van der Zee, van Oudenhoven, Perugini, & Ercolani, 2005). van Oudenhoven, Timmerman, and van der Zee (2007) demonstrated the cross-cultural equivalence of the scales of the MPQ.

Dewaele and van Oudenhoven (2009) was the first study to investigate whether multilingualism and multiculturalism, enduring social variables, could have an effect on personality traits. The authors investigated the relationship between the number of languages known and five personality dimensions using the MPQ. Participants were 79 ninth grade pupils (aged 13 to 15) in a London comprehensive school in a socially deprived area. Forty-one participants were born outside the UK and were of African, Arabic, Caucasian and Asian origin. The remaining 38 participants were locally born, British teenagers of Caucasian and

Asian origin. Twenty-seven participants were incipient bilinguals, i.e. they were in the process of learning a foreign language at school. The other participants included 43 trilinguals, 6 quadrilinguals and 3 pentalinguals (p. 10). A t-test revealed that the multilingual group scored significantly higher than the group of incipient bilinguals on Openmindedness ($p < .002$, Cohen's $d = .57$ – an intermediate effect size)[1], and – marginally higher – on Cultural Empathy ($p = .054$, Cohen's $d = .40$ – a small effect size), but they scored significantly lower on Emotional Stability ($p < .0001$, Cohen's $d = .62$ – an intermediate effect size). The type of language dominance also had a significant effect on participants' personality. Participants dominant in two languages scored significantly higher on Openmindedness, marginally higher on Cultural Empathy and significantly lower on Emotional Stability than participants dominant in a single language.

In a follow-up study, Dewaele and Stavans (2014) replicated the London study with 193 residents in Israel. Those born in Israel tended to score higher on Emotional Stability than those born abroad ($p < .07$, Cohen's $d = .18$ – just below the threshold for small effect size). Participants with a single immigrant parent scored higher on Cultural Empathy, Openmindedness and Social Initiative (explaining between 4.6% and 6.2% of the variance, i.e. small to intermediate effect sizes, cf. Cohen, 1988). Participants who had become dominant in Hebrew later in life scored lower on Emotional Stability than Hebrew L1-dominant participants (explaining 4% of the variance). Surprisingly, the degree of multilingualism was unrelated to their personality profile. However, a more granular measure of total language use and total proficiency in various languages showed that those who scored higher on these two language measures also scored significantly higher on Cultural Empathy, Openmindedness and Social Initiative. Advanced knowledge of more languages was also linked to higher levels of Cultural Empathy (predicting 2.3% of the variance, i.e. a small effect size).

Korzilius, Van Hooft, Planken and Hendrix (2011) also investigated the link between multilingualism and personality traits among 144 local and international employees in a Dutch multinational company. A correlation analysis revealed that number of languages known was positively linked to Openmindedness (r = .35, r^2 = 12.5) and Emotional Stability (Emotional Stability: r = .30, r^2 = 9). Both effect sizes could be described as intermediate. The international employees who were more multilingual were also more open-minded and flexible than the local employees (p. 540).

Dewaele and Li Wei (2012) looked at the relationship between multilingualism and Cognitive Empathy among 2158 participants. The knowledge of more languages turned out not to be linked to higher levels of Cognitive Empathy. However, a significant effect emerged of global language use on Cognitive Empathy. Participants who used all their languages frequently became better communicators and were better able to see the world from their interlocutor's point of view.

In a follow-up study based on the same database, Dewaele and Li Wei (2013) considered the link between multilingualism and Tolerance of Ambiguity (TA). The number of languages had a significant effect on TA, with monolinguals and bilinguals scoring lower on TA compared to those with more languages. TA scores of trilinguals were significantly higher than those of bilinguals but TA scores stabilized for quadrilinguals and pentalinguals. Higher levels of global proficiency in different languages also had a significant (but very small) effect on TA scores. The authors concluded that TA is to some extent influenced by the sociolinguistic and cultural environment and by the need to acquire new languages in order to survive in a new linguistic and cultural environment.

