FLE, FLCA, and FL Perceived Competence and FL Learning Effort in Saudi Military Cadets: A Structural Equation Modeling Approach

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Abstract

Using structural equation modelling, the present study takes the initiative to test a theoretical model that subsumes the following latent variables: Foreign Language Enjoyment (FLE), Foreign Language Classroom Anxiety (FLCA), foreign language (FL) perceived competence, and FL learning effort as the criterion measure. A total of 148 Saudi cadets at a Saudi military academy studying English as the only foreign language volunteered to complete a questionnaire survey. The study found that FLCA negatively impacted all the other latent variables in the proposed model. While the negative influence of FLCA on FL perceived competence was direct, FLCA indirectly contributed to FLE and FL learning efforts. In addition, as FL perceived competence was negatively impacted by FLCA, it directly and positively contributed to FLE. Finally, FLE was the only latent variable that determined FL learning effort, i.e., the effort that these Saudi English learners reported they invested in learning English. The results of the present study are discussed in relation to the findings of previous studies in the field.

1. INTRODUCTION

Research in applied linguistics has mainly focused on cognitive factors as the drivers of performance and acquisition (Pavlenko, 2013; Prior, 2019). On the other hand, emotions have not been entirely neglected, either, but researchers have generally regarded their influence as marginal (Dewaele, 2023).

Foreign language anxiety was the first emotional variable investigated in the applied linguistic research by Gardner (1985). This was closely followed by the concept of Foreign Language Classroom Anxiety (FLCA), developed by Horwitz et al. (1986) in their paper "Foreign Language Classroom Anxiety" in which they created an instrument to measure the variable. Since then, negative emotions (e.g., FLCA) have been the focus of motivation researchers, while the role of positive emotions (e.g., foreign language enjoyment (FLE)) has been marginalized (Dewaele & MacIntyre, 2014; Dörnyei, 2005; Dörnyei, 2009; Dörnyei, 2020; Gardner, 1985, 2005; Li et al., 2020; Mahmoud et al., 2024).

Positive psychology (PP) was introduced in applied linguistic research through the work of (MacIntyre & Gregersen, 2012), which highlighted the importance of both positive and negative emotions to FL learning. PP offers a holistic view that "does not rely on wishful thinking, faith, self-deception, fads, or hand waving; it tries to adapt what is best in the scientific method to the unique problems that human behaviour presents to those who wish to understand

it in all its complexity" (Seligman & Csikszentmihalyi, 2000, p. 7). In FL learning, positive emotions help to "boost learners' well-being, resilience, and hardiness which has social consequences in the classroom as it encourages them to explore and take linguistic risks without fear of punishment or ridicule. This, in turn, can strengthen social cohesion with peers and teachers and create group solidarity in the pursuit of FL acquisition" (Dewaele, 2023, p. 6).

This study aims to use structural equation modelling (SEM) to investigate the links among a number of latent variables that construct a hypothesized model. These variables are FLE, FLCA, and FL perceived competence, as well as FL learning effort as the criterion measure. The context of the study is a group of Saudi military cadets learning English as the only foreign language in the Saudi military academy.

2. LITERATURE REVIEW
2.1. Foreign Language Enjoyment (FLE)

Dewaele and MacIntyre (2016, p. 216) defined Foreign Language Enjoyment (FLE) as "a complex emotion, capturing interacting dimensions of challenge and perceived ability that reflect the human drive for success in the face of difficult tasks" (p. 216). One of the main studies investigating the influence of FLE on foreign language (FL) learning was that of (Dewaele & MacIntyre, 2014), who collected data from 1,746 FL learners of all ages and from all over the world. They found that advanced students perceived themselves as better than their peers, studied more than one language, were older (i.e., university students rather than high school students), and showed higher levels of FLE. In addition, the study found that "activities that empowered students gave them a choice in shaping an activity so that it matched their immediate concerns and interests", like debates and making films, boosted their FLE (Dewaele & Dewaele, 2017, p. 13). Furthermore, the study revealed that teachers, peers, gender, and culture also influenced the levels of FLE. For example, when teachers and peers were funny, encouraging, and supportive, this likely helped FL learners have higher levels of FLE. The influence of teachers on levels of FLE was also confirmed by a number of studies like Wang et al. (2021), Dewaele and Dewaele (2020) and Dewaele and MacIntyre (2019). Dewaele and MacIntyre's (2014) study also revealed that female FL students showed higher levels of FLE than male FL students. Regarding the cultural background, FL learners from North America had significantly higher levels of FLE when compared to FL learners from Asia.

