

# THE FACTORIAL STRUCTURE OF FOREIGN LANGUAGE COMMUNICATION ANXIETY IN AN ONLINE ESP COURSE CONTEXT

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## ABSTRACT

Foreign language communication anxiety (FLCA) has already been recognized as one of the most debilitating affective factors that can hinder L2 learning and acquisition. The current study aimed at establishing the factorial structure of FLCA in the context of online teaching of English for Specific Purposes (ESP). The research was conducted on a sample of 103 second- and third-year undergraduate university students of Economics, Business economics and Informatics at the Juraj Dobrila University of Pula, Croatia. The research instrument used was a 22-item questionnaire adapted from the *Extended Foreign Language Communication Anxiety Measure* (FLCA-22) (Guntzviller et al., 2016) to reflect the online ESP classroom environment. The main results indicate that L2 communication anxiety is indeed present even among more experienced EFL learners. The research further establishes the underlying two-factor structure of FLCA, with both latent variables showing statistically significant positive correlations with the overall levels of FLCA: *physical anxiety and fear of making mistakes*, and *comprehension anxiety and feelings of incompetence*. Both the modified 22-item scale and the subscales extracted through factor analysis demonstrate high levels of internal consistency. The modified version of the FLCA scale is thus confirmed to be highly reliable in measuring L2 communication anxiety among online ESP learners at tertiary level of education.

*Keywords:* foreign language communication anxiety (FLCA); L2 communication anxiety; English for Specific Purposes (ESP); online ESP learners; synchronous ESP classes; online language teaching

## INTRODUCTION

Though foreign language anxiety (FLA) has long been recognized as an important affective factor in second language acquisition (SLA), its impact and scope are yet to be examined in the context

of online, blended and hybrid language learning and teaching. Since the affective side of learning is closely intertwined with its cognitive aspects, it should be recognized that anxiety can indeed hinder the learning process by provoking negative feelings such as frustration, self-doubt, apprehension and tension (Arnold & Brown, 1999). For some learners, the perceived levels of anxiety associated with language learning can be aggravating, and a number of studies have demonstrated its negative effects on the learner's L2 performance (Chen & Tsou, 2017; Zhao et al., 2013; Chen & Chang, 2004; Sellers, 2000; MacIntyre & Gardner, 1994; Aida, 1994; Horwitz et al., 1986). Anxiety associated with language learning falls into the category of specific anxiety reactions (Horwitz et al., 1986; MacIntyre & Gardner, 1991a) and is often perceived as "the feeling of tension and apprehension specifically associated with second language contexts, including speaking, listening, and learning" (MacIntyre & Gardner, 1994: 284). The construct of language anxiety is related to other performance anxieties such as communication apprehension, fear of negative evaluation and test anxiety (Horwitz, 1986), and can be defined as "a distinct complex of self-perceptions, beliefs, feelings, and behaviors related to classroom language learning arising from the uniqueness of the language learning process" (Horwitz et al., 1986: 128). Anxious language learners often experience an array of negative subjective feelings around language learning, and may exhibit anxious reactions and behaviors in a language classroom. For example, they might be unwilling to speak in front of others, can have difficulty concentrating, or forget previously learned contents in evaluative situations (Horwitz et al., 1986). Such responses to language learning may negatively impact the communication strategies students employ in the classroom, promote avoidance behavior and generally decrease motivation (Ushida, 2005; Horwitz et al., 1986; Ely, 1986; Gardner, 1985). Anxious language learners might also be overly concerned about not being able to comprehend every target language message, believe that errors must be avoided at all cost or that it is not appropriate to guess a word or meaning from context. Such erroneous beliefs can have debilitating effects on achieving foreign language fluency and thus contribute to the student's tension in the language classroom even further (Russell & Curtis, 2013; Horwitz, 1988). Since perceived levels of stress can interfere with language acquisition, it is no surprise that language anxiety has been at the focus of much L2 research over the last few decades (for an overview, see MacIntyre, 2017).