Van Compernolle (2016) partly replicated the Dewaele and Li Wei (2013) study, looking for relationships between global proficiency and TA among 379 adults, including

monolinguals, bilinguals and multilinguals. He found that participants with higher levels of global proficiency also scored significantly higher on TA.

Wei and Hu (to appear) also investigated the question of the effect of global language proficiency and multilingualism on TA of 260 Chinese multilinguals in an EFL context. The authors found that the differences in TA scores of low, medium and high global proficiency groups were not statistically significant but number of languages known turned out to be a significant predictor of TA.

The effect of multilingualism has also been investigated on psychological and emotional dimensions such as Foreign Language Anxiety which has been shown to be strongly positively correlated with Neuroticism and low Emotional Stability (Dewaele, 2017; Dewaele & MacIntyre, to appear). The knowledge of more languages corresponded with lower Foreign Language Anxiety and higher Foreign Language Enjoyment (Dewaele & MacIntyre, 2014).

This brief literature review suggests that multilingualism, advanced knowledge of several languages and frequent use of them has been linked to personality traits and other psychological and emotional dimensions. In the current contribution, I propose to delve deeper in the topic and to focus solely on the five MPQ dimensions, re-using the large database that was used for a different purpose in Dewaele and MacIntyre (to appear).

Research question

Is there a possible relationship between multilingualism – as measured by the number of languages known – and the scores of individuals on the five factors of the Multicultural Personality Questionnaire?

Methodology

Participants

The 651 participants (461 females, 181 males, mean age: 25 years, SD = 9.93) were studying foreign languages mostly in Europe and North America followed by Asia, Africa, Australia, and South America. Most were at university with a minority at high school. Participants were multilinguals, with 138 bilinguals, 230 trilinguals, 130 quadrilinguals, 92 pentalinguals, 34 sextalinguals and 27 participants reporting knowing seven or more languages. In terms of nationality, the largest group were Americans, followed by Belgians, Spaniards, Japanese, British and smaller groups of other nationalities. English was the most frequent L1, followed by German, Arabic, French, Japanese and 48 other languages. Close to half of participants reported studying English as a FL, followed by French, Spanish, German, Japanese, ... Participants were recruited through snowball sampling, which is a form of non-probability sampling (Ness Evans & Rooney, 2013). An open-access anonymous online questionnaire was used. Calls for participation were sent through emails to students, colleagues and informal contacts asking them to forward the link to people studying a foreign language. The questionnaire remained online for eight months in 2016 and attracted responses from 782 participants across the world, of which 651 filled out the questionnaire completely. The advantages of online questionnaires, ease of access to rich and abundant data from participants in diverse locations, outweighs the main disadvantage, namely participant self-selection (Dewaele, 2018).

Instruments

In addition to the items on their sociobiographical background, the following scales were included in the online questionnaire:

Linguistic Profile. Participants were asked to list the languages in which they had some competency and to specifically indicate whether these languages can be

considered a first language (L1a/L1b/L1c), second language (L2), third language (L3), fourth language (L4), fifth language (L5, and any additional languages.

Multicultural Personality Questionnaire. A five factor personality measure, with 40 items measured on a 5-point scale. The five factors, each with 8 items, included in the measure are:

Cultural Empathy. The subscale measures the ability to empathise in culturally diverse situations and include items such as '[I] enjoy other people's stories" (Van der Zee et al., 2013) (Cronbach's α = .81).]

Flexibility. Measures the ability to adjust and learn from experience. All 8 items in this scale are negatively worded, for example: "[I] like routine" (Van der Zee et al., 2013). All items were reverse coded before analysis (Cronbach's α = .82).

Social Initiative. The subscale measures the ability to engage in social situations and contains items such as "[I] make contacts easily" (Van der Zee et al., 2013). The scale contains three negatively worded items that were reverse coded before analysis (Cronbach's α = .80).

Emotional Stability. Measures the tendency to control emotional reactions to stressful situations via items such as "[I] keep calm when things don't go so well" (Van der Zee et al., 2013). The scale contains 6 negatively worded items that were reverse coded before analysis (Cronbach's α = .77).

Openmindedness. Measures an open and accepting attitude towards diversity through items such as "[I] have a feeling for what is appropriate in a specific culture" (Van der Zee et al., 2013). (Cronbach's α = .77).