FLE is also related to higher levels of FL learners' performance. For example, FLE is positively correlated with FL learners' self-reported FL test results in the UK as well as the general English proficiency of FL learners in Saudi Arabia (Dewaele & Alfawzan, 2018). In addition, FLE was positively correlated with the FL perceived competence of Chinese learners who studied English as their only foreign language (Li et al., 2020). Furthermore, FLE was a strong predictor of the frequency of flow experiences for 1044 multilingual learners worldwide (Dewaele & MacIntyre, 2022). Finally, FLE was also linked to higher academic achievement (Botes et al., 2022).

2.2. Foreign Language Classroom Anxiety (FLCA)

Foreign Language Classroom Anxiety (FLCA) concerns the learning and/or use of FL, which is caused by the stress of FL learners and "their inability to be themselves and to connect authentically with other people through the limitation of the new language" (Horwitz, 2017, p.

41). A number of studies have revealed that FLCA is FL learner-dependent (Dewaele, 2023; Dewaele & Dewaele, 2017; Dewaele & MacIntyre, 2019). For instance, FL learners' personality traits, relative standing among peers, and level of emotional stability are the variables that predict FLCA (Dewaele & MacIntyre, 2019). MacIntyre (2017, p. 28) added that FLCA "is influenced by internal physiological processes and cognitive and emotional states along with the demands of the situation and the presence of other people, among other things, considered over different timescales. Anxiety has both internal and social dimensions."

There is a consensus among scholars that FLCA is negatively associated with FL learning and achievement (Gardner, 1985; Horwitz et al., 1986; Yu et al., 2015). For example, when a foreign language is used, FLCA is generated by low levels of FL proficiency (MacIntyre et al., 2019), while low FLCA is attributed to a high level of FL proficiency (Dewaele & MacIntyre, 2014). Similarly, FLCA negatively impacts the perception of FL learners of their competence in the FL (Alqahtani, 2023a, 2023b; Li et al., 2020; Shao et al., 2013). Furthermore, Botes et al. (2020a) conducted a meta-analysis study that concluded that FLCA hinders the progress and performance of FL learners.

FLCA and FLE are distinct variables that are negatively related, which plenty of studies have confirmed (Dewaele & Alfawzan, 2018; Dewaele & MacIntyre, 2014; Li et al., 2020; Resnik & Dewaele, 2023). FLCA and FLE "do not necessarily operate in a seesaw relationship, where one goes up and the other goes down, but rather they function somewhat independently" (Dewaele & MacIntyre, 2016, p. 230). Moreover, the absence of one of them does not necessarily mean the presence of the other, as they may exist simultaneously as the right and left feet of a runner.