Previous research has recognized FLA as a multidimensional construct, with cognitive, affective, and behavioral components (Cheng et al., 1999; Aida, 1994; Horwitz et al., 1986). In parallel, research has shown that the most dominant aspect of FLA relates to L2 communication or speech anxiety, marked by heightened anxious reactions when presented with an opportunity to talk in front of others, to volunteer answers or engage in discussions using a foreign language (Novak Lađarević, 2021; MacIntyre, 2007; Aida, 1994). Anxious language learners are generally less willing to actively participate in oral classroom activities (Horwitz et al., 1986; Ely, 1986) and often tend to avoid more complex linguistic structures that less anxious students are willing to use (Horwitz et al., 1986; Kleinmann, 1977). Communication anxiety in a language classroom is often

guided by one's fear of being called upon to speak without prior preparation, or being ridiculed by the other students in the class. Foreign language communication anxiety (FLCA) is inherently connected with the construct of communication apprehension (McCroskey, 1977, 1984) and well recognized in SLA research as the most common concern of anxious language learners (Honeycutt et al., 2009; Tsiplakides & Keramida, 2009; Shimotsu & Mottet, 2009; McCroskey, 2008; Bourhis et al., 2006). Relevant literature suggests that FLCA is crucial in determining one's ability to learn a foreign language, their willingness to communicate in L2, and one's success in achieving desired outcomes when communicating in the target language (Guntzville et al., 2016; Liu & Jackson, 2008; Ganschow & Sparks, 1996; MacIntyre & Gardner, 1994).

In addition, SLA research has recognized that not all students are good candidates for distance language learning, especially those who lack the motivation and the self-regulatory capacity to take control over their learning process without relying on teacher mediation and despite the physical and emotional isolation from their peers (Russell, 2020; Ushida, 2005; White, 2003). For example, Ushida (2005) demonstrated the crucial role of students' motivation and attitudes in alleviating anxiety related to online language learning. Moreover, since online language learners are typically required to actively engage in communicative interactions using an array of audio and video tools, anxiety related to language learning may be accompanied by anxiety related to the ICT technologies used to communicate in the target language (Russell, 2020; Pichette, 2009; Ushida, 2005). Interestingly, Pichette (2009) found that levels of language anxiety among more advanced online language learners tend to decrease in comparison to language learners in traditional, face-to-face classroom environments. Other researchers also suggest that anxiety related to online language learning can be alleviated through achieving familiarity with the online learning environment (Russell, 2018; Ushida, 2005), and that collaborative online language practices in conversing with native speakers can help in decreasing L2 communication anxiety and raising confidence among online language learners (Appel & Cristòfol Garcia, 2020; El-Hariri, 2017; Melchor-Couto, 2016). By examining the underlying structure of FLCA in an online ESP classroom environment, the current study aims to contribute to L2 research interested in the effects of L2 communication anxiety among online ESP learners at tertiary level of education.

## **RESEARCH QUESTIONS**

The current research aims to establish the underlying factorial structure of foreign language communication anxiety (FLCA) on a sample of Croatian L1 university students attending English for Specific Purposes (ESP) courses in an e-learning environment. In particular, the research is aimed at answering the following research questions:

1. Which underlying factors constitute FLCA in an online ESP course context?
2. What is the internal reliability of the modified FLCA scale and the subscales determined through factor analysis?

3. What is the relationship between the overall level of FLCA and its underlying aspects in an online ESP classroom context?

The instrument used is an adapted version of the *Extended Foreign Language Communication Anxiety Measure* (FLCA-22) (Guntzviller et al., 2016), with 22 items modified so as to reflect the online ESP classroom context. By examining the underlying structure of FLCA, the research aims to validate the modified FLCA scale on Croatian learners of English and provide an insight into what triggers L2 communication anxiety among online ESP learners.

