education sciences

MDPI

Article

More Languages, Different Enjoyment? Foreign Language Enjoyment in a Multilingual Medical Context

Anikó Berta [1,*], Lilla Makszin [2] and Gabriella Hild [3]

[1] Doctoral School of the Faculty of Health Sciences, University of Pécs, 7621 Pecs, Hungary
[2] Medical School, Institute of Bioanalysis, University of Pécs, 7624 Pecs, Hungary; lilla.makszin@aok.pte.hu
[3] Department of Languages for Biomedical Purposes and Communication, Medical School, Institute of Bioanalysis, University of Pécs, 7624 Pecs, Hungary; gabriella.hild@aok.pte.hu
* Correspondence: aniko.berta@aok.pte.hu

Abstract

This study explores Foreign Language Enjoyment (FLE) among medical students learning languages with different contextual roles within the same university and taught by the same teacher under comparable instructional conditions. A total of 213 students participated, including Hungarian students learning English for medical purposes (n = 130) and international students learning Hungarian (n = 83). The Short Form of the Foreign Language Enjoyment Scale (S-FLES) was used. The ordinal confirmatory factor analysis (CFA) showed an overall adequate fit for the original three-factor S-FLES model in the full sample, providing support for this structure in the present study. A complete ceiling effect for Item 2 limited the psychometric assessment in the international cohort. No significant differences were found between the two groups in teacher appreciation or personal enjoyment. In contrast, Hungarian students reported higher social enjoyment, particularly in relation to group cohesion and shared classroom experiences. No statistically significant associations between the self-reported number of languages spoken and the S-FLES items remained after correction for multiple testing, either in the full sample or when the two cohorts were analysed separately. Overall, the findings show that social enjoyment differed between the two cohorts, but the cross-sectional design does not identify the factors responsible for this difference. The study contributes to research on positive emotions in multilingual higher education by highlighting the context-dependent nature of FLE.

Keywords: Foreign Language Enjoyment; self-reported number of languages spoken; medical education; language learning; higher education; S-FLES

Check for updates

Academic Editor: Zhongfeng Tian

Received: 15 July 2026
Revised: 1 October 2026
Accepted: 2 October 2026
Published: 9 October 2026

Copyright: © 2026 by the authors. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license.

1. Introduction

Foreign Language Enjoyment (FLE) has received increasing attention in second language acquisition research, reflecting a broader interest in learners' emotions and well-being. Previous studies have mainly focused on classroom-related factors, such as teacher behaviour, peer interaction, and task design. However, less attention has been paid to how broader contextual factors, including the institutional setting and the perceived value of the target language, may influence enjoyment, especially in multilingual higher education environments.

The present study examines FLE among medical students at a Hungarian university and represents an example of the English-Medium Education in Multilingual University Settings (EMEMUS) framework proposed by Dafouz and Smit (2016). Due to the internationalization of higher education, universities have become increasingly multilingual and

multicultural (Dafouz & Smit, 2016). This context creates an opportunity to explore how differences in learners' linguistic background, motivation, and learning conditions may influence their emotional experiences in language learning. Previous research at the same university has shown that international medical students often share similar preferences for teaching methods and tend to favour collaborative learning (Dávidovics & Németh, 2021), which may also influence how they experience the classroom environment.

The present study compares two cohorts studying at the same medical university and taught by the same teacher: Hungarian medical students learning English for medical purposes and international students learning Hungarian for medical purposes. The Hungarian cohort studies in its home environment, whereas the international cohort includes students with different linguistic and educational backgrounds. Although both groups study at the same university, their relationship to the target language differs.

For international students, English is the language of instruction, while Hungarian has a more local and practical role. These students are already proficient in English and are required to learn Hungarian to communicate with patients during their clinical training. In contrast, Hungarian students in the Hungarian-medium programme are required to achieve a B2 level in English for medical purposes by the end of their studies. While Hungarian is needed for local clinical communication, English has a broader international role in professional communication. Dafouz and Smit's (2016) ROAD-MAPPING framework considers the roles of English in relation to other languages within multilingual universities, taking account of both local and international demands. These differences provide a context for comparing learners' enjoyment across the two cohorts.