Results

Correlations between the Observed Variables

Table 1 indicates the descriptive statistics for all observed variables. It should be noted that although some skewness and kurtosis is present in each of the MPQ subscales, no one subscale has a skewness or kurtosis value of larger than +1 or smaller than -1, indicating an acceptable distribution of data (Hair, Hult, Ringle & Sarstedt, 2017).

Table 1. *Descriptive Statistics*

	Min.	Max.	Mean	SD	Skewness		Kurtosis	
					Statistic	Std. Error	Statistic	Std. Error
Cultural Empathy	1.50	5.00	3.824	.560	-.604	.096	.954	.191
Flexibility	1.00	4.63	2.800	.677	.230	.096	-.043	.191
Social Initiative	1.38	5.00	3.331	.671	-.188	.096	-.038	.191
Openmindedness	1.13	5.00	3.542	.563	-.329	.096	.589	.191
Emotional Stability	1.13	5.00	3.249	.664	-.195	.096	-.149	.191

Table 2 indicates the correlations among all observed variables, as measured by Pearson correlation coefficients. As indicated, three subscales of the MPQ had statistically significant positively weak correlations with the number of languages spoken, namely Flexibility ($r = .134$; $p < .001$), Social Initiative ($r = .158$; $p < .001$), and Openmindedness ($r = .203$; $p < .001$). As these three personality factors indicated a possible relationship with multilingualism (as measured by the self-reported number of languages spoken), further analysis will be conducted in order to provide further depth with regard to the findings.

Table 2. *Correlation Matrix (observed variables).*

Variables	1.	2.	3.	4.	5.	6.
1. Number of Languages	1.0					
2. Cultural Empathy	.055	1.0				
3. Flexibility	.134**	-.140**	1.0			
4. Social Initiative	.158**	.315**	.093*	1.0		
5. Openmindedness	.203**	.521**	.011	.536**	1.0	
6. Emotional Stability	.057	.073	.251**	.392**	.265**	1.0

Note. *p < .05 **p < .01

Structural Equation Modelling

A model was constructed demonstrating the proposed hypothesis that multilingualism may affect an individual's standing on Flexibility, Social Initiative and Openmindedness (see Figure 1). The model was tested with MPlus version 7.11 (Muthén & Muthén, 2012), utilizing a robust likelihood estimator (MLM) in order to take the non-normality of the data into account. A mean-adjusted chi-square will therefore be interpreted in the model fit statistics. It should be noted that multilingualism was indicated by a single observed variable – namely the self-reported number of languages spoken – and as such the factor loading was fixed to 1 and the error terms fixed to 0 in order to accommodate the single indicator latent variable (Muthén & Muthén, 2012).

