

Anxiety, lexicon, and morphosyntax in instructed L2 Spanish

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The Challenge

Language anxiety, one of the major obstacles to successful second language acquisition (SLA), has been the object of numerous investigations as both a cause and consequence of language learning difficulty. What relationships exist between language anxiety, general anxiety and the acquisition of lexical and morphosyntactic knowledge in instructed L2 Spanish?

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Abstract

Although generalized anxiety has increased among college students, it is unclear what effect this has on language anxiety. While language anxiety has been shown to negatively affect second language achievement, its impact at the level of specific linguistic subdomains has not been evaluated. In what follows, we explore what relationship, if any, exists between Generalized Anxiety Disorder and Foreign Language Anxiety and whether either construct is predictive of L2 Spanish lexical or morphosyntactic development. Results reveal that while foreign language anxiety and generalized anxiety are related, only foreign language anxiety is significantly and negatively predictive of both morphosyntactic and lexical development in the context of instructed L2 Spanish, while general anxiety was only marginally predictive of morphosyntax, but not lexicon.

KEYWORDS

college-level Spanish, language anxiety, lexicon, morphosyntax, second language acquisition

1 | INTRODUCTION

Generalized anxiety has been growing among US college students in recent years, as indicated by the increase in yearly visits and the total clients seeking counseling (Beiter et al., 2015). The main concerns driving college students to experience greater levels of anxiety were identified as academic performance, pressure to succeed, and postgraduation plans (Beiter et al., 2015). A more recent study examining data from 2007 to 2017 found a 15% increase in mental health treatment rates and a 14% increase in the percentage of students with lifetime diagnoses (Lipson et al., 2019). While a decrease in the stigma associated with mental health issues also appears to have contributed to a greater number of students seeking help, researchers believe that an increase in the prevalence of mental health problems is also to blame (Lipson et al., 2019; Shapiro et al., 2019).

Does this increase in mental health issues and generalized anxiety imply greater anxiety in foreign language classrooms? Earlier work has shown that what is referred to as “trait” anxiety correlated only slightly with the situation-specific type of state anxiety known as foreign language anxiety that often occurs in foreign language classrooms (Horwitz, 1986). Nevertheless, trait anxiety, understood as a propensity to experience anxiety, is not the only way of thinking about anxiety apart from state or situation-specific anxieties like foreign language anxiety. To diagnose generalized anxiety, for example, as in Generalized Anxiety Disorder (GAD), clinical psychologists frequently use a different measure that identifies clinical distress, the GAD-7 (Löwe et al., 2008; Spitzer et al., 2006). The GAD-7 is a brief questionnaire that assesses how often over the past 2 weeks the respondent has experienced problems related to anxiety.

Based on how much clinical distress an individual is experiencing, he or she may be diagnosed as having a GAD. This is distinct from trait anxiety, which can be considered as constituting a stable tendency or predisposition to experience anxiety. GAD is measured in terms of clinical distress, which can vary significantly in response to how general life circumstances over the past 2 weeks have affected the language learner. The principal characteristic of GAD is “excessive and uncontrollable worry” (Esbjörn et al., 2015, p. 145), where worry is defined as “the dynamic cognitive component of anxiety” (Caes et al., 2016, p. 390). Given the increasing pervasiveness of mental health issues among US college students, generalized anxiety is an important dimension of their cognitive profile that needs to be understood in relation to language learning as well as foreign language anxiety.

Further, although multiple studies have shown a moderate negative relationship between language anxiety, as measured using the Foreign Language Classroom Anxiety Scale (FLCAS) of Horwitz et al. (1986) and various measures of language proficiency (e.g., Abu-Rabia, 2004; Aida, 1994; Frantzen & Magnan, 2005), a precise picture of how different dimensions of language are affected by anxiety is still lacking. In what follows, we, the researchers, attempt to gain a clearer understanding how anxiety affects language proficiency by analyzing an electronic survey completed by 777 individual adult L2 college Spanish students which will allow us to learn more about how they compare to the general population in terms of general anxiety using the GAD-7 measure of clinical distress, how that measure of clinical distress relates to the FLCAS measure of language anxiety, and how each of these relates to specific, experimental measures of L2 Spanish lexicon and L2 Spanish morphosyntax.