Medical education is demanding, and language courses can either reduce or increase students' stress. As Dewaele and Saito (2022) point out, language teachers play an important role in creating a supportive classroom environment "where there is room for laughter and joking" (p. 231). At the same time, even under similar teaching conditions, learners' emotional experiences may differ due to factors beyond the classroom.

Control-value theory suggests that students' learning emotions are related to their perceived control over learning and the value they attach to it. These perceptions are shaped by the social and cultural context (Pekrun, 2024). Sun and Shi (2026) found a positive association between perceived utility value and overall FLE among university students. Shao et al. (2025) found that the association between students' perceptions of their classmates' enjoyment and their own enjoyment was partly mediated by perceived control and learning value. These findings suggest that both the value attached to language learning and the classroom social environment are relevant to enjoyment. In the present context, English serves international professional communication, while Hungarian is needed for local clinical communication. These different purposes may be relevant to how students interpret classroom activities and experience learning with their peers. This offers a possible theoretical basis for comparing social enjoyment across the two cohorts, without assuming that either group will report higher enjoyment. However, perceived value and control were not measured, so the present study cannot test this explanation directly.

The present study uses the Short Form of the Foreign Language Enjoyment Scale (S-FLES), developed by Botes et al. (2021), which measures teacher appreciation, personal enjoyment, and social enjoyment. The study addressed the following research questions:

1. Do Hungarian medical students learning English for medical purposes and international medical students learning Hungarian differ in teacher appreciation, personal enjoyment, and social enjoyment?
2. Does the published three-factor structure of the S-FLES show adequate psychometric functioning in the full sample?

3. Is the self-reported number of languages spoken associated with responses to the nine S-FLES items in the full sample and within each cohort?

2. Literature Review

Foreign language learning is not only a cognitive but also an emotional process. Krashen (1985) emphasized the role of affective factors in his Affective Filter Hypothesis, suggesting that emotions can either facilitate or hinder language acquisition.

With the emergence of positive psychology, attention in second language acquisition (SLA) research has gradually shifted away from negative emotions such as anxiety towards more positive experiences, including enjoyment. As a result, researchers have begun to examine how these positive emotions may influence learners' motivation, resilience, and longer-term engagement in language learning (MacIntyre & Mercer, 2014).

Several conceptual frameworks have been used to understand learner well-being. Seligman's PERMA model (2011) outlines the main components of well-being, while Oxford's EMPATHICS model (2016) builds on this and includes additional learner-related and contextual factors, such as motivation and perseverance. These models suggest that language learning is shaped not only by cognitive processes but also by emotional and social factors within specific learning contexts. However, these frameworks have rarely been applied in contexts where the target languages differ in status and function within the same institution.

FLE has received increasing attention in second language acquisition research. The concept is often linked to Fredrickson's (2001) broaden-and-build theory, which suggests that positive emotions can broaden learners' attention and contribute to positive learning experiences and long-term development. Dewaele and MacIntyre (2014) were among the first to demonstrate that FLE represents a distinct dimension of language learning rather than merely the absence of anxiety. To facilitate research across different educational settings, Botes et al. (2021) developed the Short Form of the Foreign Language Enjoyment Scale (S-FLES), a nine-item instrument comprising three dimensions: teacher appreciation, personal enjoyment, and social enjoyment.

FLE is closely linked to the L2 Learning Experience within Dörnyei's (2009) L2 Motivational Self System, which includes situation-specific factors related to the immediate learning environment, such as the teacher, the curriculum, peers, classroom experiences, and feedback. Research has shown that teacher-related variables play an important role in shaping FLE. For example, Dewaele and MacIntyre (2019) found that teacher encouragement, humour, and positive feedback can enhance learners' enjoyment. Similarly, Z. Li and Liu (2022) identified teacher friendliness and enthusiasm as strong predictors of positive classroom emotions.