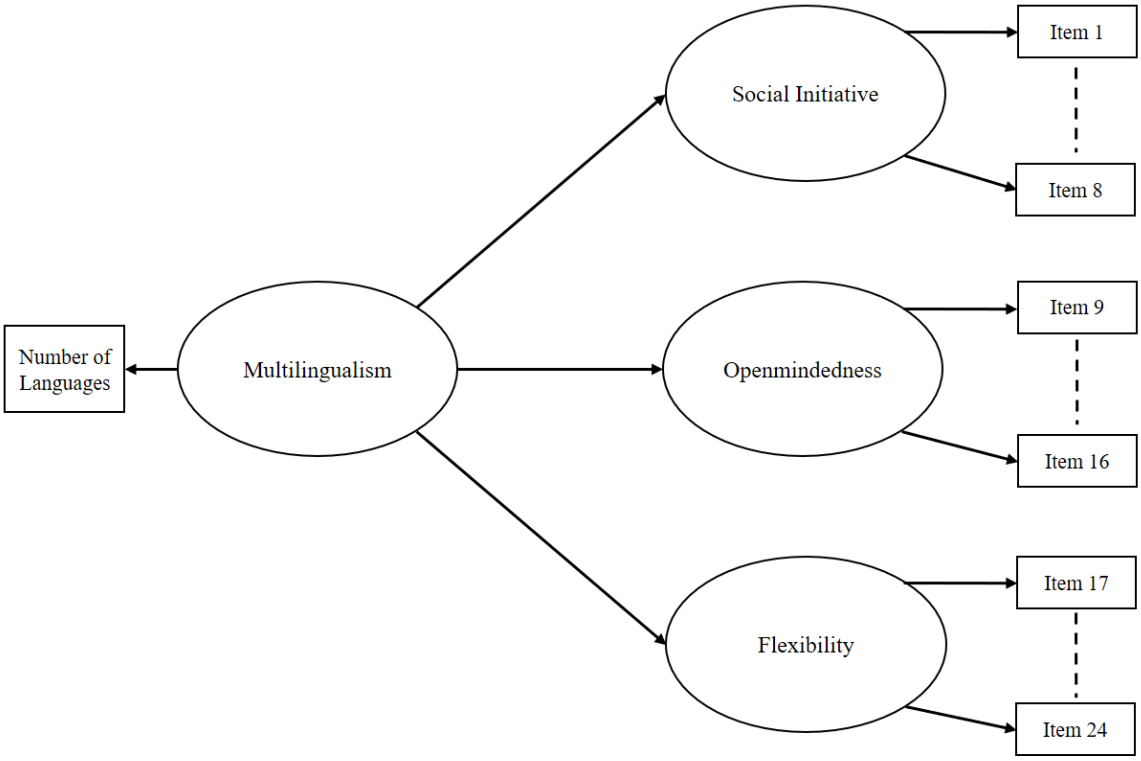

Figure 1. Proposed Structural Equation Model.

Figure 1 demonstrates the full structural equation model with path coefficients. A first model was fitted to the data with each personality factor indicated by 8 individual item indicators. Unfortunately, this first model achieved poor fit (see Table 3). Comparative Fit Index (CFI) = .756 especially indicated a weak fit with a value far below the recommended .90 cut-off (Kline, 2005). In addition, the Satorra-Bentler chi-square (χ^2 (270) = 1267.085; $p < .001$) indicated an inadequate fit of the data to the proposed model. The only fit indices that indicated a mediocre fit was the Root Mean Square Error of Approximation (RMSEA) = .075 and the Standardised Root Mean Square Residual (SRMR) = .078 with a fit below the recommended cut-off of .80 (Kline, 2005; MacCallum, Browne & Sugawara, 1996).

Table 3. *Fit Statistics of Structural Equation Models.*

Model	χ^2	df	RMSEA	CFI	SRMR
Full Model	1267, 085	270	.075	.756	.078
Parceled Model	234.87	60	.067	.919	.056

Upon inspection of the output results generated by MPlus version 7.11, the conclusion was drawn that the poor fit achieved in the first structural equation model was due to in large part to inter-item covariances. In order to shed greater light on the dataset and research question in particular, the decision was made to parcel the data with 2 items in each parcel, thus each personality factor latent variable had four indicator variables. Parceling was used as it is known to create a more parsimonious dataset with less sampling error (MacCallum, Widaman, Zhang & Hong, 1999), as well as lowering the likelihood of distributional violations (Little, Cunningham, Shahar & Widman, 2002).

The parceled structural equation model can be seen in Figure 2 with the fit statistics reported in Table 3. As indicated by the fit statistics, the fit improved significantly: Satorra-Bentler chi-square χ^2 (60) = 234.87, Root Mean Square Error of Approximation (RMSEA) = .067, Comparitive Fit Index (CFI) = .919. The model indicates that the pathway coefficients between multilingualism and the three personality factors are significant, but weak. Therefore, the number of languages an individual speaks may have a marginal, positive effect on the individual's standing on Flexibility, Social Initiative and Openmindedness.

The authors are aware of the critiques against parceling in structural equation modelling and that parceling may increase the probability of a Type II error (Bandalos & Finney, 2001). However, it should be noted that the MPQ40 questionnaire utilized in this study is designed with 5 unidimensional personality factors. Therefore, the oft cited critique against parceling – namely that it distorts multidimensional constructs – is not applicable in

this instance (see Little et al., 2002). In addition, no other study could be found that examined the research question through the method of structural equation modelling. Therefore, the authors argue that the benefits of examining the effects of multilingualism on the three personality factors of Flexibility, Social Initiative and Openmindedness through the powerful method of structural equation modelling should outweigh the potential critique against the use of parceling. However, future replication studies with larger samples and measurement models without parceled indicator variables is recommended and needed in order to lend credence to the findings of this study.