3. METHODOLOGY
3.1. The Hypothesized Model

The hypothesized model of this study is made up of four latent variables: Foreign Language Enjoyment (FLE), Foreign Language Classroom Anxiety (FLCA), Foreign Language (FL) perceived competence, and FL learning effort as the criterion measure. First, previous studies have found that FLCA negatively impacts the performance of FL learners, their perception of themselves as successful and competent FL learners and users, and their enjoyment of learning the FL (Alqahtani, 2018, 2023a, 2023b; Botes et al., 2020a; Dewaele & Alfawzan, 2018; Dewaele & MacIntyre, 2014; Li et al., 2020). Therefore, it was hypothesized that FLCA would negatively affect FLE, FL perceived competence and FL learning effort. Secondly, the self-perception of the FL learners as successful and competent FL learners and users was linked to both the enjoyment of FL learning (Dewaele & Alfawzan, 2018; Li et al., 2020) and the effort they invest in learning the FL (Alqahtani, 2020). Consequently, FL perceived competence was hypothesized to positively impact FLE and FL learning effort. Finally, there is a consensus among scholars that positive emotions like FLE are associated with better performance in FL learning (Dewaele, 2023), which is supported by the findings of studies in the field (Botes et al., 2022; Dewaele & Dewaele, 2017; Dewaele & MacIntyre, 2022; Dewaele & MacIntyre, 2014; Li et al., 2020). Thus, it was hypothesized that FLE would positively influence FL learning effort. See Figure 1.
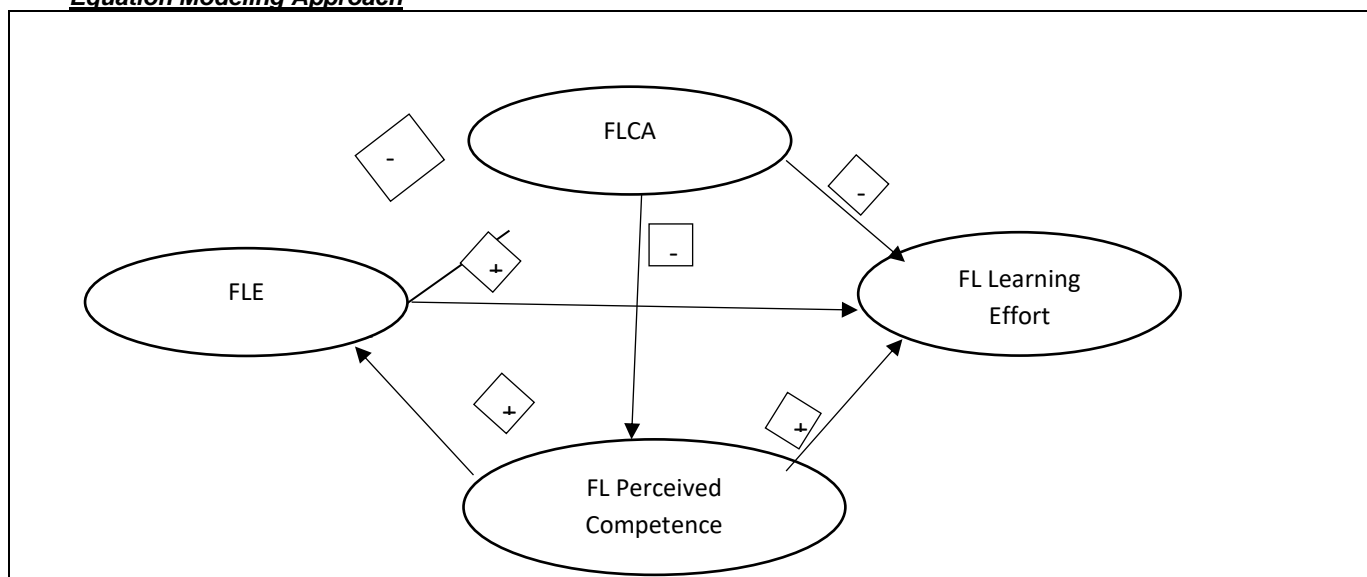
Figure 1: Schematic representation of the initially-tested model for the sample

3.2. Participants

The population of the study was a sample of 148 second-year Saudi military cadets studying English at a Saudi military academy. All of the cadets were volunteers and represented 16.7% of the second-year cadets. Only Saudi young men can join the military academy after graduating from high school. The cadets spend three years studying civilian and military subjects that they must pass in order to graduate as lieutenants. English is the only foreign language taught at the academy, and its credit represents more than 25% of all other subjects. This makes English a decisive subject in the cadets' lives, both inside the academy and after graduation.

