Positive Predictive Value of Extraversion in Diagnosing L2 WTC

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Abstract Willingness to communicate in a foreign/second language (L2 WTC) is now considered an influential variable underlying the second and foreign language learning processes. It is also perceived in terms of a fundamental goal of second language education, because its higher levels result in a greater desire to practise oral communication, bringing about successful language learning. According to the pyramid model of L2 WTC, it is rooted in personality which produces both distal and enduring influences on a student's verbal behaviour. It can thus be expected that extraversion, a personality dimension identified with energy and enthusiasm and characterised by sensitivity to reward and sociability, is tightly connected with WTC. Indeed, recent empirical research tends to demonstrate that personality (e.g., extraversion) is directly related to L2 WTC, self-perceived proficiency and language anxiety (immediate antecedents of WTC). However, studies have been undertaken in which no direct effect of personality (extraversion) on L2 WTC can be confirmed. The research carried out for the purpose of this chapter demonstrates a modest predictive value of extraversion for L2 WTC levels, caused by a direct impact of this personality trait on the interpersonal nature of a learner's readiness to communicate in a foreign langue. Its indirect effect, exercised by influencing the immediate WTC antecedents (self-perceived levels of foreign language skills and language anxiety), is also revealed.

Keywords Willingness to communicate · Extraversion · Language anxiety · Self-perceived levels of foreign language skills

1 Introduction

It is assumed that successful language learning requires effective interaction (Ellis, 2005; Mackey & Sachs, 2012). However, the use of productive skills (speaking and writing) is regarded as most difficult because it may create a particular threat directly

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connected with the specific situation of foreign language practice (Horwitz et al., 1986), requiring the application of a language that has not been fully mastered. In effect, a learner's insufficient knowledge of grammar, vocabulary, pronunciation or cultural awareness is likely to be exposed, endangering their sense of safety and self-perception. Students' precarious status may also be exacerbated by the fact that they are all different—they bring diverse expectations to the classroom and their biographies vary, while their personal characteristics create a unique mixture of traits and talents that may be difficult to accommodate. One of the most influential human characteristics is personality, which may be regarded as responsible for the learner's academic success. Consequently, the aim of this chapter is to present empirical research carried out in order to investigate the influence of extraversion on students' WTC in a foreign language in the context of Polish secondary grammar schools. For this purpose, the chapter opens with a theoretical discussion of the two main concepts—L2 WTC and extraversion. The examination of these concepts leads to the formulation of the main research problem, and then to the presentation of the method and results of the study. The chapter closes with a discussion of the research results and recommendations regarding classroom procedures, as well as the limitations of the study.

2 Literature Review

2.1 L2 WTC

The understanding of the concept of L2 WTC derives from studies on universal communication that draw upon the individual's predilections with regard to talking. These culminated in the study of unwillingness to communicate, and then of willingness itself (McCroskey & Richmond, 1987), understood as one's "predisposition toward approaching or avoiding the initiation of communication" (McCroskey, 1992, p. 16). The conceptualization of WTC in L1 focuses on the concept as a trait, deeply rooted in personality (McCroskey & Richmond, 1990), with a special focus on extraversion and neuroticism. It follows that WTC in L1 has a stable character, although it may also be situation-dependent from the point of view of the number of interlocutors and the relationships with them (Zakahi & McCroskey, 1989). There are also other numerous situational variables affecting an individual's WTC such as one's mood, previous communicative experiences with a specific person, or an expected gain or loss caused by a specific communication act (McCroskey, 1984).

One's WTC in L1 is shaped by two basic factors: communication apprehension and self-perceived communication competence (Burroughs et al., 2003). The first concept is connected with anxiety stemming from real or anticipated communication with other people. It can have disastrous effects on one's WTC, forcing anxious individuals to avoid or abandon communication (McCroskey et al., 1990). The other concept, self-perceived communication competence, designates perception of one's

communication abilities. It is more critical for predicting WTC than actual competence (MacIntyre et al., 2001) because when a person is convinced they possess good communication skills, their level of communication apprehension is low, and that of WTC—high (McCroskey & Richmond, 1990). Unsurprisingly, research demonstrates that the use of a language other than L1 is connected with a higher level of communication anxiety (Burroughs et al., 2003).