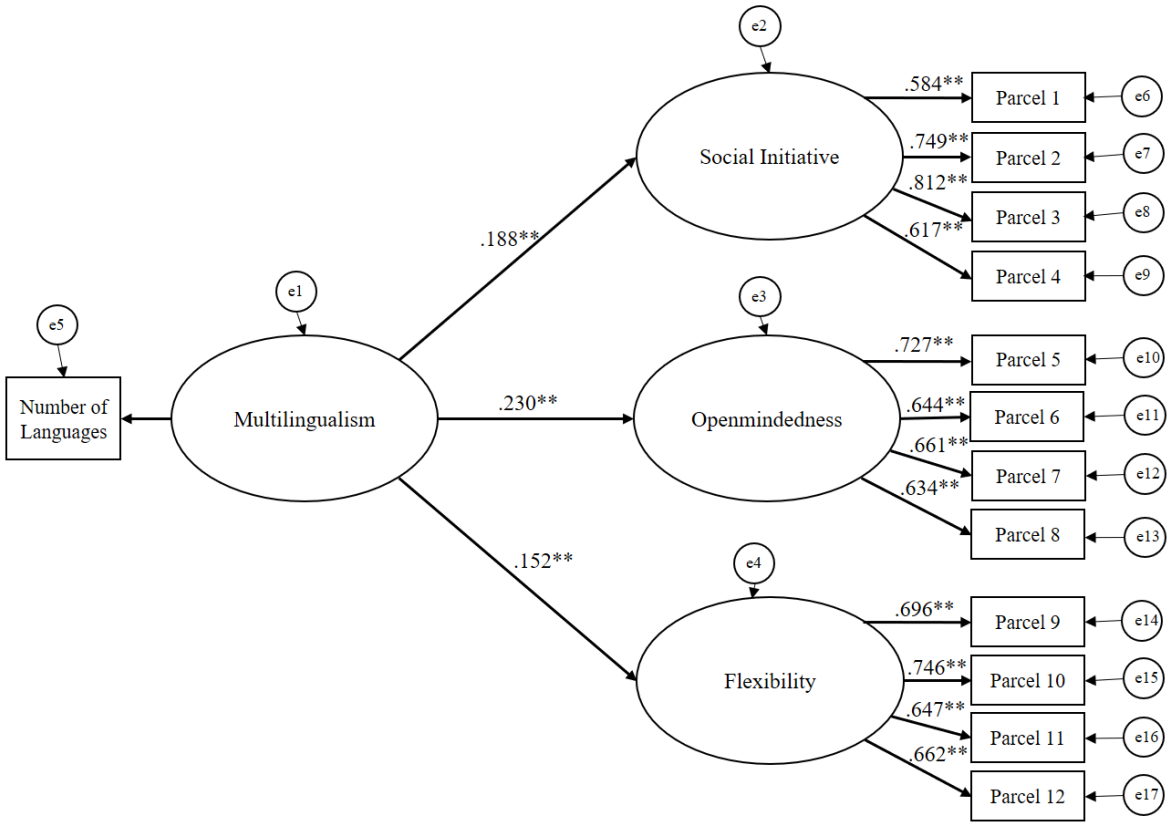

Figure 2. Results of SEM. *N* = 651. All path coefficients are significant at **p < .01. The model demonstrates acceptable fit statistics: Satorra-Bentler Chi Square χ^2 (60) = 234.87, RMSEA = .067, CFI = .919.