3.3. Instrument

The author used a five-point Likert scale questionnaire made up of 36 items measuring four variables: Foreign Language Enjoyment (FLE), Foreign Language Classroom Anxiety (FLCA), Foreign Language (FL) perceived competence, and FL learning effort. The questionnaire was adapted from the FLE and FLCA studies of (Dewaele & MacIntyre, 2014) and the FL learning effort and FL perceived competence studies of (Alqahtani, 2020, 2023a, 2023b). For the first 32 items, participants were asked to select a number representing their agreement with written statements ranging from 1 = absolutely disagree to 5 = absolutely agree. These 32 items were used to measure FLE, FLCA, and FL learning effort. Finally, the last four items measured the participants' FL perceived competence as they were asked to rate their competence in the four skills (Writing, Reading, Listening, and Speaking) in the foreign language (English), with the scores ranging from one, the lowest value, to five, the highest value. The author asked a number of academic colleagues to give their opinion regarding the wording, comprehensibility, and the sustainability of the questionnaire items to the context of the study. Then, necessary changes were made on the items as some of them were eliminated, or reworded.

After that, the questionnaire items were translated from English into Arabic (the mother tongue of the participants) by the author, who is a specialist in English – Arabic translation. In addition, the author also sent both the English and Arabic versions of the questionnaire to a number of

academic colleagues specialized in English – Arabic translation to check the translation and give their opinions.

Finally, the questionnaire was piloted with the help of 39 cadets. Based on the analysis of the obtained data, the final version of the questionnaire was created.

3.4. Data Analysis

In order to make them a usable input for running the structural equation modeling using AMOS 21.0, the collected data were first submitted to SPSS 20.0. Here, the researcher investigated the data for possible errors and outliers that might have affected further analysis. In addition, the reliability of the questionnaire items was tested. Based on the Cronbach's alpha coefficients, the variables attained internal consistency, as the lowest value for FL learning effort was .67 – an acceptable value in social sciences research (Pallant, 2021).

The SEM model consisted of two sub-models: the measurement model and the structural model (Byrne, 2016). Maximum likelihood was used to estimate the parameters in this study. First, a measurement model was drawn up based on the theoretical considerations revealed in the literature review section above. After that, the latent variables were combined into a full structural model, and then the model fit was evaluated using the indices recommended in SEM literature (Byrne, 2016; Marcoulides et al., 2020; Tseng et al., 2006); for example, chi-square (CMIN), chi-square divided by the degrees of freedom (CMIN/df), the goodness of fit index (GFI), the incremental fit index (IFI), the comparative fit index (CFI), the Tucker-Lewis index (TLI), and the root mean square error of approximation (RMSEA) were all used in this study (Browne & Cudeck, 1993; Cao et al., 2023; Fan et al., 1999; Hu & Bentler, 1999; Schumacker & Lomax, 2010; Tseng et al., 2006; Whittaker & Schumacker, 2022).

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

Name of the Scale	Cronbach's Alpha	Mean	Std. Deviation
1 FLE	.77	3.82	.378
2 FLCA	.81	2.16	.761
3 FL Learning Effort	.67	4.30	.512
4 FL Perceived Competence	.76	3.22	.920

4. RESULTS

The model fit indices showed good values; for example, the chi-square was not significant as the p value was below the acceptable .05. Furthermore, the CMIN/df value was acceptable as it was within the acceptable range with a value below 3. Moreover, the GFI, IFI, CFI, and TLI revealed values above the acceptable .90. Finally, the value of the RMSEA was within the acceptable value range of less than .08. Therefore, it could be claimed that the final version of the model was an acceptable representation of the dataset regarding the measured variables. See Table 2.