## **METHODOLOGY**

The research was conducted among online ESP learners at tertiary level of education during the academic year 2020/2021. The final sample consisted of 103 second- and third-year undergraduate university students of Economics, Business economics and Informatics at the Juraj Dobrila University of Pula, Croatia. The two ESP courses attended by the study participants were *Business English 2* and *English of the IT Profession*, which are both designed as English for Specific Purposes (ESP) courses. Both are obligatory at the second year of the two respective study programs, and each brings 6 ECTS credits altogether, which represents a 180-hour student workload (1 ECTS credit = 30 working hours at the Juraj Dobrila University of Pula, Croatia). The e-courses relied on synchronous, real-time classes via the Moodle platform, with videoconferencing chosen as the main mode of class delivery. Aside from synchronous classes, the e-learning platform was used for sharing resources and additional class materials, and contained online tests and quizzes for contents revision and independent work. The online tests were developed to enable regular contents revision and self-study, as well as formal student assessment. The most extensively used format in online test design was a type of cloze test offered by the Moodle platform which proved to be the most convenient since it can easily be adapted to a wide variety of written language assignments.

## **PARTICIPANTS**

The total number of participants was 103, with 71 % studying Economics and Business economics, and 29 % studying Informatics. The participants' median age was 21 (min. 20, max. 25), and up to 98 % reported Croatian as their first language (L1). The sample was not well balanced in terms of gender, with 64 % female and 36 % male participants (see Table 1). One third of respondents (33 %) reported fluency in foreign languages other than English, mainly Italian (15.5 %), German (9.7 %) or their combination (2.9 %), Spanish (2.9 %), and French (2 %). In addition, one fifth (20.4 %) reported they were learning L2 other than English at the time of conducting the research (German 8.7 %, Spanish 5.8 %, Italian 3.9 %, etc.).

**Table 1. The basic demographic profile of the sample (N=103)**

	Frequency	Percent	Valid Percent	Cumulative Percent
<b>Gender</b>				
Female	66	64.1	64.1	64.1
Male	37	35.9	35.9	100.0
Total	103	100.0	100.0	
<b>Study program*</b>				
Economics & Business economics	73	70.9	70.9	70.9
Informatics	30	29.1	29.1	100.0
Total	103	100.0	100.0	
<b>Year of study</b>				
Second	81	78.6	78.6	78.6
Third	22	21.4	21.4	100.0
Total	103	100.0	100.0	
<b>First language (L1)</b>				
Croatian	101	98.1	98.1	98.1
Other**	2	1.9	1.9	100.0
Total	103	100.0	100.0	

\* 2<sup>nd</sup> (N=81) and 3<sup>rd</sup> year (N=22) undergraduate study programs

\*\* L1 other than Croatian: Macedonian (N=1), Albanian (N=1)

**Source: Author's research.**

**Table 2. Descriptive statistics on EFL learning among the sample (N=103)**

	Mean	Median	Mode	SD
Age at the start of learning English	7.282	7.000	7.0	1.5682
Length of learning English (in years)	13.602	14.000	14.0	2.0405

**Source: Author's research.**

Regarding the English language learning profile, the vast majority started learning English either at elementary school (82.5 %) or in kindergarten (9.7 %), predominantly around the age of 7 (m=7.282, MDN=7.0). At the time of conducting the research, the participants had been learning the language for 14 years on average (m=13.602, MDN=14.0) (see Table 2). Regarding the frequency of English language use, almost two thirds use English either daily (30.1 %) or at least

on a regular basis (42.7 %), while one third use the language only occasionally or never (27.2 %). Regarding the situations in which English is chosen as the language of preference, over half (59.2 %) expectedly report to use it on the Internet, 15.5 % report to use it at work, while 14.6 % report to use English primarily in academic contexts, including online classes.