The analysis of communication carried out in foreign and second languages has adapted the concept of WTC, proposing that it be viewed as "a readiness to enter into discourse at a particular time with a specific person or persons, using a L2" (MacIntyre et al., 1998, p. 547). Nevertheless, it is stressed that the change of language brings about a substantial modification of the communication act (MacIntyre et al., 1998), playing havoc with one's WTC. It is postulated that in the specific situation of learning and using an L2, it is the language of communication that interacts with the structure of the individual's willingness. While the conditions of L1 use are usually stable and predictable, allowing for the perception of WTC as a trait, one's WTC in the foreign or second language is limited by one's L2 proficiency. For this reason, it tends to be extremely sensitive to both external and internal influences which lie beyond the learner's control. Understandably then, WTC in L2 mostly reveals the role of situational factors that may shape one's inclination to start communication, such as interlocutor(s), topic, and conversational context (Kang, 2005). It follows that even when an individual demonstrates high WTC levels in L1, their volitional tendency to engage in communication may be drastically limited by the specificity of the language learning situation. Obviously, when a string of negative experiences develops in the foreign language learning context, an aversive approach to FL communication, limiting one's L2 WTC, can be developed. The specific challenges embedded in the L2 learning process make L2 WTC uniquely distinctive from L1 WTC due to the individually varying L2 communicative competence, which plays a crucial role in shaping L2 WTC (Dörnyei, 2003). At the same time, situational factors, such as the demands of formal instruction with threats embedded herein play a pivotal role in shaping the variable in question. In other words, L2 WTC is not a simple transfer from L1 (MacIntyre & Doucette, 2010), because the change of language softens the trait-like nature of WTC, shifting more importance to situational factors that otherwise would not play such a decisive role in L1 communication.

The critical power of a magnitude of situational factors was not taken into consideration in the early model of WTC (MacIntyre, 1994), which accommodated only the trait-like factors of perceived communication competence and communication anxiety. For this reason, it failed to explain the role of situational variables, as well as the more constant (stable) factors influencing communication initiation. Therefore, a multi-layered pyramid model of WTC was proposed (MacIntyre et al., 1998). This heuristic outline comprises L2 WTC shapers (antecedents) arranged in a proximal–distal continuum in six layers (MacIntyre, 2004; MacIntyre et al., 1998). The three bottom layers contain enduring (distal) influences. The social and individual context can be found at the lowest level, above which the affective-cognitive context concerning more individually-based variables is located. Motivational propensities constitute the highest level of enduring influences. The remaining three levels are

dedicated to situated antecedents—the most proximal determinants of WTC. At the lowest level, the desire to communicate with a specific person and state communicative self-confidence can be found. Above it, the actual construct of WTC is located. This represents the final psychological stage of one's preparation for L2 communication. Finally, direct L2 use is placed at the top of the pyramid. All these factors represented in the four lower layers of the model have the potential to influence the individual's L2 WTC. Understandably, the variables found at the most distal levels of the pyramid are likely to exert the most subtle, though enduring influence on one's WTC. For this reason, accommodating personality at the lowest and at the same time broadest layer of the pyramid appears to indicate its permanent and unwavering effect on L2 WTC, most probably setting "the stage for L2 communication" (MacIntyre et al., 1998, p. 558). On the other hand, the variables placed closest to the WTC layer will play the most decisive and direct role in modifying one's readiness to communicate in L2 (i.e., perceived communicative competence and communication anxiety).

L2 WTC is now considered a particularly prominent variable, fundamental for the processes of second and foreign language learning, and an essential objective of second language education (Clément et al., 2003). Its higher levels prompt "increased opportunity of L2 practice and authentic L2 usage" (MacIntyre et al., 2001, p. 382). A student with high WTC levels has a chance to develop their FL proficiency, constantly building their L2 communicative competence, especially when communicating with familiar receivers in small groups or pairs on topics related to personal experiences (Pawlak et al., 2016; Syed & Kuzborska, 2018).

Empirical research on L2 WTC demonstrates that greater L2 WTC is connected with higher self-perceived competence (Halupka-Rešetar et al., 2018; Piechurska-Kuciel, 2011; Yashima et al., 2004). Confidence and motivation are listed among its other correlates, as well as a more frequent use of the language in the classroom (e.g., Khajavy et al., 2016). Aside from that, various affective and social psychological variables, such as classroom environment and learner beliefs are strongly related to L2 WTC (Peng & Woodrow, 2010). Its other salient shapers are gender and age (Amiryousefi, 2016), as well as international posture (Yashima et al., 2004), though not in the Polish context (Mystkowska-Wiertelak & Pietrzykowska, 2011).