2 | FOREIGN LANGUAGE ANXIETY AND GENERALIZED ANXIETY

Horwitz et al. (1986) study was the first to recognize foreign language classroom anxiety as a specific anxiety associated with the foreign language classroom (Dewaele et al., 2008). In this seminal study, the authors make use of Spielberger's (1983) definition of anxiety, "the subjective feeling of tension, apprehension, nervousness and worry associated with an arousal of the autonomic nervous system," and identify foreign language anxiety (FLA) as "a conceptually distinct variable in foreign language learning" (Horwitz et al., 1986, p. 125). Even though the "anxiety-provoking potential of learning a foreign language" was well known at the time, few conclusions had been reached as to the relationship between FLA and success in the foreign language classroom (Horwitz et al., 1986, p. 125). Horwitz et al. (1986) offer two reasons for this paucity: the use of anxiety measures not specific to foreign language learning, and a lack of "achievement studies" on the "subtle effects of anxiety on foreign language learning" (Horwitz et al., 1986, p. 126).

Following the development of the FLCAS by Horwitz et al. (1986), the literature on FLA, or now simply language anxiety, has developed considerably, leading language anxiety to become a more commonly examined affective variable influencing second language (L2) acquisition (MacIntyre, 2017). It has been suggested that language anxiety begins with the occurrence of some nonspecific negative emotional response to a situation in a language class (MacIntyre & Gardner, 1989). If the situation presents itself on multiple occasions, then the anxiety becomes consistently associated with the language class and in this way separates itself from other contexts (MacIntyre & Gardner, 1989).

Language anxiety can be thought of as feelings of apprehension or tension directly connected to L2 contexts such as speaking and listening (MacIntyre & Gardner, 1991) and has been shown to be independent from trait anxiety, communication apprehension, test anxiety, and fear of negative evaluation, and therefore constitutes a situation-specific type of anxiety that is relevant to L2 learning in instructed contexts (Horwitz, 2016). Importantly, language anxiety has been shown to negatively predict final course grades (Aida, 1994; Horwitz, 1986), other affective factors such as motivation (Papi, 2010), and cognitive processing, conceived of as existing in three stages: input, processing, and output (MacIntyre & Gardner, 1994). Further, there is research suggesting that anxiety levels may vary in tandem with language proficiency level (Liu, 2006; Marcos-Llinás & Garau, 2009; Onwuegbuzie et al., 1999). Other work suggests that language anxiety may be affected by extra-curricular language-related experiences, such as a study abroad, and knowledge of additional languages (Dewaele et al., 2008; Matsuda & Gobel, 2004).

The purpose of this study is to examine how foreign language anxiety, as well as generalized anxiety, affect L2 acquisition in the context of instructed Spanish. To the authors' knowledge, research on language anxiety relevant to instructed L2 learning has not looked at how language anxiety and generalized anxiety might affect the development of the various sub-domains of instructed L2 learning. To that end, two distinct dimensions of instructed L2 will be measured: morphosyntax, as measured by the Wisconsin Spanish Proficiency Test (Spanish Placement Test, n.d.), and lexicon, as measured by the *Diploma de Español para Extranjeros*, or DELE (Duffield & White, 1999). In addition, the relationship between the widely-used measure of foreign language anxiety, the FLCAS (Horwitz et al., 1986), and a currently widely-used measure of clinical distress, the Generalized Anxiety Disorder Questionnaire (GAD-7) (Spitzer et al., 2006), will be measured.

Based on previous research and the nature of the instruments to be used, the FLCAS and GAD-7 are expected to be positively correlated, although to what degree is not known.

Considering the results of the meta-analysis of L2 anxiety studies performed by Teimouri et al. (2019), a negative correlation could be expected to exist between the FLCAS and both dimensions of language. The meta-analysis consisted of a sample of 97 reports from 23 countries, giving 105 independent samples ($N = 19,933$) in total (Teimouri et al., 2019). The mean correlation of 216 effect sizes was found to be $r = -.36$. It should be noted, however, that this meta-analysis considered the relationship between language anxiety and various measures of achievement, such as course grade, language test, self-perceived competence, and GPA (Teimouri et al., 2019). In contrast, we might not expect generalized anxiety to be predictive of language development, given that it is not specifically associated with language-learning contexts and is more indicative of current anxiety levels for all dimensions of life. Given these considerations, we are led to the following research questions:

Research Questions:

1. What is the relationship, if any, between the GAD-7 measure of clinical distress and the FLCAS measure of language anxiety?
2. Which of the two measures, if any, is most predictive of lexical development?
3. Which of the two measures, if any, is most predictive of morphosyntactic development?

3 | METHODS

The study used a cross-sectional study design and was applied across a university Spanish language program with students from all different course levels participating. At the most basic level is the three-course core language sequence which is required for many students, followed by intermediate-level courses focused on composition, pronunciation, and advanced grammar. The most advanced students are those taking literature, culture, and linguistics courses. The protocol was approved by the university's Institutional Review Board and all participants gave prospective consent for their participation.

