

Willingness to Communicate and English Language Proficiency in Saudi Military Cadets: A Structural Equation Modelling Approach

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Abstract

This study used structural equation modelling (SEM) to investigate the internal structure of a number of variables: L2 anxiety, L2 perceived competence, and L2 willingness to communicate and to examine their impact on the frequency of using L2 in L2 speaking situations. In addition, the study also examined the influence of the students' English language proficiency on the relations among these variables. The sample of the study was 112 Saudi military cadets studying English as a foreign language. The study found that the willingness of the Saudi EFL learners to communicate in English was directly affected by their perception of L2 competence and indirectly by their L2 anxiety. In addition, the influence of the L2 anxiety on the students' perception of their L2 competence was direct. Furthermore, the frequency of using English in L2 speaking situations was directly impacted by the willingness of the Saudi EFL learners to communicate in L2. Finally, the analysis revealed that the English language proficiency of the Saudi students had no effect on the relations among the variables of the model.

Keywords: *English learning anxiety, vocabulary knowledge, willingness to communicate, frequency of second language communication, perceived competence.*

1. Introduction

Language acquisition and communication are closely linked as people usually learn another language (L2) to communicate with speakers of other languages, which in turn could offer an opportunity for enhancing their L2 competence. This makes the use of L2 "both a means and an end" in L2 learning (Alqahtani, 2015, p. 25). Nevertheless, L2 learners need to have the desire to communicate in L2 (L2 WTC) in order to involve in L2 speaking situations. In addition, there are a number of issues that could hinder the L2 learners' willingness to communicate in L2 such as the anxiety they feel when L2 speaking situations arise and their perception of their competence in L2.

This study aims to use structural equation modeling (SEM) to investigate the relations among these variables; namely: L2 anxiety, L2 perceived competence, L2 WTC, and L2 communication frequency. Furthermore, the study will investigate whether the vocabulary knowledge of the participants is going to impact these relationships. The context of the study is a group of Saudi cadets at a military academy who study English as a foreign language.

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2. Literature review

2.1 L2 willingness to communicate

As a stable individual difference, WTC was initially conceptualized in L1 communication as unwilling to communicate (Burgoon, 1976). Then the concept was revised and positively framed as willingness to communicate (WTC) also in L1 (McCroskey & Baer, 1985; McCroskey & Richmond, 1991). McCroskey and Baer (1985) found correlations among variables such as communication apprehension and competence, which were related to WTC. Later, WTC was conceptualized in second language learning (L2) (MacIntyre & Charos, 1996). They used a path model to investigate the relations among a number of key variables like perceived competence in L2, L2 anxiety, L2 WTC, and L2 communication frequency.

WTC is inextricably intertwined with communication behavior in L2 for pedagogical, social, and psychological reasons. Pedagogically, language learners learn L2 to talk in that language, which helps them to learn. This makes WTC a primary goal of language learning (MacIntyre et al., 2020). MacIntyre et al. (1998) claim that WTC is one of the most important outcomes of a language program. From a social perspective, higher levels of WTC encourage individuals to be involved in intergroup contact, travel abroad, and looking for career opportunities overseas (Wen & Clement, 2003). Yashima (2002, p. 57) found that WTC was increased by ‘international posture’, which she described as “interest in foreign or international affairs, willingness to go overseas to stay or work, readiness to interact with intercultural partners”. In addition, it has been found that higher levels of WTC help L2 learners in EFL contexts to engage in limited L2 contact situations outside the classroom when they arise (Başöz & Erten, 2018). Psychologically, studies have revealed number of factors that heavily influence WTC. Among the most influential factors are anxiety and perception of language competence (MacIntyre et al., 2002; Yashima et al., 2004). Higher perceptions of language competence and lower levels of anxiety generate WTC while lower perceptions of competence and higher levels of anxiety negatively influence L2 learners’ WTC (Elahi Shirvan et al., 2019).

Similar findings have been found in studies conducted in the Saudi context, where English is taught as a foreign language and the influence of the collectivist culture is strong as individuals usually sensitive to social judgment (Alqahtani, 2023; Alqurashi, 2022; Alqurashi & Althubaiti, 2021). For example, studies have revealed a strong association between Saudi L2 learners’ perception of their competence in English and their WTC. Furthermore, the influence of L2 anxiety was salient as it negatively affected the perception of the Saudi L2 learner of their competence in English as well as their WTC. Alqurashi (2022, p. 8992) claims that “students who are reluctant to speak in EFL are influenced by limited lexicon, perceived linguistic inadequacies, and fears from making mistakes in their attempt to speak English”.