In addition to teacher-related factors, the social dimension of language learning is also important. Language learning is a complex and dynamic process (Dörnyei, 2009), involving interaction between learners and their environment (Mercer, 2011). Within this context, the social dimension of FLE includes learners' perceptions of classroom atmosphere, group cohesion, and shared laughter (Botes et al., 2021; Dewaele et al., 2023). Recent research shows that FLE helps explain how teacher support and learner characteristics influence willingness to communicate (Rashid & Malik, 2026).

Learners' previous language experience may also be associated with how they engage emotionally with an additional language. Some studies suggest that more multilingual learners report higher enjoyment and lower anxiety, although results are not always consistent across contexts (Dewaele et al., 2024). Other research also links multilingualism to higher enjoyment but points out that this may depend on broader factors such as well-being (Proietti Ergün & Ersöz Demirdağ, 2022). However, the number of languages spoken,

proficiency in those languages and the contexts in which they are used describe different aspects of language background (Aparici et al., 2024). These should also be distinguished from the status and role of languages in the surrounding social and educational environment. Botes et al. (2020) used a single question about the number of languages known but acknowledged that this did not capture proficiency across participants' languages. Calafato (2025) also distinguished between the number of additional languages learned and the number used daily. At the same time, FLE is increasingly seen as dynamic and context-dependent rather than fixed (Wu & Kabilan, 2025). Research from Hungarian medical universities also shows that, despite diverse backgrounds, international students often share similar preferences for collaborative learning, digital tools, and assessment formats (Dávidovics & Németh, 2020, 2021). At the same university, Hungarian medical students reported that learning in a multilingual and multicultural classroom supported their confidence and perceived development in English communication (Németh et al., 2024). Together, these findings highlight the importance of the institutional and classroom context. Previous findings on language background and FLE support examining the relationship between the self-reported number of languages spoken and FLE. In the present study, this variable is treated as a limited indicator of language background rather than a comprehensive measure of multilingual competence.

The present study takes a positive psychology perspective and treats FLE as a multidimensional construct that can be examined in relation to classroom, individual, and contextual factors. While previous research has mainly focused on classroom variables, especially teacher behaviour and peer interaction, less attention has been paid to broader contextual factors, including the roles and status of target languages in multilingual university settings. The present study examines FLE among medical students learning languages with different contextual roles within the same institutional context.

3. Methods

3.1. Study Design

The study follows a quantitative, cross-sectional design. It examines the psychometric functioning of the S-FLES, compares FLE in two student groups, and explores the relationship between the self-reported number of languages spoken and FLE. The validity of the scale was examined using confirmatory factor analysis, along with reliability and validity indices. Group differences and relationships between variables were analysed using statistical tests appropriate to the data.

3.2. Context

The study was conducted in the spring semester of the 2025/26 academic year at a Hungarian medical university offering both Hungarian- and English-medium programmes in a multilingual environment. In the English-medium programme, students come from diverse international backgrounds and the courses are delivered in English. Hungarian is used mainly during clinical rotations, when students communicate with Hungarian patients in teaching hospitals. For this reason, international students are required to learn Hungarian for clinical communication. They study Medical Hungarian during the first two years of their training and must pass a final examination at the end of the second year before entering clinical rotations. These Hungarian language courses focus primarily on patient communication, especially history taking. Previous research at this university has shown that learning Hungarian for medical purposes in this context presents specific challenges for international students, particularly due to linguistic and cultural differences (Dávidovics & Németh, 2020).

In contrast, students in the Hungarian-medium programme are predominantly Hungarian and are required to achieve a B2 level in English for medical purposes as an exit requirement. Medical English courses are offered as electives throughout the programme and focus on developing English communication skills, such as history taking in different medical specialties, presentation skills, and professional writing.