Table 2: Selected fit measures for the final model. Based on Schumacker and Lomax (2010, p. 76)

Index	Current Level	Accepted Level
CMIN	p = .04	p > .05
CMIN/df	1.21	< 3
GFI	.91	>.90

CFI	.97	>.90
TLI	.96	>.90
RMSEA	.04	<.05 to .08

Despite the fact that the joint model-data fit indices for the sample regarded acceptable, three relations from the hypothesized model were omitted as the analysis revealed that they were not significant for the sample. The pathways removed from the initial model were:

- FLCA ⟶ FLE
- FLCA ⟶ FL learning effort
- FL perceived competence ⟶ FL learning effort

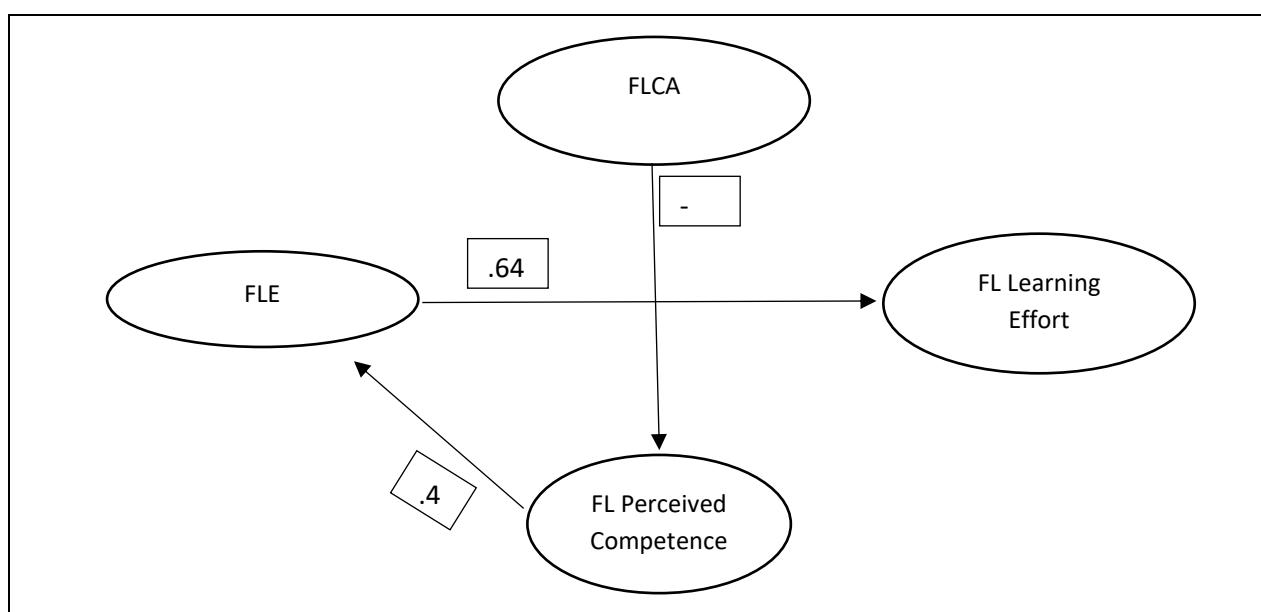Therefore, the final model was made up of three significant relations. See Figure 2.

Figure 2: The final model with standardized estimates

5. DISCUSSION

The model revealed that there was a negative impact of Foreign Language Classroom Anxiety (FLCA) on the other latent variables: the perception of the Saudi foreign language (FL) learners of themselves as successful and competent FL learners and users; their enjoyment of FL learning; and their performance in learning the FL (i.e., the effort they invest in FL learning). This was in agreement with the findings of previous studies in various contexts worldwide, for example, Saudi Arabia and the UK (Dewaele & Alfawzan, 2018), China (Li et al., 2020; Yu et al., 2015), Europe (Resnik & Dewaele, 2023), and other parts of the world (Dewaele & MacIntyre, 2022; Dewaele & MacIntyre, 2014). There is a consensus among scholars that FLCA negatively influences the performance of FL learners and slows their progression in learning the FL (Botes et al., 2020a; Dewaele, 2023).