4 | PARTICIPANTS

Participants consisted of 777 college undergraduate students from a large midwestern university who consented to participate in the research project and completed our measures. Participants were primarily monolingual L1 speakers of English (671), but also included heritage Spanish-speakers (19), heritage speakers of other languages (16), and students with significant exposure (4+ years) to languages besides English and Spanish (71). Though we do not address in the present study how these different language learning backgrounds might affect foreign language anxiety, we hope to investigate their condition-specific properties at a future time. To be certain no major differences existed, we re-ran the analyses presented below with these participants removed from the sample, that is, with only the 671 L1 English-speakers, and the results were not significantly different. Furthermore, we hasten to point out that all participants had been placed in course levels according to their Spanish proficiency, regardless of their heritage status.¹

5 | PROCEDURES

Our measures were delivered in the form of an electronic survey, on the Qualtrics platform. All participants were asked a series of language background questions, including their status as multilingual versus monolingual learners of Spanish. Included were questions asking how many years they had studied Spanish in high school, if at all, if they had studied Spanish at another university or college, if they had studied or lived abroad (if so, where and for how long) and whether they were regularly exposed to any language other than Spanish and English.

5.1 | GAD-7

The GAD-7 is an instrument that was developed to measure clinical distress. It consists of 7 short, 4-point Likert scale questions regarding frequency of worry or concern. The seven questions are given in Figure 1. Importantly, the GAD-7 has been validated as a measure of anxiety in the general population through confirmatory factor analysis which substantiated the one-dimensional structure of the GAD-7 and its factorial invariance for gender and age (Löwe et al., 2008).

5.2 | FLCAS

The FLCAS consists of 33 statements that students are asked to rate on a 5-point Likert scale regarding anxiety in the foreign language classroom. The FLCAS allows possible scores between 33 and 165 and asks questions about anxiety that occurs specifically in instructed language settings such as, “I tremble when I know I’m going to be called on in language class.” or “It frightens me when I don’t understand what the teacher is saying in the foreign language.” to which they are asked to respond as to their level of agreement with the statements: {Strongly

Over the last 2 weeks, how often have you been bothered by the following problems?	Not at all sure	Several days	Over half the days	Nearly every day
1. Feeling nervous, anxious, or on edge	0	1	2	3
2. Not being able to stop or control worrying	0	1	2	3
3. Worrying too much about different things	0	1	2	3
4. Trouble relaxing	0	1	2	3
5. Being so restless that it's hard to sit still	0	1	2	3
6. Becoming easily annoyed or irritable	0	1	2	3
7. Feeling afraid as if something awful might happen	0	1	2	3
<i>Add the score for each column</i>	+	+	+	
<i>Total Score (add your column scores) =</i>				

FIGURE 1 Questions from the GAD-7, from Spitzer et al. (2006). GAD-7, Generalized Anxiety Disorder Questionnaire

Agree, Agree, Neither Agree nor Disagree, Disagree, Strongly Disagree}. The FLCAS was created in 1986 and foreign language anxiety as a construct was validated with empirical evidence later that same year (Horwitz et al., 1986; Horwitz, 1986). A complete copy of the FLCAS can be found in the Appendices.

5.3 | Wisconsin Spanish proficiency test

The Wisconsin test has by now been used widely in L2 research as an “identificational” measure (e.g., Valenzuela et al., 2012, 2015), for dividing L2 Spanish samples into proficiency levels (Spanish Placement Test—Testing and Evaluation Services). The types of items it includes primarily measure morphosyntax, as illustrated by the following example.

1. Cuando yo _____ joven, fui a Chile.
 - a. fue
 - b. soy
 - c. era
 - d. fui

In the present study, the Wisconsin Test was used to measure participants’ knowledge of Spanish morphosyntax. This test contains a total of 36 questions divided into three sections. Both Sections 1 and 2 are understood to test “grammar,” however they differ in format: Section 1 consists of 20 unrelated, fill-in-the-blank questions with multiple-choice responses, but Section 2 is a single “storiette” containing 11 blank spaces that must be filled with a word or short phrase from multiple-choice options corresponding to each blank space. Section 3, on the other hand, consists of five questions which purportedly test reading comprehension and not specifically morphosyntactic knowledge. For this reason, it was decided to exclude from the present analysis the responses from Section 3 of the Wisconsin Test. The responses of the participants who took the Wisconsin Test ($N = 429$) were coded as correct or incorrect for each question of the Wisconsin Test and Cronbach’s α was calculated as .861 and then .864 for the Wisconsin Test in its entirety and then without Section 3, respectively.