2.2 Vocabulary knowledge

Milton and Fitzpatrick (2014) distinguished between a number of types of vocabulary knowledge (e.g. knowledge of spoken form, knowledge of written form, and knowledge of grammatical use). Therefore, in a study involving assessment of vocabulary knowledge we should be clear regarding what we mean by word knowledge. This study refers to the vocabulary knowledge as the recognition of word form. The number of words known by a learner is referred to by the ‘vocabulary size’, “this measure of knowledge generally correlates well with measures of all other aspects of vocabulary knowledge” (Masrai & Milton, 2017, p. 129).

The concept of vocabulary knowledge includes two dimensions; firstly, the breadth of the vocabulary knowledge, which is “the number of the words for which the person knows at least some of the significant aspects of meaning” (Anderson & Freebody, 1981, p. 92). Secondly, the depth of the vocabulary knowledge refers to the quality of the vocabulary

knowledge, which includes “pronunciation, spelling, meaning, frequency, morphological, register, syntactic, and collocation properties” (Albodakh & Cinkara, 2017, p. 283).

The L2 learners who acquire a high level of vocabulary size are usually perform better in L2 comprehension and L2 use than those with a low level of vocabulary size (Meara, 1996). In addition, studies have found associations between L2 vocabulary size and the performance of L2 learners in the four skills measured by academic English tests like IELTS (Masrai & Milton, 2017). For example, vocabulary knowledge correlates with reading comprehension scores (Qian, 1999; Stæhr, 2008), with listening comprehension (Milton et al., 2010; Stæhr, 2009), with writing ability (Stæhr, 2008; Yu, 2010), and with oral fluency (Milton et al., 2010). Furthermore, a number of studies have found relationship between general vocabulary size measures and EFL students’ L2 motivation (Alqahtani, 2020), and L2 WTC (Alqahtani, 2023; Şen & Oz, 2021).

2.3 L2 anxiety

L2 anxiety is a “situation- specific apprehension generated in second language contexts”, which negatively affects the L2 learning process (MacIntyre & Charos, 1996, p. 6). It negatively correlates with: L2 course grade (Horwitz et al., 1986), the L2 learners ability to take in, process, and output L2 information (MacIntyre & Gardner, 1994), L2 motivation (Alqahtani, 2018a; MacWhinnie & Mitchell, 2017; Papi, 2010), L2 WTC (Alqahtani, 2023; MacIntyre & Charos, 1996), and L2 learners’ perception of their competence in L2 (Alqahtani, 2018b, 2023; MacIntyre & Charos, 1996).

L2 anxiety is a twofold concept; firstly, from a temporal dimension (Spielberger & Gorsuch, 1983), they believe that ‘state anxiety’ is passing temporary anxiety, while ‘trait anxiety’ is permanent and does not fluctuate according to various situations. Secondly, the affective dimension (Scovel, 1978), he asserts that L2 learners’ performance enhances when facilitating anxiety positively impacts their behavior, whereas debilitating anxiety exerts negative impact the L2 learners’ behavior, which in turn impedes their performance. This makes L2 anxiety a “distinct complex of self-perceptions, beliefs, feelings, and behaviors arising from the uniqueness of the language learning process” (Horwitz et al., 1986, p. 128).

3. Method

3.1 The hypothesized model

Based on previous studies in the field of L2 WTC the hypothesized model of the study is composed of four latent variables that cover three dimensions; language-related affect (L2 anxiety and L2 perceived competence), motivational propensities (L2 WTC), and second language use (L2 communication frequency) (MacIntyre & Charos, 1996), see figure 1 for details.