2.2 Extraversion (E)

As the pyramid model suggests (MacIntyre et al., 1998), personality can be regarded as the most wide-ranging foundation for L2 WTC. It denotes a psychological organisation that comprises interrelated and evolving parts or subsystems that modify an individual's behaviour (Mayer, 2007). These subsystems can be described in every language by means of adjectives representing fundamental personality traits. The traits in turn are identified and organized into extensive personality dimensions (Dörnyei, 2005). According to the personality model that has achieved a dominant status in personality studies (John et al., 2008), *the Five Factor Model (FFM)*,

also called *the Big Five* (Costa et al., 1995; McCrae & Costa, 2004), there are five broad dimensions of personality traits that can describe an individual, regardless of language or culture. Each dimension is placed on a continuum in relation to two extreme poles, labelled as: openness to experience versus low openness, conscientiousness versus low conscientiousness, extraversion versus introversion, agreeableness versus antagonism, and neuroticism versus emotional stability. Thanks to such categorisation, personality factors can be perceived as independent variables in research studies in an easier and more reliable manner for non-psychologists (Dörnyei, 2006).

Extraversion is often identified with energy and enthusiasm. This trait is characterized by "a keen interest in other people and external events, and venturing forth with confidence into the unknown" (Ewen, 1998, p. 289). A conceptual definition of the term implies an *energetic approach* toward the outer world (social and material), including traits of friendliness, activity, confidence, and positive emotionality (John et al., 2008). It involves an interest in social interaction, pertaining to "an active, zestful, and venturesome approach to life and to interpersonal relations" (Digman, 1997, p. 1250). Its basic facets are warmth, gregariousness, assertiveness, activity, excitement-seeking, and positive emotions. The strong link between extraversion and positive affect (Smillie et al., 2012) can be attributed to one of the basic characteristics of the extraverted individual—the inclination to be sociable (Smillie et al., 2015). Understandably, with their energetic and dominant approach, extraverts actively try to gain other people's attention and develop wide social and professional networks (Monzani et al., 2014). However, their affective and social bonds with those around them may be shallow and superficial (Bauer et al., 2006). In general, they are more sensitive to pleasant rewarding stimuli, maintaining cheerful moods for longer, and spending more time in enjoyable social situations (Zelenski et al., 2013). In contrast, introverts are inward-oriented, and are less likely to develop social or professional networks. They also tend to avoid establishing close affective ties, and are inclined to be sensitive to threat, punishment, and the unknown (novelty cues). These trigger activation of a behavioural inhibition system, along with avoidance motivation (Dietrich & Verdolini Abbott, 2012).

Personality traits are important in daily interaction, hence they can also be regarded as a significant factor in achieving educational goals among students learning foreign languages (Erton, 2010). For this reason, the study of the role of personality in the field of second language acquisition appears to be of primary importance, particularly in view of the fact that little research on this subject has been carried out to date (Dewaele, 2012). In spite of the lack of studies into this area, it has been established that personality is a significant predictor of foreign language proficiency, accounting for 13% of its variance (Ghapanchi et al., 2011), and playing a major role in the process of foreign language learning. However, "no single personality trait has ever been found to predict overall success in second language learning" (Dewaele, 2007). Generally, it is proposed that there is a two-way relationship between personality and language learning. Personality can influence second/foreign language, and vice versa (Dörnyei & Ryan, 2015). More importantly, global personality traits may also have

an indirect influence on various aspects of the foreign language learning process, i.e., on WTC, and foreign language anxiety, etc. (MacIntyre & Charos, 1996).

Extraversion appears to be the personality dimension that is "most often researched" in the process of foreign language learning (Ożańska-Ponikwia & Dewaele, 2012, p. 119). In the literature of the field it is proposed that extravert learners have a natural advantage in the acquisition of the L2 when compared to their more introverted peers due to their talkativeness and sociability (Dewaele & Ip, 2013). However, empirical studies do not render straightforward and consistent findings. On the one hand, extraversion may have little effect on the oral speech production of L2 learners (Flemish) of a foreign language (French and English) (Daele et al., 2006), as also confirmed by Chen et al., (2015) in Chinese learners. Moreover, extraverts perform better in learning situations with a moderate degree of novelty, while introverts do better in situations with which they are familiar (MacIntyre et al., 2007). As far as foreign language writing ability is concerned, it appears that introverts outperform their extraverted peers, possibly due to their preference for solitude, enabling greater concentration and generation of ideas (Boroujeni et al., 2015). Conversely, it was found that extraversion positively correlates with English pronunciation accuracy (Hassan, 2001). Extraverts are more fluent than introvert bilinguals, especially in interpersonal stressful situations (Dewaele & Furnham, 2000). What is more, several facets of this trait, including assertiveness, warmth, activity and excitement-seeking have been found to be significant explanatory variables of English L2 fluency ratings among Japanese learners (Ockey, 2011). Extraverts' tendency to take risks appears to extend to their linguistic behaviour, as they use more stigmatized language and are willing to engage in potentially more 'dangerous' emotionally-laden topics (Dewaele & Pavlenko, 2002). Polish extraverts living in the UK and Ireland demonstrate higher levels of the self-perceived L2 use (Ożańska-Ponikwia, 2012). This personality dimension also appears to be one of the most critical shapers of the L2 WTC levels among Arabic English language learners (Oz, 2014). Aside from that, a direct link has been proposed between L2 WTC and self-perceived proficiency (Gol et al., 2014; Xie, 2011), as well as language anxiety. Studies have been carried out, however, in which no direct effect of personality (i.e., extraversion) on L2 WTC can consistently be confirmed (Alemi et al., 2013; Kamprasertwong, 2010).