Previous research at this university indicates that international medical students' motivation to learn Hungarian is often primarily instrumental, driven by academic and clinical requirements rather than intrinsic interest (Hild et al., 2019, 2021a, 2021b). These studies also suggest that international students tend to rely more on co-national or international peer networks, especially in the early stages of their studies, and engage less frequently with local students. This may influence both their language learning experience and their social integration.

3.3. Participants

Participants (n = 213) were recruited by the language instructors during regular Medical English and Medical Hungarian classes within the same department. Data were collected using a Google Form containing the nine items of the S-FLES in the spring semester of the academic year 2025/2026. The study received ethical approval from the university ethics committee before data collection. Before completing the questionnaire, students were informed in writing at the beginning of the questionnaire and orally by the instructors that participation was anonymous and entirely voluntary and that they were free not to participate. No signed consent forms were collected because the questionnaire was anonymous. Participants indicated their informed consent by voluntarily completing and submitting the questionnaire.

The sample consisted of two cohorts: international medical students learning Hungarian for medical purposes (n = 83) and Hungarian medical students learning English for medical purposes (n = 130). In the international cohort, 25 participants were male and 58 were female, with a mean age of 22 years. The Hungarian cohort included 58 male and 68 female participants, while four selected "prefer not to say"; their mean age was 21 years. The demographic characteristics and self-reported number of languages spoken are summarised in Table 1. The gender distribution differed significantly between the two groups (p = 0.016), although the association was small (Cramer's V = 0.193).

Table 1. Demographic characteristics and self-reported number of languages spoken.

Variable		Hungarian Students	International Students	*p*-Value
Sample size		130	83	—
Gender, *n* (%)	Female	68 (52.3%)	58 (69.9%)	0.016
	Male	58 (44.6%)	25 (30.1%)	
	Prefer not to say	4 (3.1%)	0 (0.0%)	
Self-reported number of languages spoken, mean ± SD		3.3 ± 1.0	2.4 ± 0.8	<0.001
Minimum		1	1	—
Maximum		4	5	—

Note: The p-value for gender refers to the overall distribution across the three gender categories and is based on the Fisher–Freeman–Halton exact test. The p-value for the self-reported number of languages spoken is based on the Mann–Whitney U test.

3.4. Instrument and Data Collection

This study examines FLE using the Short Form of the Foreign Language Enjoyment Scale (S-FLES) (Botes et al., 2021) in a Hungarian context. The original Foreign Language Enjoyment Scale (FLES), developed by Dewaele and MacIntyre (2014), consisted of 21 items

measuring positive emotional experiences in language learning. The S-FLES is a shorter, nine-item version organised into three components: teacher appreciation, personal enjoyment, and social enjoyment.

The study compares these components in two groups at a medical school in Hungary: Hungarian medical students learning English for medical purposes and international medical students learning Hungarian for medical purposes. Both groups were taught by the same teacher within the same department. Data were collected using an online questionnaire administered during regular classes.

Responses to the S-FLES items were recorded on a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). In addition to the nine S-FLES items, the questionnaire included demographic questions and one question about participants' language background: "Including your first language(s), how many languages do you speak?" Responses to this question were used to examine the relationship between the self-reported number of languages spoken and Foreign Language Enjoyment. This question did not assess proficiency in each language or the frequency and contexts of language use.

The three subscales were teacher appreciation (items 1–3), personal enjoyment (items 4–6), and social enjoyment (items 7–9). The nine items of the S-FLES are presented in Table 2.

Table 2. The nine items of the S-FLES and their subscale classification.

