Beliefs of Moroccan Students about Learning French: Variations according to Gender, Language Proficiency, and Major

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Abstract

Different studies have analyzed the factor structure of the *Beliefs about Language Learning Inventory* (BALLI) (Horwitz, 1987, 1988) through exploratory factor analysis, and the obtained results were partially or not confirmed by confirmatory factor analysis. Hence, this study examined the subcategories of Horwitz's (1988) BALLI using confirmatory factor analysis and explored the differences in students' language beliefs according to their gender, language proficiency, and major. 423 Moroccan university and high school students were randomly selected and administered a French version of BALLI to examine their beliefs about learning French as a foreign language. The obtained data were analyzed using MANOVA tests in SPSS version 25. The results of the confirmatory factor analysis confirmed the factor structure of Nikitina and Furuoka's (2006) factor structure. Also, the MANOVA tests revealed that the students' beliefs were affected by individual differences, such as their gender, language proficiency, and major. Our results provide further justification for the validity of BALLI and indicate that Nikitina and Furuoka's (2006) refined instrument is more reliable in conducting inferential statistics. Furthermore, our findings imply that research findings about learners' beliefs about language learning cannot be overgeneralized since these beliefs are shaped by learners' individual characteristics.

1 Introduction

While undertaking any path in their academic development, students construct certain ideas, expectations, and beliefs about the subjects they are learning. These attitudes and beliefs affect their interaction with and success in the subjects they are studying. In foreign language learning, for example, Horwitz (1999, p.558) claims that "[l]earner beliefs have the potential to influence both their experiences and actions as language learners." Hence, regardless of teachers' expectations, learners come to class with their own conceptions and ideas about foreign language learning, and this may bring challenges to foreign language teachers, especially when these beliefs are strong or axiomatic (Horwitz, 2007). Horwitz emphasizes that such beliefs may cause significant misunderstandings regarding the nature and difficulty of the language learning tasks, and they are likely to lead to dissatisfaction and poor language learning techniques.

Understanding these beliefs is critical to the effectiveness of language education (Horwitz, 2007) and will help organize the classroom in the most effective way for learning (Nikitina & Furuoka, 2006). However, learners' beliefs about language learning are context-specific and adapt to the learning environment (Aziz & Quraishi, 2017). In this respect, Fujiwara (2014) argues that language learners are different not only in their beliefs about language learning, but also in many other aspects, such as their cultural backgrounds, and that these learners also share specific features. These features, such as gender, stage of learning, and language proficiency may influence learners' beliefs about language learning (Aljasir, 2022; Arslan & Kafes, 2021; Horwitz, 1999; Jafari & Shokrpour, 2012; Nahavandi & Mukundan, 2014).

Various studies have used Horwitz's (1987, 1988) *Beliefs about Language Learning Inventory* (BALLI) to investigate students' beliefs about language learning. While the original instrument was criticized for lacking empirical justification for its subcategorization, other studies (Fujiwara, 2011, 2018; Hsiao & Chiang, 2010; Nikitina & Furuoka, 2006; Park, 1995; Truitt, 1995; Yang, 1992) have used *exploratory factor analysis* (EFA) to provide further justifications for the subcategories of the instrument. However, none of the aforementioned studies fully confirmed their results through *confirmatory factor analysis* (CFA).

In this regard, the current study aimed to address the existing gaps in the literature by examining the factor structure of BALLI proposed by Horwitz (1987, 1988) through CFA. By employing CFA, we aimed to provide robust empirical evidence for the subcategories of the instrument, which will enhance its validity and applicability in measuring learners' beliefs about language learning. Furthermore, this study sought to investigate the influence of learners' individual and group characteristics, including gender, language proficiency, and grade level, on their beliefs about language learning. By exploring these factors, we aimed to gain a deeper understanding of the complexities and variations in learners' beliefs within diverse educational contexts. The findings of this study will contribute to the development of targeted interventions and strategies to optimize language learning outcomes and improve language education practices.

2 Review of literature

2.1 Beliefs about language learning inventory

As mentioned, understanding learners' beliefs about language learning is crucial for the effectiveness of language education (Horwitz, 2007) and aids in structuring the classroom optimally for learning (Nikitina & Furuoka, 2006). To assess learners' beliefs about language learning, Horwitz (1987, 1988) developed an instrument that measures different affective variables related to students' conceptions of their language learning: the BALLI. Apart from the one designed for teachers, the BALLI was designed in two versions for different target populations (Hsiao & Chiang, 2010; Kuntz,

1996). While Horwitz' (1987) 35-item version assesses the beliefs of non-American students learn-ing English as a second language, Horwitz' (1988) 34-item one is meant to evaluate the beliefs of American students learning a foreign language.

The BALLI is composed of different statements about distinct beliefs about language learning on a five-point Likert scale (ranging from "strongly disagree" to "strongly agree") and does not yield a composite score. The scores of a group of items cannot be summed and this "limits the possibility of finding statistically significant associations between the BALLI and other measures" (Horwitz 2007, p.5). The instrument is mainly analyzed through descriptive statistics of each individual item, and correlation tests cannot be computed, which makes it impossible to draw associations between the BALLI components and other variables.

However, Horwitz (1988) divided her instrument into five categories (see Table 1). Horwitz (1987) has a similar division with a different grouping of items and only the last category, ME, contains 5 items instead of 4. Kuntz (1996) criticized Horwitz' (1988) BALLI on the grounds that it was mainly based on teachers' experiences and opinions rather than those of students, and that the division she made was not statistically supported. The researcher stressed that these categories create a number of challenges in terms of assessing and interpreting data and that Horwitz (1988) did not discuss the choice of the theme labels, the relevance of the sequence of these themes, or the reasons for altering their composition.