First, L2 anxiety and L2 perceived competence were linked to the L2 WTC. A number of studies have found an association between L2 anxiety as well as L2 perceived competence and L2 WTC (Alqahtani, 2023; MacIntyre et al., 2002; MacIntyre & Charos, 1996; Yashima et al., 2004). While the relationship between L2 perceived competence and L2 WTC was positive, the relationship between L2 anxiety and L2 WTC was negative. In addition, L2 anxiety and L2 perceived competence affected the involvement of L2 learners in L2 contact situations (Alqahtani, 2023; Alqurashi & Althubaiti, 2021; Başöz & Erten, 2018; MacIntyre & Charos, 1996). Similarly, the influence of L2 perceived competence was positive but the influence of L2 anxiety was negative. Therefore, three negative causal paths were drawn from L2 anxiety leading to L2 perceived competence, L2 WTC, and L2 communication frequency, respectively. Nevertheless, the causal paths from L2 perceived competence to L2 WTC and L2 communication frequency were positive.

Second, there was a positive causal pathway from L2 WTC leading to L2 communication frequency. Empirically, there is a consensus that high levels of L2 WTC encourage L2 learners to involve in L2 contact situation when they arise (Alqurashi & Althubaiti, 2021; Başöz & Erten, 2018; MacIntyre et al., 2020).

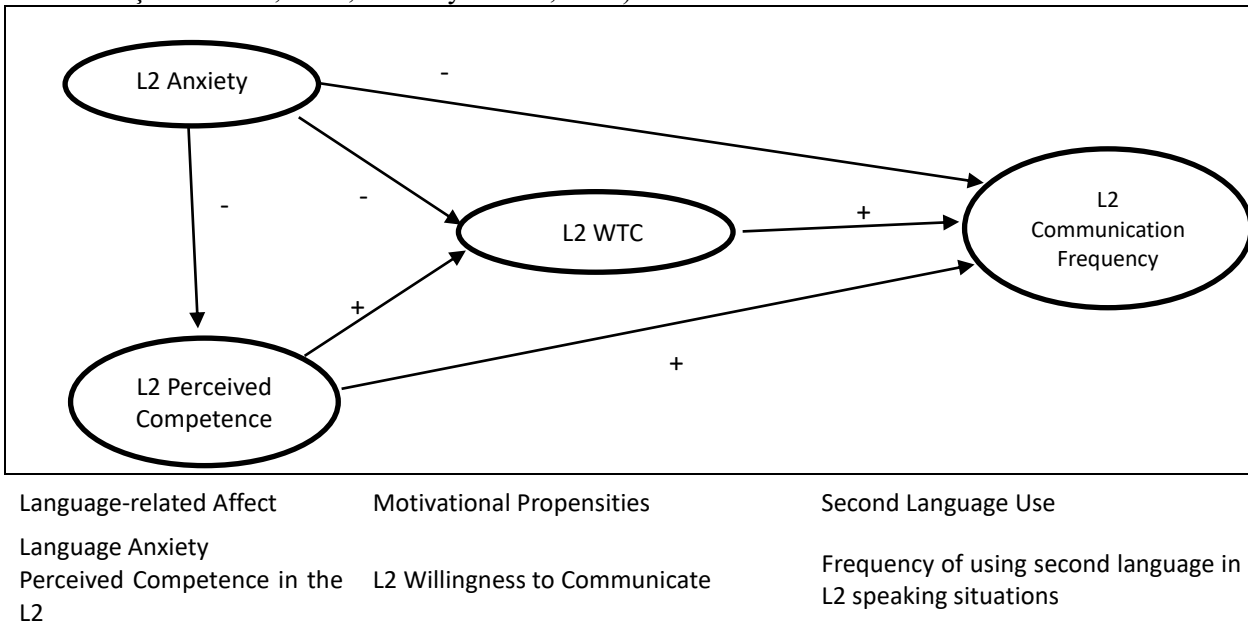


Figure 1: Schematic representation of the initially tested model for the sample

Overall, the initial hypothesized model has 6 hypothesized causal paths to be tested, see figure 1. The present study will examine the relations within and between the constructs of the proposed model in a sample of Saudi military cadets studying English as foreign language.

3.2 Participants

This study was conducted at a Saudi military academy where only male cadets could be accepted. Cadets can join the academy after high school. They study English as a foreign language (EFL). Therefore, the participants of the study were Saudi male English learners aged roughly 20 years old. The participation of the cadets in this study was on a voluntary basis. The number of the participants was 112 out of the 684, which represented 16.5%.