Item	Statement	Subscale
1	The teacher is encouraging.	Teacher appreciation
2	The teacher is friendly.	Teacher appreciation
3	The teacher is supportive.	Teacher appreciation
4	I enjoy it.	Personal enjoyment
5	I've learned interesting things.	Personal enjoyment
6	I am proud of my accomplishments.	Personal enjoyment
7	We form a tight group.	Social enjoyment
8	We laugh a lot.	Social enjoyment
9	We have common 'legends', such as running jokes.	Social enjoyment

3.5. Statistical Analysis

Descriptive statistics were used to summarise the data. A confirmatory factor analysis was conducted in the full sample (n = 213) to examine the published three-factor structure of the S-FLES (Botes et al., 2021). The model specified three correlated factors: teacher appreciation, personal enjoyment, and social enjoyment. The nine items were treated as ordered categorical variables. The ordinal CFA was estimated using diagonally weighted least squares with robust standard errors and a mean- and variance-adjusted test statistic, corresponding to the WLSMV approach for ordered categorical indicators (C.-H. Li, 2016). Model fit was evaluated using the scaled chi-square test, CFI, TLI, RMSEA with its 90% confidence interval, and SRMR, with reference to established recommendations for model fit evaluation (Browne & Cudeck, 1992; Hu & Bentler, 1999).

Internal consistency was assessed using Cronbach's alpha and McDonald's omega.

Convergent validity was assessed using average variance extracted (AVE) from the full-sample CFA. Discriminant validity was assessed using the Fornell–Larcker criterion by comparing each factor's AVE with the squared correlations between the latent factors (Fornell & Larcker, 1981).

Differences between the two cohorts were analysed using the Mann–Whitney U test, with effect size reported as r. Differences in gender distribution were assessed using the

Fisher–Freeman–Halton exact test, with Cramer's V reported as the effect size. Gender differences in the three FLE dimensions were examined using Mann–Whitney U tests in the international cohort and Kruskal–Wallis tests in the Hungarian cohort, which included three gender categories. Associations between the self-reported number of languages spoken and the nine S-FLES items were examined using Spearman's rank-order correlation (ρ) in the full sample and separately within each cohort. The Benjamini–Hochberg procedure was applied separately to the three subscale comparisons, the nine item-level cohort comparisons, the item-level Spearman correlations in the full sample and within each cohort, and the three gender comparisons within each cohort to control the false discovery rate (Benjamini & Hochberg, 1995). Effect sizes were interpreted using Cohen's (1988) general guidelines: 0.10 as small, 0.30 as medium, and 0.50 as large. These values were treated as general guidelines rather than strict thresholds. The ordinal CFA was performed using the *lavaan* package (version 0.7-2), and the Benjamini–Hochberg FDR adjustments were calculated in R (version 4.6.1; R Core Team, 2026). All other statistical analyses were performed using IBM SPSS Statistics (version 29.0.2.0).

4. Results

The three-factor CFA model converged successfully in the full sample. The scaled fit indices indicated an overall adequate fit: scaled $\chi^2(24) = 43.1$, $p = 0.010$, CFI = 0.993, TLI = 0.990, RMSEA = 0.061, 90% CI [0.030, 0.090], p-close = 0.245, and SRMR = 0.040. Standardised factor loadings ranged from 0.770 to 0.978 (Table 3), and all freely estimated loadings were statistically significant ($p < 0.001$). The factors were positively correlated: teacher appreciation with personal enjoyment, r = 0.721; teacher appreciation with social enjoyment, r = 0.541; and personal enjoyment with social enjoyment, r = 0.748 (all $p < 0.001$).

Table 3. Standardised factor loadings from the three-factor CFA of the S-FLES.

Item	Factor	Standardised Factor Loading (β)
Q1	Teacher appreciation	0.947
Q2	Teacher appreciation	0.842
Q3	Teacher appreciation	0.978
Q4	Personal enjoyment	0.970
Q5	Personal enjoyment	0.835
Q6	Personal enjoyment	0.770
Q7	Social enjoyment	0.886
Q8	Social enjoyment	0.941
Q9	Social enjoyment	0.910

Note. $n = 213$. CFA = confirmatory factor analysis. Items were treated as ordered categorical variables.