To overcome these issues raised by Kuntz (1996), several researchers (Fujiwara, 2011, 2018; Hsiao & Chiang, 2010; Nikitina & Furuoka, 2006; Pan & He, 2024; Park, 1995; Truitt, 1995; Yang, 1992) have conducted factor analyses to combine the items of the BALLI instrument into clusters that are statistically identified. While Nikitina and Furuoka's (2006) factor analysis yielded similar clusters to those of Horwitz's (1988), the studies of Fujiwara (2011, 2018), Hsiao and Chiang (2010), Pan and He (2024), Park (1995), Truitt (1995), and Yang (1992) yielded factor structures that dif-fered significantly from the original model. Most studies that explored the factor structure of the BALLI instrument investigated the 35-item instrument aimed at non-native speakers of English studying that language. Only Nikitina and Furuoka (2006) investigated the 34-item questionnaire designed to evaluate the beliefs of students learning a foreign language.

Park's (1995), Truitt's (1995), and Yang's (1992) studies used only EFA, and none of them used CFA to lend further support for their findings. To address the shortcomings of these studies, Hsiao and Chiang (2010) used both EFA and CFA. The researchers criticized the previous studies on the grounds that they had fundamental structural constraints entrenched in their technique of analysis. They found four factors with 12 items using the 35-item questionnaire. However, the results obtained with EFA were partially supported by the CFA findings.

Two other studies were conducted by Fujiwara (2011, 2018) using the 35-item questionnaire. In both studies, the researcher identified five factors, and none of the items from the BALLI instrument was excluded. In the first study, Fujiwara (2011) did not support the findings obtained by EFA through CFA. In the second study (Fujiwara 2018), both EFA and CFA were used. The results of the EFA yielded five factors, whereas CFA did not support the EFA results

A recent study by Pan and He (2024) investigating the factor structure of the 35-item instrument also disclosed a five-factor scale. Unlike previous studies, their EFA findings were supported by CFA with a good model fit (RMSEA = .03; TLI = .91; CFI = .92).

Only Nikitina and Furuoka (2006) used the 34-item questionnaire. They identified four factors from the BALLI instrument through EFA. Like some of the previous studies, the researchers did not use CFA to support their findings. The factor structure extracted by Nikitina and Furuoka (2006) supported the theorized dimensional structure proposed by Horwitz (1987, 1988) even though only four factors instead of five were identified. Table 1 summarizes the findings of the above-mentioned studies.

Table 1. Different studies that have used factor analysis to analyze the BALLI instrument

Study	Number of participants	Partici-pants	Country	Number of items in the question-naire	Number of fac-tors	Number of items not in-cluded	Factor grouping
Horwitz (1988)	150 first semester students + 50 intensive English students	CTL learners	USA	34	5	(0 item)	1 (6 items; DLL: 3, 4, 6, 14, 24, 28) 2 (9 items; FLA: 1, 2, 10, 15, 22, 29, 32, 33, 34) 3 (7 items; NLL: 5, 8, 11, 16, 20, 25, 26) 4 (8 items; LCS: 7, 9, 12, 13, 17, 18, 19, 21) 5 (4 items; ME: 23, 27, 30, 31)
Yang (1992)	505	University EFL students	Taiwan	35	4	(6 items: 1, 3, 14, 15, 26, 27)	1 (6 items; SEE: 4, 5, 6, 13, 16, 21) 2 (9 items; VNLSE: 7, 9, 12, 18, 20, 29, 31, 32, 33) 3 (7 items; FLA: 2, 8, 10, 11, 19, 24, 30) 4 (7 items; FSS:17, 22, 23,25, 28, 34, 35)
Truitt (1995)	204	University EFL students	Korea	35	5	(12 items: 1, 6, 10, 11,14, 15, 21, 22, 25, 26, 27, 28)	1 (6 items; VNLE: 3, 7, 8, 12, 18, 20) 2 (5 items; SECS: 13, 16, 24, 34, 35) 3 (6 items; ICFL: 9, 17, 22, 23, 30, (29)[1]) 4 (5 items; ELE: 2, 4, 5, 19, 33) 5 (3 items; MF: 29, 31, 32)
Park (1995)	300	College students	Korea	38	4	(13 items: 1, 6, 10, 15, 18, 22, 25, 26, 27, 33, 34, (19)[2], (38)[2])	1 (9 items; MB&BFE: 17, 20, 23, 28, 29, 30, 31, 32, 35) 2 (7 items; SENSI: 4, 5, 13, 16, 21, 24, (34)[2]) 3 (5 items; BLSE: 7, 8, 9, 12, 14) 4 (4 items; BFLA: 2, 3, 11, 19)
Nikitina and Furuoka (2006)	107	Russian language learning students	Malaysia	34	4	(24 items: 1, 2, 3, 4, 5, 6, 7, 8, 10, 11, 12, 14, 15, 16, 17, 18, 19, 20, 21, 24, 25, 26, 32, 34)	1 (2 items; Ease of Learning: 28, 33) 2 (2 items; Aptitude: 22, 29) 3 (2 items; Strategy: 9, 13) 4 (4 items; Motivation: 23, 27, 30, 31)
Hsiao and Chiang (2010)	750	College students of English as a foreign language	Taiwan	35	4	(23 items: 1, 3, 6, 7, 8, 9, 10, 11, 12, 14, 15, 17, 19, 20, 22, 24, 25, 26, 27, 29, 33, 34, 35)	1 (4 items; DLL: 4, 5, 13, 16) 2 (4 items; ISL: 18, 21, 31, 33) 3 (2 items; FLA: 2, 30) 4 (2 items; AALL: 23, 28)