Discussion

The answer to the research question is largely positive as the total number of languages known was significantly linked to three out of five personality traits, namely Flexibility, Social Initiative and Openmindedness. An overview of the effects of multilingualism on the five MPQ personality traits identified in the present study and in previous research is presented in table 4. It shows that different measures of multilingualism have been related with all MPQ personality traits but not systematically so. The only trait that has been consistently linked with multilingualism is Openmindedness, which also had the strongest path coefficient (β = .230; p < .001) as can be seen in Figure 2. Openmindedness is a trait that shares characteristics with the lower-order trait Tolerance of Ambiguity that was also found to be higher among people knowing more languages (Dewaele & Li Wei, 2003; van Compernolle, 2016; Wei & Hu, to appear). In other words, multilinguals know that their own linguistic, cultural values and practices may not be shared by the people with whom they interact. The awareness and the interest in these differences could lead to self-reflection and the rejection of prejudice toward other cultural groups.

The present research design does not allow us to pinpoint the exact origin of the differences in Openmindness of our participants. It could be caused by their multilingualism or in fact by their multiculturalism, defined by Grosjean (2015) as active participation in the life of two or more cultures, a combination and blending of attitudes, behaviours, values, and languages of these cultures. Becoming multilingual may not affect individuals' sense of self, identity and personality to the same extent as becoming multicultural. It is thus likely that participants with a higher number of languages proportionally may contain a larger number of multiculturals. It is likely that more of these participants were multilingual by design rather than by accident.

Given the more scattered effects of multilingualism on the four other personality traits, it is probably better not to speculate too much about possible causes. Finally, just as in Dewaele and Li Wei (2013), it is important to point out that the causal pathway could in fact be multidirectional, where multilingualism is both a cause and an effect. Indeed, being multilingual can push a person to develop a more multicultural personality. Similarly, it could be argued that participants who were born with a certain personality profile were more likely to become multilingual later in life, through an active choice.

Table 4. *Overview of the effects of multilingualism on the five MPQ personality dimensions*

Dependent variable	Present Study	D&vO	D&S	KVPH
Cultural Empathy	Ns	marginal positive	positive	ns
Flexibility	positive	Ns	ns	ns
Social Initiative	positive	Ns	positive	ns
Emotional Stability	Ns	negative	ns	positive
Openmindedness	positive	positive	positive	positive

Note: D&vO = Dewaele and van Oudenhoven, 2009; D&S = Dewaele and Stavans, 2014; KVPH = Korzilius et al., 2011.

Limitations, Future Recommendations and Conclusion

The current study examined the relationship between multilingualism and personality through the use of correlation coefficients and structural equation modelling and achieved success in doing so. However, several limitations of the current study ought also to be discussed. The study relied on self-reported data and as such the measure used to quantify the level of multilingualism – the self-reported number of languages an individual speaks – can vary based on interpretation by the individual as to what level of competence constitutes the ability to

communicate in a language. A future study with independent verification on the level of multilingualism of participants is recommended. Methodologically, the use of a parceled model to fit the data may also be criticized as the parceled data does have a higher probability of producing a Type II error (Bandalos & Finney, 2002). Thus, a future replication study with a more robust sample is needed in order to determine whether fit can be achieved in the proposed model in Figure 1. In addition, future studies may also want to examine nuances in the data more closely, as group-level differences may be found in age, gender, language or regional groups.

The aim of the present study was to establish whether a link existed between multilingualism and the personality traits measured through the MPQ. The degree of multilingualism of 651 participants turned out to be linked to three out of five personality traits which suggests that multilingualism and/or multiculturalism does indeed shape personality to some degree.

References

Bandalos, D. L., & Finney, S. J. (2001). Item parceling issues in structural equation modeling. In G. A. Marcoulides & R. E. Schumacker (Eds.), *New developments and techniques in structural equation modeling*, (pp. 269 – 296). Mahwah, NJ: Lawrence Erlbaum Associates.

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Hillsdale, NJ: Erlbaum.

Dewaele, J. M., & Li Wei (2012). Multilingualism, empathy and multicompetence. *International Journal of Multilingualism, 9* (4), 352-366.

Dewaele, J. M., & Li Wei (2013). Is multilingualism linked to a higher tolerance of ambiguity? *Bilingualism: Language and Cognition, 16* (1), 231-240.

Dewaele, J. M., & Stavans, A. (2014). The effect of immigration, acculturation and multicompetence on personality profiles of Israeli multilinguals. *International Journal of Bilingualism, 18* (3), 203-221.