The internal consistency of the S-FLES subscales was assessed using Cronbach's alpha and McDonald's omega. In the full sample, the values were $\alpha = 0.807$ and $\omega = 0.861$ for teacher appreciation, $\alpha = 0.787$ and $\omega = 0.808$ for personal enjoyment, and $\alpha = 0.878$ and $\omega = 0.888$ for social enjoyment.

In the Hungarian group, the corresponding values were $\alpha = 0.838$ and $\omega = 0.850$ for teacher appreciation, $\alpha = 0.815$ and $\omega = 0.823$ for personal enjoyment, and $\alpha = 0.899$ and $\omega = 0.908$ for social enjoyment. In the international group, the values were $\alpha = 0.692$ and $\omega = 0.713$ for personal enjoyment and $\alpha = 0.849$ and $\omega = 0.870$ for social enjoyment.

All 83 international students selected 5 ("strongly agree") for Item 2 ("The teacher is friendly"), resulting in zero variance and a complete ceiling effect for this item. A

separate ordinal CFA of the original nine-item model could therefore not be estimated in this group. Reliability estimates for the original three-item teacher appreciation subscale are not reported for the international group.

Convergent validity was assessed using average variance extracted (AVE) from the full-sample CFA. AVE was 0.854 for teacher appreciation, 0.744 for personal enjoyment, and 0.833 for social enjoyment. All three values exceeded 0.50, providing support for convergent validity in the full sample. The AVE values also exceeded the squared correlations between the factors. The Fornell–Larcker criterion was therefore met for all three factors in the full sample. The reliability and AVE values are presented in Table 4.

Table 4. Internal consistency and convergent validity of the S-FLES subscales.

Index	Subscale	Hungarian Students (n = 130)	International Students (n = 83)	Full Sample (n = 213)	Botes et al. (2021)
Cronbach's α	Teacher appreciation	0.838	n.e.	0.807	0.91
Cronbach's α	Personal enjoyment	0.815	0.692	0.787	0.71
Cronbach's α	Social enjoyment	0.899	0.849	0.878	0.79
McDonald's ω	Teacher appreciation	0.850	n.e.	0.861	0.91
McDonald's ω	Personal enjoyment	0.823	0.713	0.808	0.70
McDonald's ω	Social enjoyment	0.908	0.870	0.888	0.79
AVE	Teacher appreciation	—	n.e.	0.854	0.780
AVE	Personal enjoyment	—	n.e.	0.744	0.467
AVE	Social enjoyment	—	n.e.	0.833	0.554

Note. AVE = average variance extracted; n.e. = not estimable in the reported analysis; — = not reported. Teacher appreciation comprises Items 1–3, personal enjoyment Items 4–6, and social enjoyment Items 7–9. All 83 international students selected the highest response category for Item 2. Reliability estimates for the original teacher appreciation subscale are therefore not reported for this group. A separate ordinal CFA of the original nine-item model could not be estimated in the international group. AVE values for the present study are reported only for the full-sample CFA. Values from Botes et al. (2021) are included for reference.

The primary analysis examined which dimension of the scale showed the greatest difference between the two cohorts. Mann–Whitney U tests were conducted for the three subscales and the individual items. After Benjamini–Hochberg correction across the three subscale comparisons, no statistically significant differences were found in teacher appreciation (adjusted $p = 0.952$) or personal enjoyment (adjusted $p = 0.952$). However, the teacher appreciation comparison should be interpreted cautiously because Item 2 showed a complete ceiling effect in the international group. The difference in social enjoyment remained statistically significant after correction (U = 3588, adjusted $p < 0.001$, r = 0.335), indicating that this was the dimension in which the two groups differed most clearly. At the item level, the differences in Item 7 ("We form a tight group"; U = 3860, adjusted $p < 0.001$) and Item 9 ("We have common 'legends', such as running jokes"; U = 3554, adjusted $p < 0.001$) remained statistically significant after Benjamini–Hochberg correction, with higher scores in the Hungarian group. No other item-level differences remained statistically significant after correction.