Study	Number of participants	Partici-pants	Country	Number of items in the question-naire	Number of fac-tors	Number of items not in-cluded	Factor grouping
Fujiwara (2011)	542	University EFL stu-dents	Thailand	35	5	(0 item)	1 (8 items; LCS: 1, 7, 11, 18, 22, 26, 29, 33) 2 (6 items; IALL: 9, 17, 23, 28, 34, 35) 3 (6 items; EDLE: 13, 15, 24, 25, 31, 32) 4 (9 items; NALL: 2, 3, 8, 10, 12, 19, 20, 27, 30) 5 (6 items; DALL: 4, 5, 6, 14, 16, 21)
Fujiwara (2018)	537	Undergrad-uate stu-dents learn-ing Japa-nese	Thailand	35	5	(0 item)	1 (8 items; MEA: 15, 17, 18, 22, 26, 29, 33) 2 (8 items; FLA: 4, 5, 10, 12, 13, 16, 24, 25) 3 (8 items; NSL: 6, 19, 20, 21, 26, 28, 30, 34) 4 (6 items; LCS: 1, 7, 8, 9, 14, 23) 5 (5 items; NALL: 2, 3, 11, 22, 27)
Pan and He (2024)	300	Junior high school	Thailand	35	5	(6 items: 8, 9, 11, 19, 21, and 34)	1 (8 items; Self-efficacy and Expectations: 4, 5, 6, 13, 16, 20, 24, 29) 2 (6 items; Focus: 7, 17, 18, 23, 26, 28) 3 (5 items; Strategies and Methods: 12, 14, 31, 32, 25) 4 (5 items; Attitude: 3, 10, 22, 25, 27) 5 (5 items; Perceptions: 1, 2, 15, 30, 33)

Note: DLL: The Difficulty of Language Learning; FLA: Foreign Language Aptitude; NLL: The Nature of Language Learning; LCS: Learning and Communication Strategies; ME: Motivations and Expectations; ISL: Importance of Spoken Language; AALL: Analytical Approaches to Language Learning; LCS: Learning and Communication Strategies; IALL: Important Aspects of Language Learning; EDLE: Expectations and Difficulties of Learning English; NALL: Nature and Apti-tudes of Language Learning; DALL: Difficulty And Ability of Language Learning; MEA: Motivation, Expectations and Aptitudes; NSL: Nature of Spoken Lan-guage; SEE: Self-Efficacy and Expectation; VNLSE: Value and Nature of Learning Spoken English; FSS: Formal, Structured Study; VNLE: Value and Nature of Learning English; SECS: Self-Efficacy/Confidence In Speaking; ICFL: Importance of correctness/formal learning; ELE: Ease of Learning English; MF: Motiva-tional Factors; MB&BFE: Motivation and Beliefs about Foreign Language Learning and Effort; SENSI: Sensitivity to Language Learning; BLSE: Beliefs about Language Learning Self-Efficacy; BFLA: Beliefs about Foreign Language Aptitude

[1] Items were added to the original BALLI by Park (1995).
[2] Items were added to the original BALLI by Truitt (1995).

2.2   The differences in learners' beliefs according to their personal and group characteristics

Different empirical studies have used the original BALLI subcategories theorized by Horwitz (1987, 1988) to investigate the extent to which learners' beliefs are affected by their gender, language achievement, and major (Abdollahzadeh & Rajaeenia, 2024; Aljasir, 2022; Arslan & Kafes, 2021; Aziz & Quraishi, 2017; Demir & Sevik, 2022; Jafari & Shokrpour, 2012; Nahavandi & Mukundan, 2014). Only Fujiwara (2014), employing the subcategories of the BALLI instrument identified in Fujiwara's (2011) study, used EFA to explore the relationship between learners' beliefs and these factors.

Regarding gender, except for Fujiwara's (2014) study, all other studies found significant differences between learners' beliefs according to their gender. Aziz and Quraishi (2017) and Jafari and Shokrpour (2012) observed that females had more positive views on learning a new language and were also more eager to study a foreign language. Also, Arslan and Kafes (2021) as well Aziz and Quraishi (2017) noticed that males had stronger beliefs than females regarding the DLL component and that females' beliefs about the other components exceeded those of their male counterparts. These findings are further supported by Nahavandi and Mukundan (2014), who discovered that female students, compared to male students, developed stronger beliefs about the LCS component. However, the researchers found no significant differences between males and females pertaining to the other components. Other recent studies also confirmed these findings and found significant gender differences favoring females in FLA, NLL, LCS, and ME (Demir & Sevik, 2022), beliefs about DLL and FLA (Abdollahzadeh & Rajaeenia, 2024) and that girls had stronger self-efficacy and motivational beliefs (Zhang, 2023).

Concerning the association between learners' achievement in language and their beliefs about language learning, only Zhang (2023) found that higher-scoring students exhibited significantly greater self-confidence in learning English and a more positive attitude toward using effective language learning strategies compared to their lower-scoring peers. Other studies identified no significant relation between learners' language proficiency and their beliefs in general (Aljasir, 2022; Arslan & Kafes, 2021; Fujiwara, 2014; Nahavandi & Mukundan, 2014). However, subtle associations were established between learners' language proficiency and some subcategories of the BALLI instrument although these studies revealed contrasting results. For instance, Aljasir (2022) and Arslan and Kafes (2021) found a positive association between learners' self-rated English proficiency and their beliefs about FLA. These findings were contradicted by Nahavandi and Mukundan (2014), who found no significant association between these two variables. Likewise, while Nahavandi and Mukundan (2014) determined a significant association between learners' beliefs about DLL, NLL, LCS and their language proficiency level, Arslan and Kafes (2021) found no statistical association between these variables. With regard to Fujiwara's (2014) study, the researcher used different components of the BALLI instrument that were identified in Fujiwara's (2011) study. The researcher found a significant association between the learners' proficiency level and the IALL and DAL components.