3.3 Instrument

3.3.1 L2 WCPA questionnaire

A 5-point Likert scale questionnaire was used to measure the following: L2 WTC, L2 communication frequency, L2 perceived competence, and L2 anxiety. The L2 WCPA questionnaire was adapted from a number of scales that were used in previous empirical studies. First, the L2 WTC scale was adapted from MacIntyre et al. (2001). This scale was made up 26 items reflecting the willingness of the participants to engage in communication tasks in English during class time. The items covered 4 major skills speaking, comprehension, reading and writing. On a scale from 1 to 5 cadets were asked to select the number representing their willingness to communicate in English as 1 referred to almost never willing and 5 referred to almost always willing. Second, the L2 communication frequency scale was adapted from MacIntyre and Charos (1996). The scale covered 9 L2 communication contexts reflecting the engagement of the participant in communication in English with friends, acquaintances, and strangers in three different settings: dyads, small groups and formal meetings. The participant rate the frequency of their communication in English from 1 (never) to 5 (many, many times). Third, the L2 perceived competence scale was a self-rating scale that was adapted from Alqahtani (2020). The students were asked to assess their own competence in English in the four

skills (speaking, listening, writing, and reading). They could rate themselves on a scale from 1 (the lowest value) to 5 (the highest value). Finally, the L2 anxiety scale was adapted from Alqahtani (2018a). The scale consisted of 6 items reflecting the feeling of anxiety that the participants would experience when they speak English. The students rate their anxiety on a scale from 1 (almost never) to 5 (almost always). For details see Alqahtani (2023).

3.4 Testing vocabulary size

The vocabulary size of the sample was measured using the X-Lex vocabulary test (Meara & Milton, 2003). This written test measures the most frequent 5000 receptive words in English. The X-Lex is composed of 120 vocabulary items: 100 words are real English words with a score of 50 for each item, while the rest 20 are pseudowords for guesswork control with a score of -250 for each item. The participants were asked to tick only the vocabulary items they knew. The 5000 score (the maximum possible score) can be achieved if the 100 real words were ticked and the 20 pseudowords were left unticked.

3.5 Data analysis

The obtained data were firstly entered into SPSS version 22 in order to create usable input for AMOS version 21 that was used to run the structural equation modelling (SEM) analysis. Prior to data analysis, several checks were run to spot outliers and errors. Consequently, a questionnaire was eliminated from the sample (0.9%), which is acceptable (Dörnyei, 2007). Then, the coefficient of internal consistency for the variables was measured. They obtained internal consistency as their Cronbach's alpha values were above .60, which is regarded acceptable in social sciences research (Pallant, 2010). See table 1.

Table 1: Cronbach's alpha coefficients, means and standard deviations for the latent variables

Name of the scale	Cronbach's alpha value	Mean	Std. deviation
1. L2 WTC	.94	2.90	.839
2. L2 communication frequency	.93	2.54	1.09
3. Perceived L2 competence	.74	3.28	.862
4. L2 anxiety	.81	2.21	.875
5. L2 Vocabulary size		1592	962

The SEM model consists of two sub-models: the measurement model and the structural Model (Byrne, 2009). The estimation of the parameters in this study was based on the maximum likelihood method. Based on theoretical considerations presented in the literature review, the measurement model was initially created. After that, the latent variables were combined into a full structural model. The overall model fit of the model was evaluated using the values of the indices advised frequently in the SEM literature (Byrne, 2009; Collier, 2020). For example, : chi-square (CMIN), chi-square divided by the degree of freedom (CMIN/df), goodness of fit index (GFI) (Hu & Bentler, 1999), incremental fit index (IFI) (Tseng et al., 2006), comparative fit index (CFI), Tucker-Lewis index (TLI), and root mean square error of approximation (RMSEA) (Browne & Cudeck, 1993; Fan et al., 1999; Schumacker & Lomax, 2010).

4. Results

Ideally, the chi-square would not be significant. However, this would not be possible with a large sample size (> 100) like the sample of this study (Schumacker & Lomax, 2010). Therefore, other fit indices should be checked such as CMIN/df, GFI, CFI, and RMSEA, which showed good levels indicating an acceptable model. Accordingly, it can be concluded that the final version of this model is supported by the data. The fit measures for the final model is shown in table 2.