The secondary analysis examined whether the self-reported number of languages spoken was associated with Foreign Language Enjoyment. Before examining these associations, the two groups were compared in their reported number of languages spoken. The Mann–Whitney U test showed a statistically significant difference between the groups (U = 2584, $p < 0.001$, r = 0.521). The Hungarian group reported a higher mean number of languages spoken, while the international group showed a wider range of responses.

In the full sample, none of the associations between the self-reported number of languages spoken and the nine S-FLES items remained statistically significant after Benjamini–

Hochberg correction. Item 7 showed a positive correlation before correction (ρ = 0.153, $p = 0.026$), but this association was not statistically significant after correction (adjusted $p = 0.234$). Similarly, none of the associations remained statistically significant after correction when the two cohorts were analysed separately. In the international cohort, the correlation with Item 5 was significant before correction (ρ = −0.242, $p = 0.028$), but not after correction (adjusted $p = 0.224$). The correlation for Item 2 could not be calculated in the international cohort because this item had no variance. The full-sample correlations are presented in Table 5.

Table 5. Spearman correlations between the self-reported number of languages spoken and S-FLES items in the full sample.

Item	Spearman's ρ	Unadjusted p	BH-Adjusted p
Item 1	−0.048	0.488	0.627
Item 2	0.051	0.457	0.627
Item 3	−0.074	0.282	0.511
Item 4	−0.001	0.983	0.983
Item 5	−0.120	0.081	0.243
Item 6	0.027	0.696	0.783
Item 7	0.153	0.026	0.234
Item 8	0.074	0.284	0.511
Item 9	0.124	0.072	0.243

Additional analyses examining gender differences in the FLE dimensions showed only limited effects overall. In the international cohort, the unadjusted analysis suggested higher teacher appreciation scores among female students ($p = 0.027$), but this difference was not statistically significant after the Benjamini–Hochberg correction (adjusted $p = 0.081$). No statistically significant gender differences were found for personal enjoyment (adjusted $p = 0.419$) or social enjoyment (adjusted $p = 0.591$). In the Hungarian cohort, all three gender categories were included and compared using Kruskal–Wallis tests. No statistically significant differences were found after Benjamini–Hochberg correction for teacher appreciation (adjusted $p = 0.673$), personal enjoyment (adjusted $p = 0.673$), or social enjoyment (adjusted $p = 0.231$).

5. Discussion

This study examined FLE among two groups of medical students learning different target languages within the same institutional context. It explored the psychometric functioning of the S-FLES in a Hungarian setting, compared the dimensions of enjoyment between the two cohorts, and examined whether the self-reported number of languages spoken was associated with different aspects of learners' enjoyment.

Our CFA results provided support for the three-factor structure proposed by Botes et al. (2021). The overall model fit was adequate, and all factor loadings were high and statistically significant. However, the RMSEA confidence interval [0.030, 0.090] indicates some uncertainty about the model fit. As the CFA was a secondary analysis, the findings support the published structure in the present sample but do not fully validate the scale. They also do not show whether the scale works in the same way in the Hungarian and international groups. Comparisons between the two groups should therefore be interpreted with caution.

No statistically significant difference was found between the two cohorts in the observed teacher appreciation scores. However, all international students gave the highest rating for teacher friendliness, so Item 2 could not distinguish between students within this group. We used the original three-item teacher appreciation subscale to preserve the published scoring structure. Therefore, the comparison should be interpreted cautiously and does not establish that teacher appreciation was equivalent in the two groups. Although the ceiling effect does not by itself indicate item bias, it limits the conclusions that can be drawn about this dimension.