Similarly, a student's academic major can influence his or her language learning beliefs. Studies by Aziz and Quraishi (2017) and Fujiwara (2014) revealed significant differences in beliefs based on major. For instance, Aziz and Quraishi (2017) found that science students are more inclined to learn a foreign language than arts students. This aligns with research suggesting that beliefs evolve throughout a learner's development (Abdollahzadeh & Rajaeenia, 2024). The researchers reported that students with higher proficiency, typically found in later grades, tend to have stronger self-efficacy and more positive views on language learning compared to beginners, suggesting that beliefs are shaped by both a student's stage of learning (grade level) and their academic background (major).

2.2   Aim of the study

Previous studies exploring the factor structure of the BALLI instruments have examined the 35-item instrument and used only EFA (Park, 1995; Truitt, 1995; Yang, 1992) while others have used both EFA and CFA (Fujiwara, 2018; Hsiao & Chiang, 2010; Pan and He, 2024). But the CFA findings only partially supported those of the EFA (Hsiao & Chiang, 2010), did not support them at all (Fujiwara 2018), or led to different structures from those theorized by Horwitz (1987, 1988) (Pan & He, 2024). All these studies investigated the 35-item instrument, and only Nikitina and Furuoka (2006) explored the 34-item instrument. However, the researchers did not use CFA to provide further support for their findings. Thus, the current study used CFA to investigate the factor structures of the 34-item BALLI instrument extracted by Horwitz (1988) and Nikitina and Furuoka (2006).

Moreover, except Fujiwara (2014), who used a different factor structure from that theorized by Horwitz (1987, 1988), previous studies investigating the association between learners' gender, language proficiency, their major, and the subcomponents of the BALLI instrument, have used Horwitz's (1988) theorized factors (Abdollahzadeh & Rajaeenia, 2024; Aljasir, 2022; Arslan & Kafes, 2021; Aziz & Quraishi, 2017; Demir & Sevik, 2022; Jafari & Shokrpour, 2012; Nahavandi & Mukundan, 2014). One limitation of these studies is that they compared factors that are not empirically justified. Horwitz (1988) herself admits that these factors do not yield a composite score and thus cannot be used with inferential statistics. Hence, a further objective of the current study was to use a more refined version of Horwitz's (1988) instrument, especially the one identified by Nikitina and Furuoka (2006), to explore the relationship between learners' characteristics and learners' beliefs about foreign language learning.

The following questions guided this research paper:

(1)   To what extent are the dimensions of the BALLI instrument of Horwitz (1988) and Nikitina and Furuoka (2006) supported by CFA?
(2)   How do Moroccan students' beliefs about learning French as a foreign language differ according to their gender?
(3)   How do Moroccan students' beliefs about learning French as a foreign language differ according to their major?
(4)   How do Moroccan students' beliefs about learning French as a foreign language differ according to their language proficiency?

3   Material and methods

3.1   Participants

To validate the constructs of the BALLI instrument across two educational levels, participants were recruited from secondary and higher education. By comparing the results from these two groups, we could assess whether the instrument effectively measures the intended constructs for students at different stages of their academic careers.

A total of 423 students participated in the study, including first-year university students and third-year high school students (K12). The sample had a gender distribution of 31.2% males (n = 132) and 66.3% females (n = 285). There were also 6 participants (1.4%) with missing data.

Participants were randomly selected from three institutions in the city of El Jadida: two faculties and four high schools. The university participants came from the Polydisciplinary Faculty (n = 138, 32.6%) and the Faculty of Science (n = 113, 26.7%). While the university students had a wider range of majors, all students from the high schools (n = 172, 40.7%) were science majors, as detailed in Table 2. French served as the primary language of instruction in all participating institutions.

Table 2. Participants' major (n = 423)

Major	Number	Percent
DLF	92	21.7
SEG	46	10.9
SMPC	40	9.5
SVT	73	17.3
Science	172	40.7
Total	423	100

Note: *DLF*: Droit en Langues Française; *SEG*: Science d'Economie et de Gestion; *SMPC*: Science Maths et Physiques; *SVT*: Science Vies et Terres

3.2 Data collection tools

To collect the data, the participants were administered a French version of the 34-item BALLI instrument (Horwitz, 1988). They rated themselves on a five-point Likert scale ranging from 1 ("strongly disagree") to 5 ("strongly agree"). Only two components of the questionnaire (items 4 and 14) were scaled differently (for more information, see Horwitz, 1988). The only changes included in the French version of the BALLI instrument were the substitution of *foreign language* by *French* and the word *Americans* by *Moroccans*.

The participants were also provided a personal information sheet in which they were asked to fill out their age, gender, institution, and major. To assess the cohorts' French language proficiency, the scores obtained in the French final exams were collected from the respective institutions. The scores were out of twenty. The respondents were then categorized into four categories according to their scores in the French final exam: poor (from 0 to 10), average (from 11 to 14), good (from 15 to 17), and excellent (from 16 to 20).

3.3 Procedure

The research was first approved by the Ethical Committee of the institution where the research was conducted before data collection. In addition, approvals for conducting the research were obtained from the respective institutions. 532 respondents from the aforementioned institutions (268 university students and 264 high school students) were selected through stratified random selection and administered a paper-based copy of the questionnaire. They were given 30 minutes to fill out and return the questionnaire. Only 423 valid answers were returned with a 79.51% response rate (university n = 251, response rate 93.65%; high school n = 172, response rate 65.15%).