Moreover, while FLCA contributed directly to the perception of these Saudi cadets of themselves as successful and competent FL learners and users, it also contributed indirectly to their FL enjoyment as well as the effort they would put into learning English. In other words, the negative impact of FLCA on the enjoyment of learning English that might have been experienced by the Saudi cadets and the effort they put into learning the language was mediated by the doubt that might have been felt by the Saudi cadets about themselves as successful and

competent FL learners and users. This suggested that when these Saudi FL learners suffered from anxiety, this might have shaken their perception of themselves as successful and competent English learners and users in the FL, which likely hampered their enjoyment of FL learning. This, in turn, possibly hindered the effort they would invest in FL learning. The indirect impact of FLCA on Foreign Language Enjoyment (FLE) added more support to the findings of a number of previous studies (e.g., Dewaele and MacIntyre (2014), Dewaele and MacIntyre (2016), Li et al. (2020), and (Resnik & Dewaele, 2023)) that FLCA and FLE are distinct but related emotions that work independently.

Furthermore, the model showed that, as FL perceived competence was negatively affected by FLCA, FL perceived competence had a positive direct contribution to the FLE. The association between FL learning enjoyment and higher self-assessed ability in FL has been found in a number of studies conducted in similar FL learning contexts (Botes et al., 2020b; Botes et al., 2022; Brantmeier, 2005; Dewaele & Alfawzan, 2018; Li et al., 2020). The model also highlighted the self-perception of FL learners as successful and competent learners and users resided between malevolent (FLCA) and benevolent (FLE) wolves, using the terminology of Gregersen et al. (2017). FLCA came "from the uncontrollability or uncertainty over the attainment of success or the prevention of failure" (Dewaele, 2023, p. 5). However, the higher the self-perception of FL learners as successful and competent FL learners and users, the more enjoyment they experienced in learning the FL, which, in turn, encouraged them to invest more effort in learning the FL.

In the same vein, the model revealed that FLCA had a negative indirect contribution to the FLE; simultaneously, the students' perception of themselves as successful and competent learners and users of English had a positive direct contribution to the FLE. This likely underscored the nature of FLE "as a complex positively-valenced emotion resulting from a combination of challenge and perceived ability that allows tackling difficult tasks" like learning a foreign language (Dewaele, 2023, p. 279). In addition, the FLE was the only latent variable that contributed to the FL learning effort (the criterion measure). In other words, FL learning effort was determined by FLE, which showed that when FL learners had a pleasant and enjoyable experience during their FL learning process, this gave them a reason to invest more effort in their FL learning. This finding was in line with the findings of previous studies that came to the same conclusion that there was a link between FLE and better performance in FL (Botes et al., 2022; Dewaele, 2023; Dewaele & MacIntyre, 2014; Li et al., 2020).

Finally, the contradictory causal relationship among the latent variables of the model revealed the complexity and multifaceted nature of learning a foreign language like English for the Saudi cadets. Although FLCA made them skeptical of their ability as successful and competent English learners and users, they managed to have some enjoyable experiences in such a hard and tedious learning process based on their realization of the importance of English for their future in the academy and after graduation, which in turn encouraged them to invest more effort and time in learning English.

6. CONCLUSION

The study examined a model consisting of the latent variables Foreign Language Enjoyment (FLE), Foreign Language Classroom Anxiety (FLCA), Foreign Language (FL) perceived competence, and FL learning effort. The results revealed that FLCA negatively contributed

directly and indirectly to all the other variables, which reflected the negative influence of FLCA on FL learning. In addition, the model revealed that FL perceived competence directly and positively contributed to the Saudi cadets' FLE, which highlighted the association between FL learners' higher self-assessed ability in an FL and their enjoyment of learning the foreign language. Finally, FLE contributed positively and directly to the FL learning effort of this group of Saudi English learners. This meant that, based on their realization of the importance of English for their future in the academy and after graduation, these Saudi FL learners experienced enjoyment episodes while learning English (the only foreign language taught in the academy); this likely gave them the meaning and purpose to invest in learning English and put more effort into the learning process.

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