## **RESEARCH INSTRUMENT**

The research instrument used was a questionnaire on foreign language communication anxiety (FLCA) in an online ESP course context. The first part of the questionnaire was an adapted version of *The Extended Foreign Language Communication Anxiety Measure* (FLCA-22) (Guntzviller et al., 2016), which consists of 22 statements and was modified to reflect the online ESP classroom environment. Therefore, wordings such as “(my) online English language class”, “(in) an online language class” or “in an online English class” were added to items 1, 3, 4, 6, 7, 9, 10, 12, 13, 17, 18, the “(non-native) language” was specified as English in items 2, 5, 6, 8, 10, 11, 12, 13, 14, 16, 20, 22, while the wordings “the other students / my colleagues” and “the language teacher” were added to items 6, 10, 15, 16 and 18 to specify the online ESP learning environment. The participants were asked to express levels of agreement with each statement using a 5-point scale (from 1 – *strongly disagree*, to 5 – *strongly agree*). The second part of the questionnaire asked the participants to provide the basic demographic profile and other background information relevant to their English language learning. In addition, a brief cover letter and data confidentiality note informed the participants on the subject of the research, voluntary participation and assurance of anonymity. The questionnaire was translated into Croatian in order to ensure accuracy and distributed in an online format (via Google forms) during regular online classes, with the total of 103 responses returned.

## **DATA ANALYSIS**

The data were analyzed by means of the IBM *SPSS Statistics* V21.0. Regarding the research instrument, no items were reversed prior to statistical analysis since all items are worded so as to indicate high levels of FLCA. Exploratory factor analysis (PCA) was used to establish the factorial structure of the modified FLCA scale, while Pearson’s correlation coefficient was used to analyze the associations between the overall level of FLCA and its two underlying components. In addition, Cronbach’s alpha coefficient was used to examine the internal consistency of the full scale and the two subscales determined through factor analysis. The modified version of the FLCA scale was confirmed as highly reliable, with Cronbach’s alpha coefficient,  $r=.975$  achieved for the full 22-item scale.

## **RESULTS AND DISCUSSION**

Exploratory factor analysis (PCA) was used to answer the first research question and identify the underlying structure of FLCA in an online ESP course context. The factorability of the correlation

matrix was examined by means of the KMO Measure of Sampling Adequacy and Bartlett’s test of sphericity. As shown in Table 3, the KMO MSA value of .941 indicates the appropriateness of the sample size, since KMO values above 0.9 can be considered “perfect” in terms of sampling adequacy (Field, 2009: 679). In addition, Bartlett’s test is statistically significant ( $X^2(231) = 2535.705, p=.000$ ), suggesting that the correlation matrix is significantly different from the identity matrix and thus suitable for factor analysis. In accordance with Kaiser’s criterion, the extraction criteria used were eigenvalues greater than 1.0, which produces the most accurate solutions in situations with fewer than 40 variables and an adequate sample size (Loewen & Gonulal, 2015). Both assumptions have been met in the current study.

**Table 3. The values of KMO MSA and Bartlett's Test**

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.941
	Approx. Chi-Square	2535.705
Bartlett's Test of Sphericity	df	231
	Sig.	.000

*Source: Author’s research.*

The PCA method initially extracted two factors, accounting for 72.6 % of the total variance, which represents a strong argument for retaining the two-factor solution (see Table 4). Though there are no well-established thresholds, certain authors suggest that the minimum cumulative percentage of explained variance should be around 55–65 % (Field, 2009). According to Plonsky & Gonulal (2015), the average cumulative percentage of variance in factor analytic L2 research is approximately 60 %. Therefore, the cumulative percentage of explained variance (72.6 %) was used as the main factor retention criterion. In addition, the scree plot also confirms the two-factor structure of the modified version of the FLCA scale (see Figure 1).

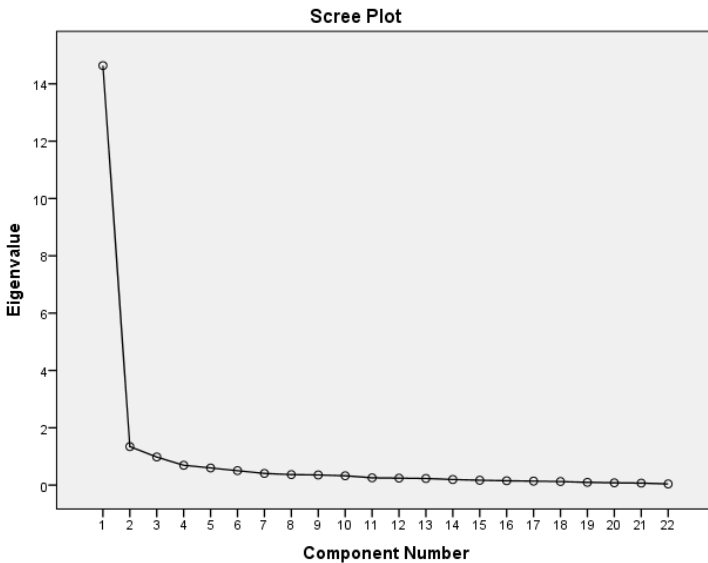
**Table 4: Total variance explained, initial eigenvalues > 1.0**