For the purpose of this study it is speculated that extraversion may be treated as an independent personality dimension bearing a positive predictive power in assessing L2 WTC levels. This assumption is grounded in the nature of personality that is a unique aspect of human individuality (Dörnyei & Ryan, 2015). As such, it may have a twofold influence—both direct and indirect—on one's L2 WTC levels. First of all, its primary or direct effect can be attributed to the enduring influence of personality on all the factors shaping communication in a FL, elegantly captured in the pyramid model proposed by MacIntyre et al. (1998). The "profoundly unsettling psychological proposition" (Guiora, 1984, p. 8) of the foreign language learning process thwarts the learner's ego, and demands a great deal of personal investment, concentration, patience, and active involvement. Its enduring character induces complex psychological processes within an individual, assisted by a powerful interplay of the social aspects of language learning motivation and other influential variables

(MacIntyre et al., 2007). As a result of these interrelated mechanisms, ambivalent feelings of being simultaneously willing and unwilling to communicate are evoked. It appears that, on the one hand, the learner recognizes the importance of practising communication skills, and is drawn to communication. However, on the other, they avoid it because they may be conscious of their linguistic shortcomings, and are afraid of losing face in front of those whose opinion matters to them, that is, their teacher and peers. It may further be deduced that the challenges encountered on the long path to proficiency may be satisfactorily addressed through the distinctive qualities of the learner's personality characteristics, such as higher levels of extraversion. With their risk-approach behaviours, strongly extraverted individuals have a need for social contact and attention (Hampson, 2012), even if these interactions have a negative potential (John & Gross, 2007). This specific requirement can be satisfied by the foreign language learning situation, forcing students to interact for various purposes. In L1, extraverts frequently initiate interpersonal communication and have a higher speech rate, regardless of the qualities of the conversation context (Frederickx & Hofmans, 2014). On these grounds, it can be speculated that the specificity of the foreign language learning process, though often perceived as stressful and demanding, allows extraverts to focus their attention on its positive aspects (Schneider & Jackson, 2014), enabling them to be open with regard to communication and developing higher L2 WTC levels. Aside from the direct effect of extraversion on L2 WTC, its indirect influence can be speculated, through mediating between WTC and its immediate antecedents: perceived communicative competence and communication apprehension, confirmed by research in the field (MacIntyre & Charos, 1996; Ożańska-Ponikwia, 2017). Extraversion focuses on positive affect, hence also in the L2 learning process the feelings of communication anxiety (hereby: language anxiety) may be less pronounced in extraverted individuals. On the other hand, such students are likely to assess their self-perceived communicative competence in the foreign language (operationalized as self-perceived FL skills) at a higher level due to their general tendency to optimistically measure their self-perceived ability (Kemper et al., 2008). On these grounds, it may be speculated that the most immediate and direct influences of L2 WTC are augmented by the mediating effects of extraversion, constituting the basis for all the processes that contribute to shaping WTC, as the pyramid model demonstrates. Consequently, for the purpose of this paper the following hypothesis is formulated:

H: *Students with higher levels of extraversion demonstrate higher levels of L2 WTC in comparison to their peers with lower levels of the trait.*

3 Method

3.1 Participants

The research participants were 494 students from 20 randomly selected classes of the six secondary grammar schools in an urban town in south-western Poland. Among them, there were 308 girls and 186 boys whose mean age was 18.50 (range: 18–21, SD = 0.53). They were in the third (last) grade of school with three to six hours a week of compulsory English instruction, at the B1-B2 levels according to the Common European Framework of Reference for Languages (CEFR). Their level of proficiency was intermediate to upper intermediate, while the length of their language learning experience was of almost eleven years, with the vast majority (above 90%) having studied English for seven to 17 years. The cohort also participated in classes of another compulsory foreign language: French or German with two to four lessons a week. The research participants came from different residential locations. 254 of them were city dwellers, 133 came from neighbouring towns, and 150 students from rural regions.