5.4 | Diplomas de Español como Lengua Extranjera (DELE)

Our measure of lexical development comes from the Modern Language Association *Diploma de Español como Lengua Extranjera*, or DELE, which was first used in Duffield and White (1999), again, as a means of dividing an L2 population into proficiency levels. It includes items such as the following:

Aquí está tu café, Juanito. No te quemes, que está muy_____.

- a. dulce
- b. amargo
- c. agrio
- d. caliente

In the present study, the DELE was used to measure participants’ knowledge of Spanish lexical items. This test contains a total of 50 questions divided between two sections. The first

section consists of 30 unrelated, fill-in-the-blank questions with multiple-choice responses while the second is a cloze test of 20 questions. The responses of the participants who took the DELE ($N = 348$) were coded as correct or incorrect for each question of the DELE and Cronbach's α was calculated as .762 and then .763 for the DELE in its entirety and then without the second section, respectively. While the DELE is often seen as a measure of global proficiency in Spanish, it should be noted that the first section assesses lexis or vocabulary primarily.

A paired samples t test was also conducted to determine if there was a difference in the mean percent correct on the first section of the DELE and the mean percent correct on the second section of the DELE. The test results indicated that, on average, the mean percent correct on the first section of the DELE ($M = 42.23\%$, $SD = 16.22\%$) and mean percent correct on the second section of the DELE ($M = 33.94\%$, $SD = 12.17\%$) were statistically different from each other ($t = 10.40$, $df = 347$, $p < .001$). The null hypothesis that the mean percent correct on the first section of the DELE is not different from the mean percent correct on the second section of the DELE was rejected at the 0.05 level of significance. The effect size d was 0.558, which can be interpreted as a medium effect. Thus, it can be concluded that performance on the second section of the DELE was, on average, significantly worse than on the first section.

Taking into consideration the marginal improvement in Cronbach's α and the significant difference in performance between the first and second section of the DELE, it was decided to exclude from the present analysis the responses from the second section of the DELE. This also allows for what the researchers to consider to be a more equitable comparison between the two constructs under consideration. The Wisconsin Test and the DELE in their entirety contain 36 and 50 questions, respectively. By excluding Section 3 of the Wisconsin Test the total number of items examined as a measure of participants' knowledge of Spanish morphosyntax is 31, and by excluding the second section of the DELE the total number of items examined as a measure of participants' knowledge of Spanish lexical items is 30.

It should be noted that participating students took just the Wisconsin Spanish Proficiency Test or just the DELE, but not both. This was due to concerns regarding the amount of time the survey was going to take since it was administered to the participants during class time. This was accomplished using the randomizer feature of Qualtrics, through which participants were divided between the two Spanish proficiency tests. All participants, however, took both the GAD-7 and FLCAS.

6 | RESULTS

A combination of descriptive and inferential statistics was used to understand and then model the data. Specifically, the following relationships were explored: (1) whether the GAD-7 and FLCAS are statistically associated, (2) whether either of these anxiety measures predict lexical development (DELE), and (3) whether either of these anxiety measures predicts morpho-syntactic development (Wisconsin Test).

6.1 | Descriptive statistics

In Table 1 a summary of the descriptive statistics of the results for the FLCAS and GAD-7 is given. On the FLCAS, possible scores can range from 33 to 165, in the present study the mean FLCAS score was 90.55 with a standard deviation of 23.62. GAD-7 scores can range from 0 to 21, and in the present study the mean GAD-7 score was 7.14, with a standard deviation of 5.53.

TABLE 1 Descriptive statistics summary, $n = 777$

	FLCAS	GAD-7
Mean	90.55	7.14
Median	89	6
SD	23.62	5.53

6.2 | Inferential statistics

Due to concerns regarding possible priming effects for the anxiety measures, some participants took the FLCAS first and then the GAD-7, while other took the GAD-7 and then the FLCAS. Independent sample t tests were conducted to determine if the order in which the anxiety measures were taken had a significant impact on the score. The test results indicate that, on average, the mean GAD-7 score of who participants who took the GAD-7 first ($M = 7.32$, $SD = 5.56$) was not statistically significantly different from the mean GAD-7 score of participants who took the GAD-7 after taking the FLCAS ($M = 6.95$, $SD = 5.52$) ($t = 0.939$, $df = 775$, $p = .348$). For those participants who took the FLCAS before taking the GAD-7, the test results indicate that, on average, the mean FLCAS score ($M = 89.02$, $SD = 23.64$) was not statistically significantly different from the mean FLCAS score of participants who took the FLCAS after taking the GAD-7 ($M = 92.10$, $SD = 23.56$) ($t = 1.816$, $df = 775$, $p = .070$). Therefore, it was concluded that order in which the anxiety measures were taken by participants did not have a significant impact on the score for these measures.