3.4 Data analysis

The data were analyzed in the *Statistical Package for the Social Sciences* (SPSS) version 25 and *Amos* version 24. Amos version 24 was used to perform CFA to verify the validity of the BALLI factor structure hypothesized by Horwitz (1988) and the one extracted by Nikitina and Furuoka (2006). According to Hu and Bentler (1999), an appropriate fit is one in which χ^2 is not significant and the χ^2 difference (χ^2/df) is less than 3. The root mean square error of approximation (RMSEA) and its 90% confidence interval (CI) should be less than .1. These cutoffs, according to other researchers (West et al., 2012), are skewed by sample size and should not be relied upon as the only basis for model fit. Besides these cutoffs, these scholars recommend the inclusion of other indices such as the Comparative Fit Index (CFI), Tucker-Lewis Index (TLI), and the Standardized Root Mean Square Residual (SRMR). CFI and TLI cutoffs of .95 and .90, respectively, are recommended for a decent model fit, whereas SRMR should be less than .1.

To assess the variation of students' beliefs about language learning according to their gender, major, and language proficiency, multiple analyses of variance (MANOVA) were conducted in SPSS.

4   Results

4.1   Confirmatory factor analyses of the factor structure of the BALLI instrument

Horwitz (1988) divided the BALLI instruments into five components: DLL, FLA, NLL, LCS, and ME, while Nikitina and Furuoka (2006) identified only four factors through EFA: Ease of Learning, Aptitude, Strategy, and Motivation. Both studies did not use CFA to examine the goodness of fit of the models. Using CFA to test the two models, the results of the current study revealed that Nikitina and Furuoka's (2006) model had a better fit compared to the one hypothesized by Horwitz (1988), as illustrated in Table 3. The χ^2/df was below 3; RMSEA and SRMR were below .1; CFI was equal to .95; and TLI was over .90. The CFA test supported Nikitina and Furuoka's (2006) BALLI factor structure while it did not support Horwitz's (1988) five-component structure.

Table 3. CFA of the BALLI instrument

Model	χ^2	df	χ^2/df	SRMR	RMSEA (90% CI)	TLI	CFI
Model 1	1417.674	517	2.742	.073	.064 (.060, .068)	.781	.798
Model 2	77.970	29	2.689	.50	.063 (.047, .080)	.923	.950

Note: Model 1: Horwitz (1988); Model 2: Nikitina and Furuoka (2006)

4.2   The respondents' replies to Nikitina and Furuoka's (2006) refined BALLI instrument

The descriptive statistics revealed that the mean age of the respondents was 18.16 (SD = 1.64), with ages ranging from 16 to 30 years old. They scored high in Motivation (M = 3.16, SD = 1.08) followed by Strategy (M = 3.11, SD = .80), Aptitude (M = 3.08, SD = 1.08), and Ease of Learning (M = 3.07, SD = .88). Out of 423 respondents, 116 (27.4%) scored poorly in the French exam, 141 (33.3%) had an average score, 93 (22%) had good results, and 73 (17.3%) were excellent in French.

4.3   The association between the respondents' beliefs and their individual and group characteristics

To assess the variation in the respondents' beliefs about learning French as a foreign language according to their individual characteristics, such as gender and level of language proficiency in French, and group characteristics, such as their major, MANOVA tests were conducted in SPSS version 25.

With respect to gender, a statistically significant difference between males and females concerning the four factors of the refined BALLI instrument was detected (F (4, 412) = 6.175, $p < .001$, Wilks' Lambda = .943, partial eta squared = .057). Looking at the independent predictors separately, a statistically significant difference between the two genders was found in the four factors of the refined BALLI instrument: Ease of Learning (F (1, 415) = 8.339, $p = .004$, partial eta squared = .020), Aptitude (F (1, 415) = 5.987, $p = .015$, partial eta squared = .014), Strategy (F (1, 415) = 8.479, $p = .004$; partial eta squared = .020), and Motivation (F (1, 415) = 11.542, $p = .001$, partial eta squared = .027). Only in factor 2 (Aptitude), the mean of the male respondents (M = 3.27, SD = 1.08) was higher than that of the female respondents (M = 3.00, SD = 1.07). In all other factors, females obtained better means than their male counterparts: Ease of Learning (Females: M = 3.15, SD = .88, Males: M = 2.89, SD = .89), Strategy (Females: M = 3.19, SD = .82, Males: M = 2.94, SD = .75), and Motivation (Females: M = 3.29, SD = 1.12, Males: M = 2.90, SD = .98).

In terms of the respondents' language beliefs according to their major, a statistically significant difference was found among different majors on the combined dependent variables (F (4, 414) = 33.784, p < .001, Wilks' Lambda = .337, partial eta squared = .238). Looking at individual factors separately, a statistically significant difference in the respondents' language beliefs was found among the different majors at the level of the four factors: Ease of Learning (F (4, 417) = 27.953, p < .001, partial eta squared = .211), Aptitude (F (4, 417) = 16.505, p < .001, partial eta squared = .137), Strategy (F (4, 417) = 4.658, p = .001, partial eta squared = .043), and Motivation (F (4, 417) = 163.733, p < .001, partial eta squared = .611).

The results of the one-way between-participants ANOVA with post-hoc comparison using the Tucky HSD test revealed that respondents' language beliefs differed between respondents majoring in science in high school and the other majors at the university level: DLF (mean difference = -.84, SD = .10, p < .001), SEG (mean difference = -.99, SD = .13, p < .001), SMPC (mean difference = -.79, SD = .13, p < .001), SVT (mean difference = -.70, SD = .11, p < .001). This means that respondents majoring in science in high school had lower means in the four factors compared to the ones majoring in different departments at the university level. In relation to the language beliefs among the university majors, no significant difference was found.