3.2 Instruments

The basic instrument adopted for the purposes of the study was a questionnaire in the participants' native language—Polish. The tool included demographic variables: age, gender (1—*male*, 2—*female*), and place of residence (1—*village: up to 2,500 inhabitants*, 2—*town: from 2,500 to 50,000 inhabitants,* 3—*city: over 50,000 inhabitants*). Students were also asked to assess the *length of their English instruction* by estimating how long they had studied the language for in a formal context (private classes, school education, etc.).

The questionnaire also included other measuring scales, translated from English. One of these was the *Willingness to communicate in the classroom* scale (WTCI) (Maclntyre et al., 2001). It assessed the students' willingness to engage in communication tasks during class time in the four skill areas (hereby called WTCI) by means of 27 items. Eight items evaluated WTC in speaking, six—reading, eight—writing, and five—comprehension (listening). Sample items in the scale were: *How often are you willing to speak to your teacher about your homework assignment?* or *How often are you willing to read reviews of popular movies?* The participants indicated their answers on a Likert scale, within a range from 1 to 5, indicating how willing they would be to communicate in given contexts. 1 indicated *almost never willing*, 2—*sometimes willing*, 3—*willing half of the time*, 4—*usually willing*, and 5—*almost always willing*. The minimum number of points on the scale was 27, while the maximum was 135. The scale's reliability in the sample was measured in terms of Cronbach's alpha, ranging the level of 0.94.

Another scale, *Willingness to communicate outside the classroom* (WTCO) (Maclntyre et al., 2001), was applied to determine the students' willingness to engage in communication tasks outside the classroom in the four skill areas (hereby called WTCO). It included the same items as the previous scale, adapted to an out-of-school context. Since the Polish respondents had virtually no chances of participating in authentic communication outside school, the results obtained on the WTCI and WTCO scales were later aggregated to assess the global L2 WTC level. It was expected that a student's inclinations to use the foreign language in a voluntary manner in an out-of-school context would likely be shaped by their classroom experiences.

The next scale assessed the participants' extraversion levels by means of a specific part of the International Personality Item Pool (*IPIP*) representation of the Goldberg (1992) markers for the Big-Five factor structure. It consisted of 20 items assessing this dimension with ten positively and ten negatively worded items, which were then key-reversed. The sample items include: *I feel comfortable around people* or *I don't like to draw attention to myself*. Responses were given on a 5-point Likert scale, ranging from *1—strongly disagree* to *5—strongly agree.* The minimum number of points on the scale was 20, while the maximum was 100. The scale's reliability was measured in terms of Cronbach's alpha, ranging the level of 0.94 in this study.

The *Foreign Language Classroom Anxiety Scale* (Horwitz et al., 1986), also used in e.g., Piechurska-Kuciel, 2008) estimated the degree to which students felt anxious during language classes. Sample items were: *I can feel my heart pounding when I'm going to be called on in a language class* and *I keep thinking that the other students are better at languages than I am.* The Likert scale used ranged from 1—*I totally disagree* to 5—*I totally agree.* Positively-worded items were key-reversed, so that a high score on the scale represented a high anxiety level. The minimum number of points was 33, the maximum was 165. The scale's reliability was $\alpha = 0.94$.

Two additional types of assessment tools were used. As far as *final grades* (external assessment) are concerned, the participants gave the final grades they received in junior high school and the first semester of secondary grammar school. They also included the grade they expected to receive at the end of the school year. All these grades were placed on the Likert scale ranging from 1 (*unsatisfactory*) to 6 (*excellent*). The scales reliability was $\alpha = 0.87$. The scale of internal assessment: *self-perceived levels of FL skills* (speaking, listening, writing and reading) was an aggregated value of separate assessments of the FL skills, each of which measured with a Likert scale ranging from 1 (*unsatisfactory*) to 6 (*excellent*). The minimum number of points on the scale was 4, while the maximum was 24. The scale's reliability was Cronbach's $\alpha = 0.88$.

3.3 Procedure

The data collection procedure consisted in asking the students to fill in the questionnaire, which took them about 15 to 45 min. The participants were requested to

give sincere answers without taking excessive time to think. Each new set of items in the questionnaire was preceded with a short statement introducing them in an unobtrusive manner.