A correlation coefficient was computed between FLCAS and GAD-7 scores. According to Cohen's guidelines, a correlation coefficient (r) between $|.30|$ and $|.50|$ indicates a moderate relationship. The Pearson correlation (r) of the relationship between scores on the FLCAS and scores on the GAD-7 is $.457$. Therefore, this relationship can be characterized as both positive and moderate. Given this correlation coefficient, we can say that 20.9% of the variance in FLCAS scores can be accounted for by scores on the GAD-7.

Correlations and linear regressions were calculated for both the Wisconsin test and the DELE using participants' scores on the FLCAS and GAD-7. A correlation coefficient was computed between FLCAS and Wisconsin Sections 1 and 2 scores. According to Cohen's guidelines, a correlation coefficient (r) between $|.30|$ and $|.50|$ indicates a moderate relationship. The Pearson correlation (r) of the relationship between scores on the FLCAS and Section 1 and 2 scores on the Wisconsin test is -0.340 . Therefore, this relationship can be characterized as both negative and moderate. 11.6% of the variance in Section 1 and 2 Wisconsin test scores can be accounted for by scores on the FLCAS.

A linear regression calculated between FLCAS and Wisconsin Section 1 and 2 scores ($B = -0.340$, $SE = 0.012$, $p < .001$) indicated a significant negative relationship as shown in Figure 2 below.

A correlation coefficient was also computed between GAD-7 and Wisconsin_Section 1 and 2 scores. According to Cohen's guidelines, a correlation coefficient (r) less than $|.10|$ indicates a weak relationship. The Pearson correlation (r) of the relationship between scores on the GAD-7 and Section 1 and 2 scores on the Wisconsin test is -0.092 . Therefore, this relationship can be characterized as both negative and weak. 0.8% of the variance in Section 1 and 2 Wisconsin test scores can be accounted for by scores on the GAD-7.

A linear regression calculated between GAD-7 and Wisconsin_Section 1 and 2 scores ($B = -0.092$, $SE = 0.056$, $p = .057$) indicated a significant relationship did not exist.

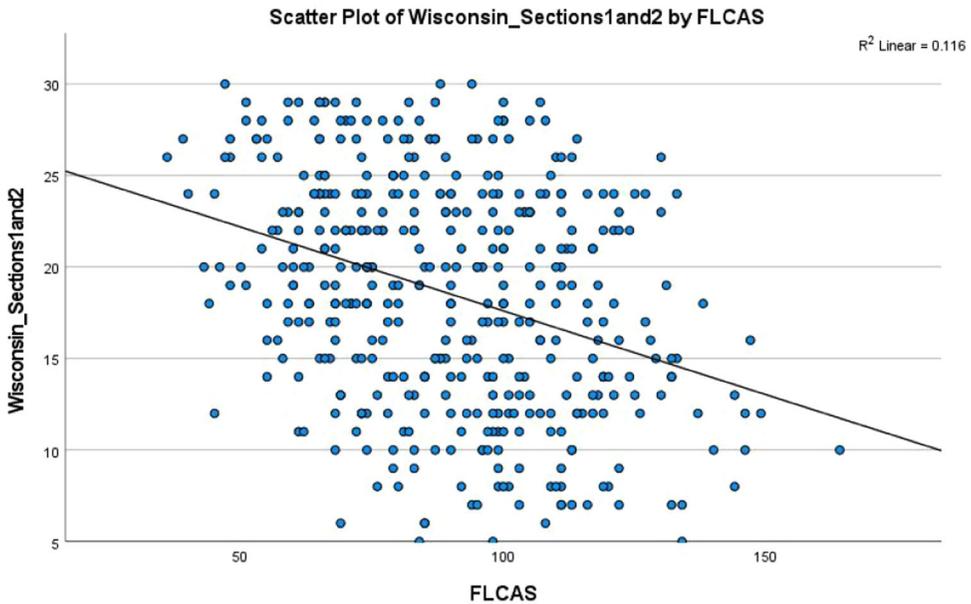


FIGURE 2 FLCAS scores negatively predict L2 Spanish morphosyntactic development ($B = -0.340$, $SE = 0.012$, $p < .001$), $n = 429$. FLCAS, Foreign Language Classroom Anxiety Scale [Color figure can be viewed at wileyonlinelibrary.com]

A correlation coefficient was computed between FLCAS and DELE Section 1 scores. According to Cohen's guidelines, a correlation coefficient (r) between $|.30|$ and $|.50|$ indicates a moderate relationship. The Pearson correlation (r) of the relationship between scores on the FLCAS and scores on Section 1 of the DELE is -0.328 . Therefore, this relationship can be characterized as both negative and moderate. 10.8% of the variance in Section 1 DELE scores can be accounted for by scores on the FLCAS.