As far as the respondents' language proficiency in French was concerned, a statistically significant difference was detected between respondents with different proficiency levels on the combined dependent variables (F (4, 416) = 8.573, p < .001, Wilks' Lambda = .798, partial eta squared = .076). Looking at individual factors separately, a statistically significant difference in the respondents' language beliefs was seen among the respondents with different proficiency at the level of three factors: Ease of Learning (F (3, 419) = 10.785, p < .001, partial eta squared = .073), Aptitude (F (3, 419) = 12.117, p < .001, partial eta squared = .080), and Motivation (F (3, 419) = 22.798, p < .001, partial eta squared = .140), whereas no statistical difference was observed in factor 3: Strategy (p = .088).

The results of the one-way between-participants ANOVA with post-hoc comparison using the Tucky HSD test revealed that language beliefs differed between respondents who scored high in the French language exam and those with lower proficiency levels. The mean of the respondents who were rated to be excellent significantly differed from the other respondents with different French language proficiency levels: good (mean difference = -.41, SD = .13, p = .012), average (mean difference = -.68, SD = .12, p < .001), and poor (mean difference = -.41, SD = .13, p < .001). This means that respondents who were excellent in French obtained higher means in the three factors compared to the ones who were good, average, or poor in language proficiency. Concerning the difference in the language beliefs among the respondents with good, average, and poor language proficiency, no significant difference was detected.

5   Discussion

The current study investigated the extent to which Moroccan K12 and first-year university students' beliefs about learning French as a foreign language differed according to their gender, language proficiency, and major. This study used a refined version of the BALLI instrument that was extracted by Nikitina and Furuoka (2006). It also aimed at validating the factor structure of the BALLI instrument using CFA.

The results of our CFA reveal that Nikitina and Furuoka's (2006) factor structure of BALLI represents a good model fit. The researchers' model confirms the division theorized by Horwitz (1988). While Horwitz (1988) studied the beliefs of American students learning a foreign language and Nikitina and Furuoka's (2006) study investigated Malaysian students learning Russian, our study explored the beliefs of Moroccan learners of French as a foreign language. Our results provide further support for Nikitina and Furuoka's (2006) findings and assert that Horwitz's (1988) BALLI is a good instrument for conducting research on learners' beliefs about language learning, not only in different sociolinguistic settings (Nikitina & Furuoka, 2006), but also with learners from different socio-cultural backgrounds. However, we argue that while Horwitz (1987, 1988) offers a comprehensive study of learners' beliefs and her instrument can provide good insights into students' beliefs

about language learning at the item level and can be used with descriptive statistics, Nikitina and Furuoka's (2006) dimension structure of the instrument represents a more reliable instrument if a researcher is more interested in using the tool with inferential statistics. Our study confirms the dimension structure extracted by Nikitina and Furuoka (2006) and establishes that the researchers' refined version of the BALLI instrument is a reliable tool that overcomes the limitations identified by Kuntz (1996).

Regarding the way Moroccan learners' beliefs of French as a foreign language differed according to their gender, language proficiency, and major, our results reveal that the learners' beliefs about language learning were influenced by their individual and group characteristics. In terms of gender, female participants were found to hold stronger beliefs about three components: Ease of Learning, Strategy, and Motivation, while males were found to surpass females in their beliefs concerning their language learning aptitudes. Apart from Fujiwara (2014), who found no significant difference between males' and females' beliefs about language learning, our results corroborate those of Abdollahzadeh and Rajaeenia (2024), Arslan and Kafes (2021), Aziz and Quraishi (2017), Demir and Sevik (2022), Jafari and Shokrpour (2012), Nahavandi and Mukundan (2014), and Zhang (2023), who observed that female participants hold more positive beliefs than males about different components of the BALLI instruments. This reveals that females are more prone and open to learning a new language than males. The disparity found between Fujiwara's (2014) results and the findings of other researchers including ours may be due to the fact that Fujiwara (2014) used different subdivisions of the BALLI instrument.

Our results further support the validity of Nikitina and Furuoka's (2006) dimension structure of the BALLI instrument. Abdollahzadeh and Rajaeenia (2024), Arslan and Kafes (2021), Aziz and Quraishi (2017), Demir and Sevik (2022), Jafari and Shokrpour (2012), Nahavandi and Mukundan (2014), and Zhang (2023) used the subcategories theorized by Horwitz (1987, 1988) while our study used the ones identified by Nikitina and Furuoka (2006). Although the results of Abdollahzadeh and Rajaeenia (2024), Arslan and Kafes (2021), Aziz and Quraishi (2017), Demir and Sevik (2022), Jafari and Shokrpour (2012), Nahavandi and Mukundan (2014), and Zhang (2023) might be criticized on the premise of using an instrument that is not empirically verified, our findings corroborate these researchers' findings and provide empirical justifications for the validity of these findings through the use of a more refined instrument.

As regards language proficiency, our findings established that only learners with excellent language proficiency had more positive beliefs about language learning compared to learners with good, average, or poor language proficiency. This variable contradicts findings of earlier research. All previous studies (Aljasir, 2022; Arslan & Kafes, 2021; Nahavandi & Mukundan, 2014) found a significant difference in learners' beliefs according to their language proficiency although contradictory results were obtained at the component level of the BALLI instrument. While Aljasir (2022) and Arslan and Kafes (2021) claim that learners' beliefs change in the FLA component, Nahavandi and Mukundan (2014) observe disparate beliefs about DLL, NLL, and LCS among learners with different language proficiency levels. However, our study reveals that learners' beliefs are different in all the refined BALLI components. A possible explanation for the difference between our results and those of Aljasir (2022), Arslan and Kafes (2021), and Nahavandi and Mukundan (2014) is the way learners' language proficiency was evaluated. In our study, to determine the respondents' language proficiency, we relied on their performance in the final exams in French provided either by the Ministry of Education for the case of the high-school students or by the respective faculties in which the first-year university respondents were enrolled at the time of the study. The exams were standardized and devised by professionals in the field. However, Aljasir (2022) and Nahavandi and Mukundan (2014) relied on learners' self-rated language proficiency, while Arslan and Kafes (2021) did not reveal the way they measured their participants' language proficiency level. Using self-reported measures might affect the accuracy of the results as these could be affected by the Dunning-Kruger effect since respondents with poor performance tend to overrate their performance (Schlösser et al., 2013).