The data were later computed by means of the statistical program STATISTICA, with the main operations being descriptive statistics (means and *SD*), correlations, and an inferential statistics operation: step-wise hierarchical multiple regression, where in each step more significant variables are entered into the model. This included the indicator of the significance of variables, i.e., the range of the explained variance R^2, as well as the value and significance of the β weights.

4 Results

First, means and SD were calculated for all the variables included in the study. The summary of the descriptive results can be found in Table 1 The correlation results showed that L2 WTC was significantly related to all the variables; in a positive manner to extraversion, length of the study of English, final grades and self-perceived levels of FL skills. It is worth noting the very strong, negative correlation of extraversion with language anxiety. A summary of the descriptive procedures results is presented in Table 2.

Following this, step-wise multiple regression was performed in order to compute the predictive value of the selected variables for assessing L2 WTC levels. In Step 1 two items correlating with L2 WTC in the weakest manner were entered: extraversion and the length of FL study. This computation showed weak, though statistically significant predictability of the WTC results with $\beta = 0.11$, $p = 0.02$ in the case of the length of FL study, and $\beta = 19$, $p = 0.00$ in the case of extraversion. The two variables were found to be responsible for about 4% of the WTC variability with $F(2,491) = 12.55$, $p = 0.00$.

In Step 2 final grades were introduced into the regression model. The results were: $\beta = 0.23$, $p = 0.00$, proving that the variable could explain 9% of the WTC

Table 1 Descriptive statistics with correlation matrices of the variables (N = 537)

	Mean	SD	2	3	4	5	6
1. L2 WTC	158.75	44.07	0.19^{***}	-0.35^{***}	0.16^{***}	0.25^{***}	0.41^{***}
2. Extraversion	72.83	15.26	–	0.28^{***}	0.00	0.01	0.03
3. Language anxiety	84.04	23.30	–	–	-0.25^{***}	-0.38^{***}	-0.56^{***}
4. Length of FL study	9.89	2.46	–	–	–	0.20^{***}	0.34^{***}
5. Final grades	3.82	0.76	–	–	–	–	0.45^{***}
6. Self-perceived FL skills	3.97	0.87	–	–	–	–	–

*denotes $p \leq 0.05$; ** $p < 0.01$, *** $p < 0.001$

Table 2 Summary of multiple regression results for L2 WTC (N = 494)

Variable	*Adjusted R^2 change*	*β*	*p*
Step 1*			
Length of FL study		0.11	0.02
Extraversion		0.19	0.00
Step 2	0.09	0.23	0.00
Final grades			
Step 3	0.20		
Language anxiety		−0.14	0.00
Self-perceived FL skills		0.32	0.00

*$Adjusted\ R^2 = 0.04$

variability, independently from the previous variables, with $F(3,490) = 17.64$, $p = 0.00$.

In Step 3, the most powerful variables were entered: language anxiety and self-perceived levels of FL skills. In the case of language anxiety, the result was $\beta = -0.14$, $p = 0.00$, while in the case of self-perceived levels of FL skills: $\beta = 0.32$, $p = 0.00$. The variables appeared to be responsible for 21% of WTC variability, independently from the other variables, with $F(5,488) = 25.28$, $p = 0.00$. Altogether, the variables in the model were responsible for explaining about one third of L2 WTC variability. A summary of the multiple regression procedure can be found in Table 2.

5 Discussion

This study was an attempt to investigate the influence of the personality dimension of extraversion on WTC in a foreign language. The results of the multiple regression procedure demonstrate that in the proposed regression model extraversion can be regarded as a statistically significant, though quite modest predictor of L2 WTC.

The role of personality has already been acknowledged in the pyramid model of L2 WTC, whereby personality is located at the widest bottom layer of the organization (MacIntyre et al., 1998). It follows that this construct plays a grounding role for actual verbal behaviour in a foreign language; that is the effect of one's readiness to communicate in that language. For this reason, it was speculated that personality (with extraversion as one of its dimensions) can be expected to play a twofold function in producing WTC. First of all, it directly impacts one's inclination to initiate communication, which is confirmed by its statistically significant predictive power established in the regression model proposed for the purpose of this research. The influence of extraversion on L2 WTC can be traced back to its impact on L1 WTC viewed as a personal trait (McCroskey & Richmond, 1990). Extraverts, being more socially active, are likely to place "a higher value on communication" (MacIntyre et al., 1999, p. 216), hence they present higher L1 WTC levels. However, in the case of L2 WTC, its trait-like specificity is significantly reduced by the powerful impact of a conglomerate of various situational factors, among which the change of language