A linear regression calculated between FCLAS and DELE Section 1 scores ($B = -0.328$, $SE = 0.010$, $p < .001$) indicated a significant negative relationship, as shown in Figure 3.

A correlation coefficient was computed between GAD-7 and DELE Section 1 scores. According to Cohen's guidelines, a correlation coefficient (r) less than $|.30|$ indicates a weak relationship. The Pearson correlation (r) of the relationship between scores on the GAD-7 and scores on Section 1 of the DELE is -0.110 . Therefore, this relationship can be characterized as both negative and weak. 1.2% of the variance in Section 1 DELE scores can be accounted for by scores on the GAD-7.

A linear regression calculated between GAD-7 and DELE Section 1 scores ($B = -0.110$, $SE = 0.045$, $p = .041$) indicated a significant negative relationship, as shown in Figure 4.

7 | DISCUSSION

The results of the current study appear to shed light on several issues. As previously mentioned, though generalized anxiety seems to be increasing in the general population that we tested (Beiter et al., 2015), language anxiety does not appear to have increased. In particular, the FLCAS scores of the current study (see Table 1), which focused on L2 Spanish learners only, appear to be nearly identical to those of a comparable sample of students 33 years ago, as is

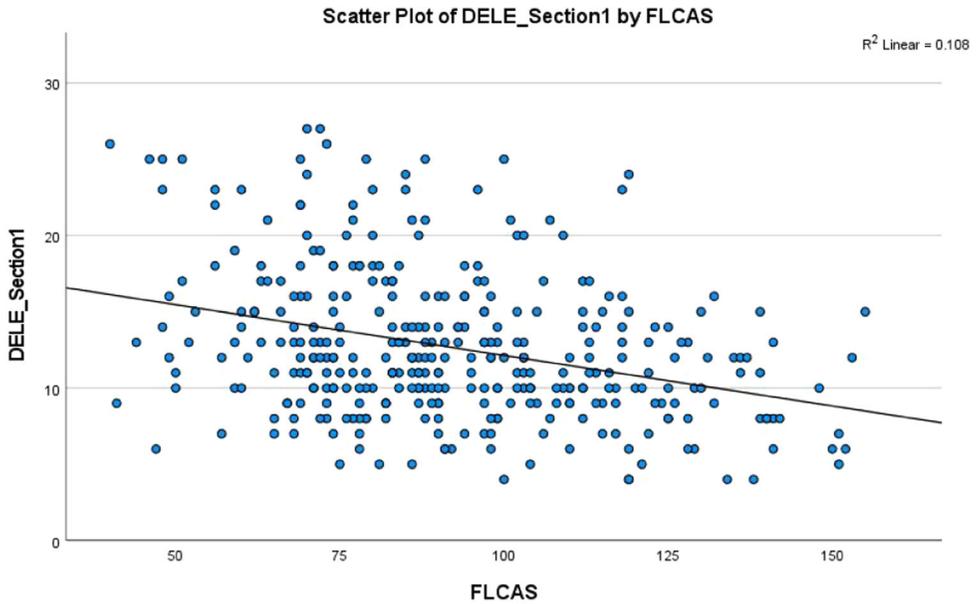


FIGURE 3 Foreign Language Anxiety (FLCAS scores) negatively predict L2 Spanish Lexicon ($B = -0.328$, $SE = 0.010$, $p < .001$), $n = 348$ [Color figure can be viewed at wileyonlinelibrary.com]