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	14.637	66.532	66.532	14.637	66.532	66.532
2	1.343	6.105	72.637	1.343	6.105	72.637

Extraction Method: Principal Component Analysis.

*Source: Author’s research.*

**Figure 1. Scree plot illustrating the 2-factor structure of the modified FLCA scale**



*Source: Author’s research.*

Finally, the factor rotation method had to be determined since rotating the factor matrix produces a more differentiated solution. Oblique rotation, which produces factors which are correlated, was chosen since factors related to human cognition and language learning are assumed to be associated (Loewen & Gonulal, 2015: 197). The PCA is thus performed with two factors and the loading criteria of .50, alongside Promax rotation with Kaiser normalization and the default Kappa value of 4, providing the most suitably defined factor structure. Table 5 represents the rotated factor pattern matrix and the items with primary loadings above .50, crystalizing the two underlying components of FLCA in an online ESP course context.

**Table 5. The rotated two-factor pattern matrix; loading criteria > .50**

Pattern Matrix <sup>a</sup>	Component	
	1	2
<i>Factor 1. Physical anxiety and fear of making mistakes</i>		
Item 1. I start to panic when I have to speak in my online English language class without preparation.	.953	
Item 9. I can feel my heart pounding when I have to talk in my online English language class.	.903	
Item 21. Even though I do not usually get anxious when communicating with others, I do if I have to speak in a foreign language.	.888	



Item 20. I am more tense and nervous when speaking in English than when speaking my first language in the same situation.	.872
Item 4. I get nervous and confused when I speak in my online English language class.	.869
Item 2. When speaking to a native speaker of English, I can get so nervous I forget things I know.	.778
Item 17. It embarrasses me to voluntarily speak in my online English language class.	.766
Item 3. I worry about speaking in my online English language class, even if I'm well prepared for it.	.764
Item 10. I feel very self-conscious when I speak English in front of other students in an online class.	.706
Item 19. I worry about making mistakes when speaking English in an online class.	.646
Item 7. I get nervous when I am asked questions that I have not prepared in advance in my online English language class.	.587
Item 11. I do not feel confident when I speak in the English language.	.510
<b><i>Factor 2. Comprehension anxiety and feelings of incompetence</i></b>	
Item 12. It frightens me when I don't understand what the other person is saying in English during my online language class.	1.008
Item 15. I keep thinking that the other students are better at foreign languages than I am.	.948
Item 13. I feel anxious if I cannot understand everything the other person is saying in English during my online language class.	.901
Item 16. I always feel that my colleagues who also learn English speak it better than I do.	.828
Item 14. I get embarrassed when I do not understand what a native speaker is saying in English.	.771
Item 5. I get nervous when I do not understand every word in the English language.	.756
Item 8. I am overwhelmed by the number of rules you have to learn to speak English.	.637
Item 22. The opportunity to speak English as a foreign language makes me unusually anxious.	.614
Item 18. I'm afraid the language teacher is ready to correct every mistake I make in an online English class.	.605
Item 6. I fear that the other students will laugh at me when I speak English in an online class.	.512

Extraction Method: Principal Component Analysis.  
Rotation Method: Promax with Kaiser Normalization.  
a. Rotation converged in 3 iterations.