Dewaele, J.-M. & MacIntyre, P.D. (to appear). The predictive power of multicultural personality traits, learner and teacher variables on Foreign Language Enjoyment and Anxiety. In M. Sato & S. Loewen (Eds.), *Evidence-based second language pedagogy: A collection of Instructed Second Language Acquisition studies*. London: Routledge.

Dewaele, J.-M. (2017). Psychological dimensions and Foreign Language Anxiety. In S. Loewen & M. Sato (Eds.), *The Routledge Handbook of Instructed Second Language Acquisition* (pp. 433-450). London: Routledge.

Dewaele, J.-M. (2018). Online questionnaires. In A. Phakiti, P. De Costa, L. Plonsky & S. Starfield (Eds.), *The Palgrave Handbook of Applied Linguistics Research Methodology*, pp. 269-286. Basingstoke: Palgrave Macmillan.

Dewaele, J.-M., & MacIntyre, P. D. (2014). The two faces of Janus? Anxiety and Enjoyment

in the Foreign Language Classroom. *Studies in Second Language Learning and Teaching*, *4* (2), 237-274.

Furnham, A., & Heaven, P. (1999). *Personality and social behavior*. London: Arnold.

Grosjean, F. (2015). Bicultural bilinguals. *International Journal of Bilingualism, 19* (5), 572-586.

Hair Jr, J. F., Hult, G. T. M., Ringle, C., & Sarstedt, M. (2016). *A primer on partial least squares structural equation modeling (PLS-SEM)*. Thousand Oaks, CA: Sage Publications.

Kline, R. B. (2005). *Principles and practice of structural equation modeling*. New York, NY: Guilford.

Leone, L., van der Zee, K.I., van Oudenhoven, J.P., Perugini, M., & Ercolani, A.P. (2005). The cross-cultural generalizability and validity of the Multicultural Personality Questionnaire. *Personality and Individual Differences, 38,* 1449-1462.

Little, T. D., Cunningham, W. A., Shahar, G., & Widaman, K. F. (2002). To parcel or not to parcel: Exploring the question, weighing the merits. *Structural equation modeling*, *9*(2), 151-173.

MacCallum, R. C., Browne, M. W., & Sugawara, H. M. (1996). Power analysis and determination of sample size for covariance structure modeling. *Psychological methods*, *1*(2), 130-149.

MacCallum, R. C., Widaman, K. F., Zhang, S., & Hong, S. (1999). Sample size in factor analysis. *Psychological methods*, *4*(1), 84 – 99.

Muthén, L. K., & Muthén, B. O. (2012). *Mplus Version 7 user's guide.* Los Angeles, CA: Muthén & Muthén.

Pervin, L. A., & Cervone, D. (2010). *Personality: Theory and research* (11th ed.). Hoboken, NJ: John Wiley.

van Compernolle, R. A. (2016). Are multilingualism, tolerance of ambiguity, and attitudes toward linguistic variation related? *International Journal of Multilingualism, 13* (1), 61-73.

van der Zee, K., van Oudenhoven, J. P., Ponterotto, J. G., & Fietzer, A. W. (2013). Multicultural personality questionnaire: Development of a short form. *Journal of Personality Assessment*, *95* (1), 118–124.

van der Zee, K.I., & van Oudenhoven, J.P. (2000). The Multicultural Personality Questionnaire: A multicultural instrument for multicultural effectiveness. *European Journal of Personality*, *14*, 291-309.

van Oudenhoven, J.P., & van der Zee, K.I. (2002). Predicting multicultural effectiveness of international students: The Multicultural Personality Questionnaire. *International Journal of Intercultural Relations, 26*, 679-694.

van Oudenhoven, J.P., Timmerman, M., & van der Zee, K. (2007). Cross-cultural equivalence and validity of the Multicultural Personality Questionnaire in an intercultural context. *Journal of International Communication*, *13* (2), 51-65.

Wei, Rining, & Hu, Yuhang (to appear). Exploring the relationship between multilingualism and tolerance of ambiguity: A survey study from an EFL context. *Bilingualism: Language and Cognition.*