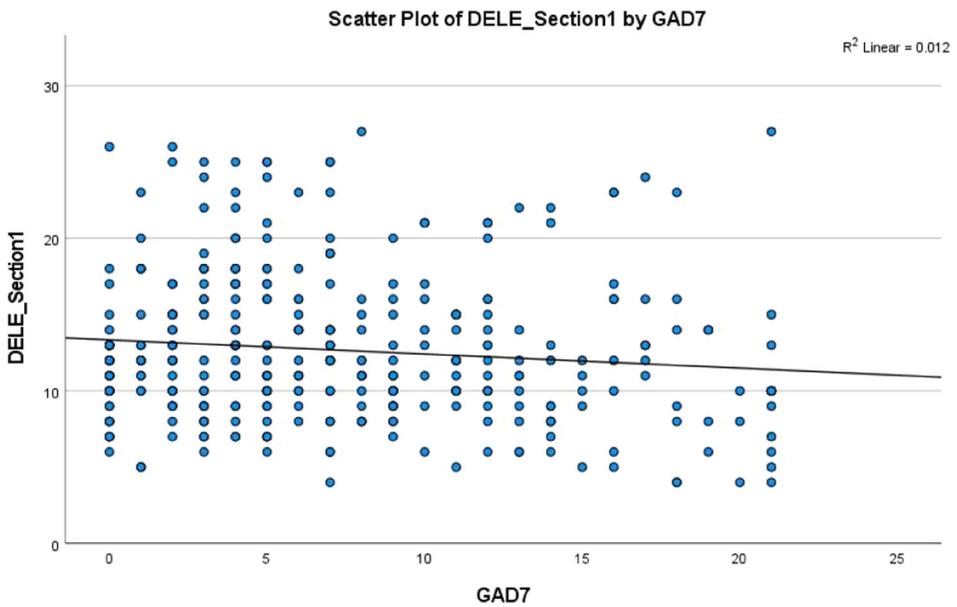


FIGURE 4 Generalized anxiety (GAD-7 Scores) negatively predict L2 Spanish Lexicon ($B = -0.110$, $SE = 0.045$, $p = .041$), $n = 348$ [Color figure can be viewed at wileyonlinelibrary.com]

apparent from the comparison of our results with those of Horwitz (1986), which were gathered from a sample of 108 foreign language students at another large, public college, as illustrated in the following table (Table 2).

While additional data would be needed from more relevant populations to verify the stability of FLCAS scores in the face of increasing generalized anxiety, the similarity between our results and those of Horwitz (1986) seems to support, in principle, at least, the assertion that foreign language anxiety, as measured by the FLCAS, is an independent construct.

Nevertheless, as mentioned previously, the FLCAS and the GAD-7 correlate ($r = .457$, $p < .001$, $n = 777$), accounting for 21% of the variance ($r^2 = .21$), which is more than twice the amount Horwitz (1986) reported ($r^2 = .08$) for the relationship between foreign language anxiety and the Trait Scale of the State-Trait Anxiety Inventory (Spielberger, 1983). Thus, generalized anxiety and foreign language anxiety appear to be related, at least more so than language anxiety and trait anxiety, though the precise nature of this relationship is, as of yet, unclear. The authors of the present study speculate that the stronger correlation between the FLCAS and the GAD-7 may be due to the shared temporal aspect of the measures: the FLCAS addresses anxiety as it is experienced during the language class and the GAD-7 addresses anxiety as it exists, in general, over the past 2 weeks and in the current study both measures were administered simultaneously during the semester.

However, despite this stronger correlation between the two anxiety measures, the GAD-7 was only marginally predictive of lexical development as indicated by the DELE results and not at all predictive of morphosyntactic development as shown by the Wisconsin test results, accounting for just 1.2% and 0.8% of the variance in lexical and morphosyntactic development, respectively. In contrast, the FLCAS was predictive of both, accounting for 10.8% and 11.6% of the variance in lexical and morphosyntactic development, respectively, thus seeming to lend validity to the existence of foreign language anxiety as an independent construct. Although previous work has shown the FLCAS to be predictive of academic achievement (Horwitz, 2001), this study has shown the FLCAS to be predictive of language development measured at the level of two different subdomains of language: morphosyntax and lexicon. To the authors' knowledge, this is the first study to examine the impact of language anxiety on language learning with regard to specific subdomains of language. The finding that lexical development is more sensitive to the effects of anxiety (both language anxiety and generalized anxiety) than morphosyntactic development is consistent with the view, assumed in most modern theoretical linguistic frameworks, that the cognitive structures and/or functions which underlie lexical growth differ from those of morphosyntactic growth.