The last research question deals with the difference in learners' beliefs according to their major. While no disparate results were found among learners' beliefs at the university level, discrepancies were uncovered between participants from the high schools and those in their first year of under-graduate studies. Like Aziz and Quraishi (2017) and Fujiwara (2014), our study reveals that learners with majors differing in terms of the nature of the content and discipline developed different language expectations and motivations for their language learning. These results highlight the dynamic nature of language learning beliefs and suggest that teachers can leverage this understanding by tailoring instruction to address the specific beliefs and needs of learners at different stages in their academic journey (Abdollahzadeh & Rajaeenia, 2024).

However, the lack of difference in learners' beliefs about language learning at the university level may be due to the fact that the respondents to our study were all freshmen and the study was conducted in the first semester. These respondents were new to the core subjects of their respective disciplines and might not have developed different perceptions of the subjects they were studying at the time of the study. Hence, investigating students at higher levels might provide different results.

Our results indicate that learners come to class with their own expectations and preconceived theories about learning language and that these ideas differ from one grade level to another. This suggests that the way learners approach their learning may differ from one setting to another and that different approaches to teaching language should be devised based on the grade level. However, further comprehensive studies on the effect of the nature of the content subject on learners' beliefs about language should be conducted to gain deeper insights into how learners perceive their learning across different subject matters.

6 Conclusion

The current study provides further justification for the validity of the BALLI instrument and the subcomponents derived by Nikitina and Furuoka (2006). Contrary to previous criticism of the validity of the components of the BALLI instrument, the CFA results show that Nikitina and Furuoka's (2006) refined BALLI instrument is a valid tool that can measure learners' beliefs from different cultural backgrounds. Moreover, our results indicate that these beliefs are shaped by learners' individual and group characteristics, such as gender, language proficiency, and grade level.

Our results have implications for research. Previous studies that have used the BALLI instrument relied on the subdivisions theorized by Horwitz (1987, 1988). These subdivisions are criticized by other researchers for lacking empirical evidence. Using these subdivisions to conduct inferential statistics has led to contradictory results, which may raise questions about the validity of the obtained findings. Additionally, different studies have tried to solve this problem through the use of EFA, but have failed to justify their results through CFA (Nikitina & Furuoka, 2006; Park, 1995; Truitt, 1995; Yang, 1992), or their results were either partially supported (Hsiao & Chiang, 2010) or not supported (Fujiwara, 2018) by CFA. Our study reveals that Nikitina and Furuoka's (2006) refined BALLI instrument is a tool that can be used with inferential statistics, provides more reliable results, and supports the theorized subdivisions by Horwitz (1987, 1988). We argue that when the aim of the research is to examine the correlation between the BALLI components and other factors, Nikitina and Furuoka's (2006) refined BALLI instrument may provide more reliable results than Horwitz's (1987, 1988) theorized subdivisions.

Our study has important implications for both theory and practice in the field of language learning. The validation of the factor structure of the BALLI instrument, as proposed by Nikitina and Furuoka (2006), provides further support for its reliability and applicability in various sociolinguistic contexts and with learners from different socio-cultural backgrounds. Researchers can confidently utilize this refined version of the instrument to investigate learners' beliefs about language learning.

In terms of practical implications, the current study reveals significant gender differences in learners' beliefs about language learning. Female participants tend to hold stronger beliefs in areas such as ease of learning, strategy, and motivation, while males exhibit more pronounced beliefs regarding their aptitudes in language learning. Thus, before embarking on any language learning

endeavor, educators and practitioners must first identify learners' beliefs about language learning and use the information to tailor instructional strategies that cater to the specific needs and motivations of male and female learners, creating a supportive and inclusive learning environment. Moreover, the study emphasizes the impact of language proficiency on learners' beliefs. Learners with excellent language proficiency demonstrate more positive beliefs about language learning compared to those with lower proficiency levels. This highlights the importance of fostering language proficiency development to enhance learners' confidence and positive attitudes towards language learning. Educators can implement strategies that focus on improving language proficiency while simultaneously addressing learners' beliefs and attitudes, thereby creating a holistic language learning experience. The study also highlights the influence of learners' majors or subject areas on their beliefs about language learning. Different majors can shape learners' expectations and motivations for language learning. Therefore, educators should recognize the unique characteristics of each major and design language learning activities that align with the content and context of specific disciplines. By doing so, they can enhance learners' engagement, motivation, and language acquisition. Lastly, the study suggests that learners' beliefs about language learning evolve across different grade levels. Educators should consider these changing perspectives and experiences when designing instructional approaches. Tailoring pedagogical strategies to align with learners' grade-level expectations can create a more effective and engaging language learning environment.

In summary, this study provides valuable insights for researchers, educators, and practitioners in the field of language learning. By understanding the complexities of learners' beliefs about language learning and considering factors such as gender, language proficiency, majors, and grade levels, stakeholders can design targeted interventions and strategies to optimize language learning outcomes in diverse educational settings.

This study has some limitations. It only compared learners' language beliefs and did not investigate how these beliefs were shaped by internal and external factors and how they could predict learners' achievement in language. Hence, further research should be undertaken to investigate the effect of learners' personal characteristics, such as age, gender, motivation, and language anxiety, and group characteristics, such as the type of major they enroll in, on their beliefs about language learning.