appears to be the most decisive. In such conditions even socially active extraverts may refrain from voluntary participation in communicative tasks. Their personality trait no longer guarantees the facilitation of social interaction through communication. The change of language and the powerful activation of other situational variables typical for the language learning situation (e.g., ambiguity or lack of control) may quite strongly undermine extraverts' predisposition to talk. L2 WTC is considered "an internal psychological state" (Clément et al., 2007, p. 61), which means that the intrapsychic aspect of communication in this specific situation is of paramount importance. Indeed, venturing to engage in communication in a language that has not yet been mastered has been likened to 'crossing the Rubicon' (ibid.). It requires volition that extraverts may not always present to the extent needed for initiating communication in a stable manner in a language they have not fully mastered. Their tendency to be outgoing and sociable may not be likely to suffice in the context of L2 communication. The reason may be that extraverts positively rate social and solitary situations that are pleasant (Lucas & Diener, 2001). This is when they become more aroused, and engage more willingly in active behaviour (Kuppens, 2008). Unfortunately, in the foreign language learning situation positive experiences are not obvious, which may induce extraverts' lower L2 WTC levels. The status of introverts is even worse. They are not generally inclined to pursue communication in order to seek pleasure, so their readiness to initiate any exchange in the classroom is bound to be significantly lower, especially when their language skills are perceived as insufficient.

Alongside the direct influence of personality (i.e., extraversion) on L2 WTC, it can be expected that personality also affects WTC indirectly by shaping the variables placed at upper layers, mostly the immediate, particularly significant, antecedents (communicative anxiety and perceived communicative competence). As far as communicative anxiety (that is: skill-specific language anxiety in the foreign language learning domain) is concerned, the research results demonstrate its considerable predictive power for L2 WTC (e.g., Simons et al., 2019), while anxiety has also been found to be influenced by extraversion to a moderate extent (Dewaele & Ip, 2013). It means that extraverted students declare lower levels of language anxiety due to their tendency to experience positive emotions. Conversely, in introverts, the specific personality effects may hamper the adequate assessment of the communicative situation and cognitive processes underlying effective decision making, and discouraging the introverted student from speaking. For this reason several interactional patters among variables shaping L2 WTC can be expected: alongside the direct influence of extraversion on language anxiety, and that of extraversion on WTC, anxiety also impacts WTC on its own accord. At the same time, their levels of language anxiety interact bidirectionally with WTC, confirmed by the statistically significant relationship between the variables, which determines the explanatory power of extraversion for WTC. Summing up, this biologically grounded personality trait may impact WTC in a direct manner, inducing extraverted individuals to frequently interact verbally in various situations, the foreign language classroom among others. In effect, a cumulative impact of extraversion on L2 WTC can be expected. A low level of this personality trait essentially realised as minor social

activity and a lesser interest in communication can be deduced to lead to a lower degree of WTC.

In the case of the other immediate antecedent of L2 WTC, perceived communicative competence (operationalised as self-perceived FL skills), a similar mechanism occurs—it shapes WTC, which is revealed through its quite strong predictive power, as revealed by the results of the present study. At the same time, it is also shaped by extraversion, through their engagement in social activities and tasks in the classroom (Khany & Ghoreyshi, 2013). It then appears that the decision to initiate communication also stems from self-perceptions of skills, not the actual skills themselves. Therefore, self-perceived assessment plays a decisive role not only in universal WTC (Richmond & McCroskey, 1989), but also L2 WTC (Donovan & MacIntyre, 2004). Aside from that, self-perceptions of ability may also be grounded in extraversion (Garaigordobil & Bernarás, 2009). It follows that an extraverted learner may tend to assess their FL ability at a higher level than an introverted one. Altogether, with high language anxiety and low self-perceptions that may be related to low extraversion, such a student has no readiness for initiating communication in L2, which deprives them of chances to develop their communicative competence and performance. Self-protective behaviours may then become routine in the classroom, and as a result, such learners remain reticent and evasive in order to survive.

The last factor included in the model is the length of one's FL instruction. For the purpose of this study it was speculated that growing proficiency allows for encountering more positive experiences, and greater freedom in the classroom. The developing familiarity with the educational environment, teaching and learning procedures, and peer behaviours enables even the most introverted students to master the basic strategies that reassure their basic performance in the classroom. In this way, they may be able to lower the arousal levels to which they are prone with their specific cortical arousal (Swickert et al., 2002). However, it should not be expected that they all may eventually risk initiating communication in a foreign language on their own accord. Their trait-like predisposition to be sensitive to stress may consistently limit their WTC, even in spite of their growing L2 proficiency and familiarity with classroom routines.