While the influence of anxiety on cognitive processing has been studied (Khan, 2010; MacIntyre & Gardner, 1994), the exact mechanisms by which anxiety interferes with the mental processes that

TABLE 2 Comparison of FLCAS descriptive statistics of current study and Horwitz (1986)

	Current study	Horwitz (1986)
Mean	90.55	94.5
Median	89.0	95.0
SD	23.62	21.4
N	777	108

Abbreviation: FLCAS, Foreign Language Classroom Anxiety Scale.

accompany language learning are still not well understood, due perhaps in part to the fact that the concept of anxiety remains ambiguous from a cognitive standpoint (Dörnyei, 2005). Horwitz et al. (1986) state that “anxiety contributes to an affective filter,” in reference to Krashen’s Monitor Theory, which “makes the individual unreceptive to language input,” thus impeding successful acquisition, according to the aforementioned theory (Krashen, 1980). The notion of an affective filter, while useful for describing what many language teachers have observed and intuited from their classrooms, as an explanatory device has not generally been studied with respect to subdomains of language, much less specific linguistic phenomena. The general claim that anxiety negatively affects language learning (as in the “affective filter”) should, on the basis of our findings, be particularized such that language anxiety significantly and negatively affects both morphology and lexicon. Generalized anxiety, as measured in the present study by the GAD-7, appears to only have a marginal, negative impact on language learning.

8 | CONCLUSION

The authors agree with Horwitz et al. (1986) conclusion that educators, generally speaking, have two options to help students experiencing anxiety: (1) help them learn to manage the anxiety more effectively or (2) make the classroom environment less anxiety-inducing. While language instructors are not qualified to address issues of generalized anxiety, it does seem plausible that they could address concerns stemming from language anxiety given its contextual relevance and impact on the language learning process. The mere recognition of language anxiety as something real and significant which many students face could raise awareness among students and lead them to consider how they may have been or are being affected by language anxiety. Certain classroom accommodations, such as explicitly teaching and using familiar vocabulary when giving directions and assignments, taking care not to embarrass students in front of the class, and even giving students the choice to prepare a short video that they can edit and then present to the class rather than having them present a live performance are all ways that language instructors can reduce anxiety levels in their classrooms (Johns et al., 2020). The present study lends further support to the now widely accepted notion that language anxiety is a situation-specific anxiety (MacIntyre, 2017), which as this study has shown is independent from, though related to, generalized anxiety. While it has now long been broadly demonstrated that language anxiety negatively impacts achievement (Teimouri et al., 2019), the current study has shed light on ways in which different types of anxiety affect to greater or lesser degrees the development of different subdomains of language, leading to questions of how different types of anxiety may interact.

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ENDNOTE

¹Proficiency and course level are highly correlated across our sample for both lexicon ($r = .600, p < .001$) and morphosyntax ($r = .642, p < .001$).

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APPENDIX

Foreign Language Classroom Anxiety Scale (FLCAS)

Please answer the following questions by providing the number correspondent to the option that best describe your opinion.

1. Strongly Agree 2. Agree 3. Neither Agree nor Disagree 4. Disagree 5. Strongly Disagree.

1. I never feel quite sure of myself when I am speaking in my foreign language class.
2. I don't worry about making mistakes in language class.
3. I tremble when I know that I'm going to be called on in language class.
4. It frightens me when I don't understand what the teacher is saying in the foreign language.
5. It wouldn't bother me at all to take more foreign language classes.
6. During language class, I find myself thinking about things that have nothing to do with the course.
7. I keep thinking that the other students are better at languages than I am.

8. I am usually at ease during tests in my language class.
9. I start to panic when I have to speak without preparation in language class.
10. I worry about the consequences of failing my foreign language class.
11. I don't understand why some people get so upset over foreign language classes.
12. In language class, I can get so nervous I forget things I know.
13. It embarrasses me to volunteer answers in my language class.
14. I would not be nervous speaking the foreign language with native speakers.
15. I get upset when I don't understand what the teacher is correcting.
16. Even if I am well prepared for language class, I feel anxious about it.
17. I often feel like not going to my language class.
18. I feel confident when I speak in foreign language class.
19. I am afraid that my language teacher is ready to correct every mistake I make.
20. I can feel my heart pounding when I'm going to be called on in language class.
21. The more I study for a language test, the more confused I get.
22. I don't feel pressure to prepare very well for language class.
23. I always feel that the other students speak the foreign language better than I do.
24. I feel very self-conscious about speaking the foreign language in front of other students.
25. Language class moves so quickly I worry about getting left behind.
26. I feel more tense and nervous in my language class than in my other classes.
27. I get nervous and confused when I am speaking in my language class.
28. When I'm on my way to language class, I feel very sure and relaxed.
29. I get nervous when I don't understand every word the language teacher says.
30. I feel overwhelmed by the number of rules you have to learn to speak a foreign language.
31. I am afraid that the other students will laugh at me when I speak the foreign language.
32. I would probably feel comfortable around native speakers of the foreign language.
33. I get nervous when the language teacher asks questions which I haven't prepared in advance.