Table 2: selected fit measures for the final model

Index	Current level	Accepted level
CMIN/df	1.22	< 3
GFI	.91	>.90
IFI	.98	>.90
CFI	.98	>.90
TLI	.98	>.90
RMSEA	.05	<.05 to .08

Three relations were omitted from the initial model as the analysis showed that they were not significant. The removed pathways were:

- L2 Anxiety \longrightarrow L2 WTC
- L2 Anxiety \longrightarrow L2 Communication Frequency
- Perceived L2 Competence \longrightarrow L2 Communication Frequency

The final model showed three significant relationships. Figure 2 shows the schematic representation of the final model with the standardized estimates of the study sample.

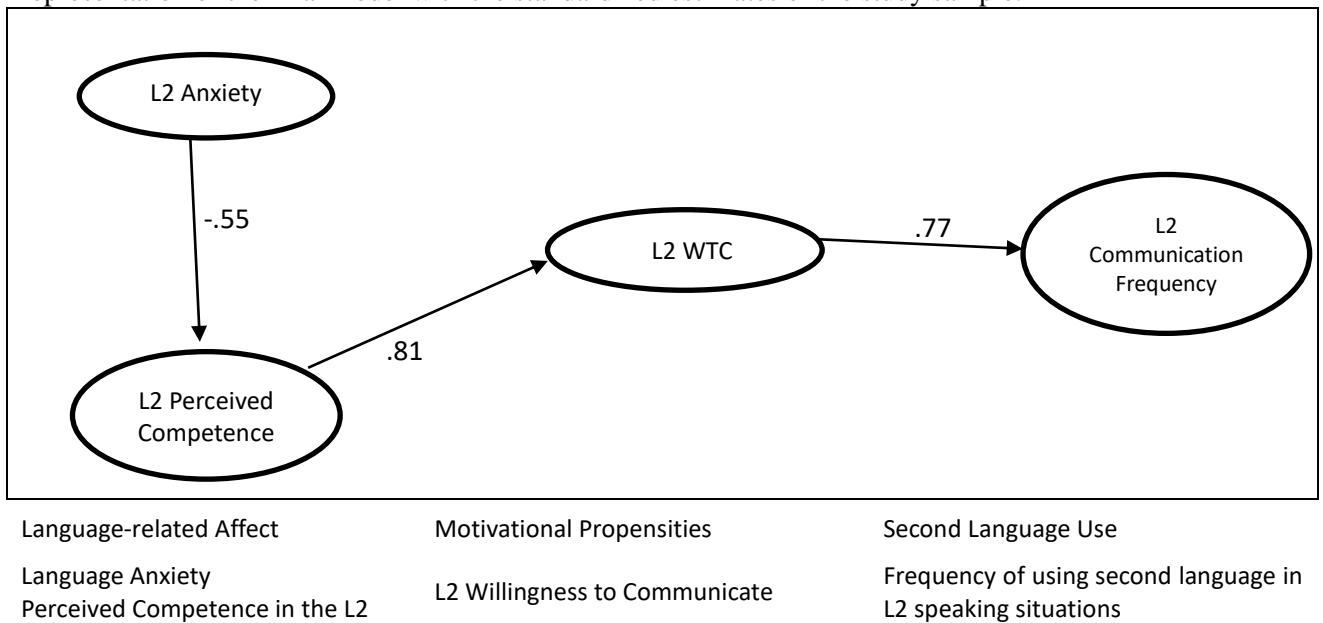


Figure 3: The final model with standardized estimates

Finally, the sample was divided into two groups based on their score in the X-Lex vocabulary test. This procedure was taken to test whether there were differences between these two groups within the sample based on their language proficiency. The participants (112) were divided based on the median value of their test score, which was = 1400 into 2 groups; 56 participants in each group: Group1 participants’ scores were below 1400, and group 2 participants’ scores were above 1400. The two groups would be statistically significantly different from one another if the value in the chi-square difference test with 1 degree of freedom was > 3.84 at the .05 probability level (χ^2 (1df) = 3.84, $p < .05$) (Collier, 2020). The analysis revealed that the two groups were not statistically significantly different from one another. Therefore, it might be concluded that language proficiency did not make a difference within the sample of the Saudi EFL students. See table 3 for the values of chi-square and probability level.