References

Abdollahzadeh, E., & Rajaeenia, M. (2024). English language learning beliefs of Iranian high school students. *The Electronic Journal for English as a Second Language*, *28*(1), 1–23. https://doi.org/10.55593/ej.28109a6

Aljasir, N. (2022). An exploratory study of beliefs about foreign language learning among self-learners of English in Saudi Arabia. *Journal of Educational and Social Research*, *12*(1), 37–50. https://doi.org/10.36941/jesr-2022-0005

Arslan, G., & Kafes, H. (2021). Turkish prep school EFL students' beliefs about language learning. *International Online Journal of Education and Teaching*, *8*(2), 1312–1330.

Aziz, F., & Quraishi, U. (2017). An insight into secondary school students' beliefs regarding learning English language. *Cogent Education*, *4*(1). https://doi.org/10.1080/2331186X.2017.1278835

Demir, H., & Sevik, M. (2022). ELT student teachers' beliefs about language learning : The case of Burdur Mehmet Akif Ersoy University. *International Journal of English and Education*, *11*(4), 89–117.

Fujiwara, T. (2011). Language learning beliefs of Thai EFL university students: Dimensional structure and cultural variations. *Electronic Journal of Foreign Language Teaching*, *8*(1), 87–107.

Fujiwara, T. (2014). Language learning beliefs of Thai EFL university students: Variations related to achievement levels and subject majors. *Electronic Journal of Foreign Language Teaching*, *11*(2), 300–311.

Fujiwara, T. (2018). Factor structure of the beliefs about language learning inventory for Thai students learning Japanese. *Perceptual and Motor Skills*, 1–19. https://doi.org/10.1177/0031512518760881

Horwitz, E. K. (1987). Surveying student beliefs about language learning. In A. L. Wenden & J. Rubin (Eds.), *Learner strategies in language learning* (pp. 119–129). Prentice Hall.

Horwitz, E. K. (1988). The beliefs about language learning of beginning university foreign language students. *The Modern Language Journal*, *72*(3), 283–294. https://doi.org/10.1111/j.1540-4781.1988.tb04190.x

Horwitz, E. K. (1999). Cultural and situational influences on foreign language learners' beliefs about language learning: A review of BALLI studies. *System*, *27*(4), 557–576.

https://doi.org/10.1016/S0346-251X(99)00050-0

Horwitz, E. K. (2007). Why student beliefs about language learning matter: Issues in the development and implementation of the beliefs about language learning inventory. In H. J. Siskin (Ed.), *From Thought to Action: Exploring Beliefs and Outcomes in the Foreign Language Program* (pp. 2–8).

Hsiao, T. Y., & Chiang, S. (2010). Testing the factor structure of the beliefs about language learning inventory. *Perceptual and Motor Skills*, *111*(3), 707–721. https://doi.org/10.2466/03.08.11.28.PMS.111.6.707-721

Hu, L., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling: A Multidisciplinary Journal*, *6*(1), 1–55. https://doi.org/10.1080/10705519909540118

Jafari, S. M., & Shokrpour, N. (2012). The beliefs of Iranian ESP students about language learning. *Journal of Educational and Social Research*, *2*(3), 157–163. https://doi.org/10.5901/jesr.2012.v2n3p157

Kuntz, P. S. (1996). Beliefs about language learning: The Horwitz model. In *ERIC Document Reproduction Service, No. ED397649*.

Nahavandi, N., & Mukundan, J. (2014). EFL learners' beliefs about language learning along gender, further education in language institutes & different proficiency levels. *International Journal of Applied Linguistics and English Literature*, *3*(1), 170–180. https://doi.org/10.7575/aiac.ijalel.v.3n.1p.170

Nikitina, L., & Furuoka, F. (2006). Re-examining Horwitz's beliefsa about language learning inventory (BALLI) in the Malaysian context. *Electronic Journal of Foreign Language Teaching*, *3*(2), 209–219.

Pan, L., & He, X. (2024). Exploring the language learning beliefs of Thai junior high school students in Chinese learning: A BALLI-based study. *Journal of Language Teaching and Research*, *15*(1), 97–103. https://doi.org/10.17507/jltr.1501.11

Park, G.-P. (1995). *Language learning strategies and beliefs about language learning of university students learning English in Korea* [Unpublished doctoral dissertation, The University of Texas at Austin]. http://dx.doi.org/10.1016/j.jaci.2012.05.050

Schlösser, T., Dunning, D., Johnson, K. L., & Kruger, J. (2013). How unaware are the unskilled? Empirical tests of the "signal extraction" counterexplanation for the Dunning–Kruger effect in self-evaluation of performance. *Journal of Economic Psychology*, *39*, 85–100.

Truitt, S. N. (1995). Anxiety and beliefs about language learning: A study of Korean university students learning English [Unpublished doctoral dissertation, The University of Texas at Austin]. In *Journal of Allergy and Clinical Immunology*. http://dx.doi.org/10.1016/j.jaci.2012.05.050

West, S. G., Taylor, A. B., & Wu, W. (2012). Model fit and model selection in structural equation modeling. In R. H. Hoyle (Ed.), *Handbook of Structural Equation Modeling* (pp. 209–231). Guilford.

Yang, N.-D. (1992). *Second language learners' beliefs about language learning and their use of learning strategies: A study of college students of English* [Unpublished doctoral dissertation, The University of Texas at Austin]. http://dx.doi.org/10.1016/j.jaci.2012.05.050

Zhang, B. (2023). An empirical study on English learning beliefs for art students in higher vocational college. *European Online Journal of Natural and Social Sciences*, *12*(2), 281–291.

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