**Source: Author's research.**

The first aspect of FLCA derived through factor analysis refers to *physical anxiety and fear of making mistakes* (12 items; see Table 5), with the belonging questionnaire items describing situations of heightened anxious reactions such as tension, nervousness, confusion and feelings of embarrassment when presented with an opportunity to talk in front of others, to volunteer answers or engage in oral discussions during synchronous ESP classes. At the same time, this component is largely marked by one's fear of making mistakes while speaking in front of others using the target language. Anxious language learners may often believe that errors should be avoided or that nothing should be said in a foreign language until one reaches a certain level of fluency (Horwitz et al., 1986; Horwitz, 1986). Such erroneous beliefs might negatively impact the communication strategies students employ and promote avoidance behavior in the language classroom. Fear of making mistakes often causes more anxious language learners to avoid participating in oral discussions and thus deprive themselves of an opportunity to reach progress in developing their L2 communicative skills. Researchers have already recognized that students who are less confident about their language skills often fear making errors and embarrassing themselves in front of others (Shimotsu & Mottet, 2009; Pichette, 2009; Horwitz et al., 1986). Anxious language learners may thus feel pressured to always be well prepared for a language class in order to avoid error correction. Such error-centered mindset can have an aggravating impact considering the amount of trial and error required to reach foreign language fluency. The current results stress the importance of positive feedback and indicate the necessity to create a supportive atmosphere in an online language classroom, where mistakes are accepted as an integral part of language learning. Researchers have already recognized the key role of teachers in this regard (Djafri & Wimbari, 2018; Aida, 1994; Young, 1991).

The second aspect of FLCA refers to *comprehension anxiety and feelings of incompetence* (10 items; see Table 5). This aspect is largely marked by one's fear of a lack of comprehension, where anxious language learners often experience concern about not being able to comprehend the content of every target language message. Unfortunately, such pressure of being able to comprehend all language input from the teacher, the other language users or native speakers may further promote feelings of incompetence and inadequacy in anxious language learners. The fear of being unable to understand every target language message may also be accompanied by one's worry of not being able to keep up with the class contents due to a lack of comprehension and the learning burdens demanded by the language course. Anxious language learners may thus feel overwhelmed by the course contents or by the speed at which the class progresses, which can cause a sense of constantly falling behind (MacIntyre & Gardner, 1991b). In parallel, since anxious language learners often compare themselves to others and believe their language skills are inferior

to those of the other students in the class, they often show a tendency towards negative self-evaluation and a fear of being negatively evaluated by others. Previous research has already confirmed a strong association between language anxiety and fear of negative evaluation (Kitano, 2001; Young, 1991; Horwitz et al., 1986). Moreover, even in non-evaluative situations, anxious language learners may falsely believe they are constantly being evaluated, and thus try to avoid any interaction in an attempt to alleviate their anxiety. Such debilitating feelings of incompetence and constant comparison to others may lead more anxious students to set unrealistic goals and believe that anything less than perfect performance in the language class represents a failure. Needless to say, such inclination towards perfectionism is undesirable in a foreign language classroom, hindering the language learning process and supporting feelings of language anxiety and inadequacy in language learners (*cf.* Shimotsu & Mottet, 2009; Gregersen & Horwitz, 2002).

### THE INTERNAL RELIABILITY AND CORRELATION COEFFICIENTS

The next step in data analysis is conducted in order to answer the second research question and examine the internal reliability of the modified FLCA scale and the two subscales determined through factor analysis. The value of Cronbach's alpha coefficient achieved for the full 22-item scale,  $r=.975$  has already confirmed a high level of internal consistency. Furthermore, since factor analysis crystalized two relevant factors of FLCA and therefore defined two subscales within the modified version of FLCA, internal consistency coefficients are measured for each subscale. Table 6 represents an overview of the two extracted factors, with the corresponding questionnaire items and levels of internal consistency for each.