Table 3: chi-square difference L2 test with 1 degree of freedom

	CMIN	P
L2 WTC \longrightarrow L2 COM FR	.263	.608
L2 WTC \longrightarrow L2 PER COM	1.772	.183
L2 ANX \longrightarrow L2 PER COM	.029	.865

5. Discussion

The structural model showed that the perception of the Saudi L2 learners of their competence in English (L2) has a positive direct contribution to their willingness to communicate in L2, which was in line with the findings of previous studies conducted in L1 contexts as well as L2 contexts (Al-Amrani, 2019; Alqahtani, 2023; MacIntyre et al., 2002; MacIntyre & Charos, 1996; McCroskey & Richmond, 1991; Yashima et al., 2004). This might have highlighted the influence of the perception of the EFL students of their competence in L2 as a driving force urging them to use English in L2 speaking situations inside or outside the classroom.

In addition, the model revealed that the L2 anxiety negatively impacted the EFL Saudi learners' perception of their competence in English. That coincided with the findings of previous studies (Al-Amrani, 2019; Alqahtani, 2023; MacIntyre et al., 2002; Yashima et al., 2004). It suggested that the Saudi students' perception of their competence in English was heavily impacted by their communication apprehension about speaking in English. Furthermore, from the model it could be seen that the influence of the L2 anxiety on the willingness of the Saudi EFL students to communicate in L2 was indirect as it was mediated by their perception of their competence in English. While this result lent more support to studies conducted in Asian EFL contexts (Alqahtani, 2023; Alqurashi & Althubaiti, 2021), it was not consistent with the results of other studies that found a direct impact of language anxiety on students' WTC (e.g. MacIntyre & Charos, 1996). Nevertheless, there was a consensus among these studies regarding the negative impact (directly or indirectly) of the L2 anxiety on the L2 learners' willingness to communicate in L2.

The strong influence of the L2 anxiety on the perception of the Saudi EFL students of their competence in English as well as their willingness to communicate in L2 was likely based on previous negative experiences of the students in English language learning and use (MacIntyre & Gardner, 1989). Another possible reason, was the poor proficiency in English of the sample of the study (see table 1). A number of studies conducted in similar Saudi contexts (Alqahtani, 2020, 2023; Alqurashi & Althubaiti, 2021) came to the conclusion that Saudi EFL students usually “[suffer] from poor linguistic proficiency and [lack] essential communication skills” (Alqahtani, 2015. p. 12). Finally, the influence of the collectivist culture could not be denied as the notion of ‘loss of face’, when the individual makes a mistake in front of others, might have exerted a pressure on the Saudi L2 learners (Al-Amrani, 2021).

Finally, the frequency of using the designated group of Saudi EFL students of English in L2 speaking situations was directly impacted by their willingness to communicate in L2. This was in line with the findings of a number of previous studies (Alqahtani, 2023; MacIntyre & Charos, 1996). Regardless of the poor linguistic proficiency of the sample (as measured by the vocabulary test), the Saudi EFL students were likely to be willing to communicate in English when they have the opportunity to do so.

In conclusion, poor proficiency of the Saudi English learners as well as the ambiguity and uncertainty that they might have encountered in previous situations or may encounter when communicating with others in the future using English, this likely made them prone to loss of their faces and look ridiculous. Consequently, they could be reluctant to communicate with others using English and hesitant to be involved in L2 speaking situations when they arise.

6. Conclusion

The study attempted to investigate the relations among a number of variables using a structural equation model consisted of L2 anxiety, L2 perceived competence, L2 WTC, and L2 communication frequency. The model showed that the L2 anxiety had a negative

direct impact on the Saudi EFL students' perception of their competence in English. In addition, the perception of the students of their L2 competence positively influenced their willingness to communicate using the target language. Moreover, their willingness to communicate in English positively affected their involvement in frequent L2 speaking situations. Furthermore, the analysis revealed that the linguistic proficiency of the sample of Saudi EFL learners did not impact the relations among the variables of the model.

The two main limitations of the study were that the sample included only male EFL Saudi students whose L2 competence was poor based on their vocabulary test scores. Different results might have been revealed if the sample had included male and female EFL Saudi students with a range of variant English competence.

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