All in all the minor, though statistically significant, strength of extraversion as a predictor of L2 WTC may be the consequence of its direct and indirect influence on distal and immediate antecedents of L2 WTC. The collective power of these effects may lead to the speculation that extraversion should be regarded as a crucial, though not quite clear-cut antecedent of WTC. Its greatest explanatory power can be attributed to shaping language anxiety and self-perceptions of communicative competence. It can be concluded that an elevated level of extraversion may be conducive for effective foreign language learning, enabling realistic social interactions and satisfying communicative exchanges.

6 Conclusions

As L2 WTC is now considered a primary goal of language instruction (Clément et al., 2003), not only in production-based approaches, but also in input-based instruction that sensitizes learners to form-meaning relationships. This will allow for the growth of the student's WTC, but also for "willingness to listen closely" (Ellis, 2012, p. 324). A balanced approach to foster two-way communication that is both understood and responded to may give equal chances to extraverts and introverts who listen more than talk, and think before they speak. Their specific traits, which might so far have been regarded as an obstacle to effective communication can now serve as a springboard for realistic exchanges, requiring understanding and accuracy. It would be too risky to conclude that high levels of extraversion are always beneficial for L2 WTC. It appears that for introverted learners L2 study may be sometimes easier because they are likely to develop higher levels of cognitive academic language proficiency (Ellis, 2008). Hence, a deliberate development of WTC that places equal stress on listening and speaking should primarily focus on creating more opportunities for learning and using the FL in and out of the classroom by inducing authentic communication (e.g., through authentic videos, introducing native speakers to the classroom, or analysing real-life facts and behaviours). Obviously, pursuing intercultural communication within the constraints of a non-native language classroom may be extremely difficult, yet it may offer students valuable experience. One's volition to initiate communication may be difficult to obtain on the part of introverts; however, the foundation for a higher level of confidence with regard to verbal behaviour may be ensured by introducing greater feelings of safety within the classroom. This can be obtained through the establishment of familiar teaching and learning routines, as well as the explicit introduction of lesson objectives and effects. Aside from that, a strong focus on the elimination of negative emotions identified in the foreign language learning process deserves special attention. Ways of combatting them may include the introduction of relaxation training, desk yoga, meditation or breathing techniques sessions during the lessons. The use of the mother tongue may be quite liberating, giving learners the impression of being always able to rely on well-known and familiar linguistic and cognitive patterns. In the long run, this strategy may lead to a more reliable cognitive cohabitation of the languages in the learner's mind.

This study has several limitations that should be addressed. The proposed model does not appear to have a robust explanatory power, because it explains only about 30% of L2 WTC variability. It follows that there are other influential variables that have not been taken into consideration while predicting the WTC levels. The predictor variables included only factors from the most distant and closest to WTC layers of the pyramid, so the representation of the WTC antecedents is definitely far from complete. Understandably, a cross-sectional type of the study does not allow insights into the attainment of more complex cause-and-effect conclusions providing for a broader collection of variables. Furthermore, the study is limited to only one research method, excluding triangulation, which could offer a greater degree of confidence in data validation.

Hence, it is clear that numerous research implications can be proposed. First of all, the inclusion of variables representing most if not all WTC pyramid layers should be taken into consideration. For example, all the personality dimensions (not limited to extraversion) included in the bottom layer deserve deeper analysis (c.f. Piechurska-Kuciel, 2018), although it may be speculated that their influence is likely to be indirect, due to personality's distal location. Also, taking into consideration inter-group climate represented by ethnocentrism or language dominance may offer exciting paths of inquiry. Also factors placed in upper layers of the pyramid, such as social situation, exemplified by social support or financial strain, or various motivation constructs deserve attention, shedding more light on the socio-economic context of language study and WTC development. Evidently, the role of proximal, situated antecedents of WTC may eventually turn out decisive in the formation of one's readiness to initiate communication in a foreign language, the subtle, yet pervasive influences of distal factors cannot be neglected due to their more universal nature. Aside from that, applying longitudinal studies or panel designs in culture-specific contexts may shed more light on the intricate relationship of L2 WTC and personality factors.

In spite of its weaknesses, it is hoped that this research sheds more light on the role of extraversion in students' readiness to initiate communication in a foreign language. Investigating such relationships may offer valuable insights into how people with distinctive personal characteristics learn languages, resulting in the proposal of more effective classroom procedures.

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