**Table 6. The internal reliability coefficients of the two subscales (FLCA, modified)**

Factor	N of Items	Cronbach's alpha
1. Physical anxiety and fear of making mistakes*	12	.967
2. Comprehension anxiety and feelings of incompetence**	10	.949

\* Items 1, 2, 3, 4, 7, 9, 10, 11, 17, 19, 20, 21

\*\* Items 5, 6, 8, 12, 13, 14, 15, 16, 18, 22

**Source: Author's research.**

As shown in Table 6, both subscales show rather high levels of internal consistency: *physical anxiety and fear of making mistakes* ( $r=.967$ ), and *comprehension anxiety and feelings of incompetence* ( $r=.949$ ). Such results further corroborate the two-factor structure of the modified version of the FLCA scale. Finally, Pearson's Correlation Coefficient is used in order to answer the third research question and examine the relationship between the overall level of FLCA and its two underlying factors. Correlations are obtained based on the calculated mean score for the total

level of FLCA measured by the modified FLCA scale and the calculated mean scores for each of the two subscales. The results show that the overall level of FLCA is positively correlated with both extracted factors at the 0.01 level of statistical significance (2-tailed) (see Table 7).

**Table 7. Pearson’s correlations of FLCA and its two underlying factors**

		The total level of FLCA	Factor 1	Factor 2
The total level of FLCA	Pearson Correlation	1	.974**	.951**
	Sig. (2-tailed)		.000	.000
	N	103	103	103
Factor 1. Physical anxiety and fear of making mistakes	Pearson Correlation	.974**	1	.856**
	Sig. (2-tailed)	.000		.000
	N	103	103	103
Factor 2. Comprehension anxiety and feelings of incompetence	Pearson Correlation	.951**	.856**	1
	Sig. (2-tailed)	.000	.000	
	N	103	103	103

\*\* . Correlation is significant at the 0.01 level (2-tailed).

**Source: Author’s research.**

As shown in Table 7, the results demonstrate there is a strong positive correlation between the total level of FLCA and the component of *physical anxiety and fear of making mistakes* ( $r=.974$ ,  $p=.000$ ,  $p<.01$ ), and between the total level of FLCA and the component of *comprehension anxiety and feelings of incompetence* ( $r=.951$ ,  $p=.000$ ,  $p<.01$ ). In addition, there is a strong positive correlation between the two extracted factors as well ( $r=.856$ ,  $p=.000$ ,  $p<.01$ ). Such findings clearly indicate a significant positive association between each of the two aspects of FLCA and the overall level of foreign language communication anxiety students experience in an online ESP classroom environment. Unlike the original FLCA-22 which shows unidimensional features (Guntzville et al., 2016), the modified version of the FLCA scale clearly demonstrates a consistent two-factor structure among the present sample of online ESP learners.

## CONCLUSION

The current study reveals the underlying structure of foreign language communication anxiety (FLCA) on a sample of Croatian online learners of English for Specific Purposes (ESP). The modified version of the instrument demonstrates a consistent two-factor structure of FLCA, with

both factors showing strong positive correlations with the overall level of FLCA at the 0.01 level of statistical significance (2-tailed). The results show that factors which had an impact on L2 communication anxiety among the present sample of online ESP learners refer to *physical anxiety and fear of making mistakes*, and *comprehension anxiety and feelings of incompetence*. The main results confirm the validity and internal consistency of both the modified 22-item scale and the two subscales determined through factor analysis. The modified version of the FLCA scale is thus confirmed to be highly reliable in measuring L2 communication anxiety among online ESP learners at tertiary level of education.

Overall, the main findings confirm that FLCA is indeed present among online language learners, with important methodological and pedagogical implications for online language teaching. While FLCA might be hard to eliminate altogether, certain pedagogical interventions can be used to mitigate its negative effects (*cf.* Russell, 2020; Russell & Murphy-Judy, 2020; Gregersen & MacIntyre, 2014). The author would suggest it is essential for language instructors to invest efforts in developing low-stress learning environment, where errors are accepted as an integral part of language learning. Online language teachers should consider using relevant topics for class discussions, support group work and collaborative online practices, consider decreasing the amount of material to be covered throughout semester, and take care of the learning styles and preferences of online language learners. Such approach might help in creating a supportive language learning environment, and consequently help in decreasing the overall levels of L2 communication anxiety among online ESP learners.

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