The clearest differences between the two cohorts appeared in the social enjoyment dimension. These were most visible in items related to group cohesion and shared classroom culture, such as feeling part of a close group and sharing common experiences (e.g., running jokes). Hungarian students scored higher on these items, suggesting a stronger reported group cohesion in this sample. In contrast, the international group consisted of students from diverse linguistic and cultural backgrounds. This difference in cohort composition provides relevant context for interpreting the social enjoyment scores, but the present study cannot determine whether it contributed to the observed group difference. Previous research has also shown that international medical students may face challenges related to communication, integration, and social relationships in this environment (Faubl et al., 2021; Hild et al., 2019, 2021a, 2021b).

The different roles of English and Hungarian may be relevant to understanding the difference in social enjoyment between the two cohorts. Dafouz and Smit's (2016) ROAD-MAPPING framework considers the roles of English in relation to other languages and to local and international demands in higher education. In our setting, English serves broader international professional communication, while Hungarian is needed for local clinical communication. However, these roles do not necessarily reflect the value individual students attach to learning either language. A qualitative case study at the same university described different reasons for learning Hungarian among three international medical students, including communication with patients, meeting course requirements, and everyday communication (Hild et al., 2021a). As perceived language value was not measured in the present study, we cannot determine whether it contributed to the difference in social enjoyment. Other differences between the cohorts, including their language backgrounds and social environments, may also be relevant. This interpretation is consistent with research describing social FLE in terms of classroom atmosphere, group cohesion, and shared laughter (Botes et al., 2021; Dewaele et al., 2023). It can also be interpreted within Fredrickson's (2001) broaden-and-build theory, according to which positive emotions may support openness and engagement in learning.

No statistically significant associations between the self-reported number of languages spoken and the S-FLES items remained after correction for multiple testing, either in the full sample or within the two cohorts. The present findings therefore do not provide evidence of a relationship between reported language count and specific aspects of FLE. However, this result should be interpreted cautiously because the language question did not assess proficiency or patterns of language use.

The results can also be interpreted from a positive psychology perspective on language learning. In the present study, the three dimensions of enjoyment showed different patterns across the two cohorts. This is in line with broader frameworks such as PERMA (Seligman, 2011) and EMPATHICS (Oxford, 2016), which recognise both personal and social dimensions of enjoyment and their relationship with individual learner characteristics and the learning context. It is also consistent with the view that FLE is a dynamic and context-dependent experience rather than a fixed emotional response (Wu & Kabilan, 2025).

Although the gender distribution differed significantly between the two cohorts, the exploratory gender analyses did not show a statistically significant gender difference in social enjoyment, which was the dimension with the clearest difference between the cohorts. These findings should be interpreted cautiously because the subgroup sample sizes and multiple comparisons limit the conclusions that can be drawn about the relationship between gender and FLE.

6. Conclusions

The present study examined FLE among two groups of medical students who were learning languages with different contextual roles. The ordinal CFA provided support for the published three-factor structure of the S-FLES in the full sample. However, it did not establish that the scale functioned equivalently in the two cohorts.

The clearest difference between the cohorts was found in social enjoyment. Hungarian students reported a stronger sense of group cohesion and shared classroom experiences than international students. At the item level, the differences in Item 7 ("We form a tight group"; U = 3860, adjusted $p < 0.001$) and Item 9 ("We have common 'legends', such as running jokes"; U = 3554, adjusted $p < 0.001$) remained statistically significant after Benjamini–Hochberg correction, with higher scores in the Hungarian group. This finding shows an association between cohort membership and reported social enjoyment but does not explain the reason for the difference. The roles of the target languages and the different social, linguistic, and demographic characteristics of the cohorts provide possible contextual interpretations. However, perceived language value and social integration were not measured directly. No statistically significant associations between the self-reported number of languages spoken and the S-FLES items remained after correction for multiple testing, either in the full sample or within the two cohorts.

The study has several limitations that should be considered when interpreting the findings. First, the sample comes from a single university, and the number of participants is relatively small, particularly in the international group ($n = 83$). This means the results should be interpreted with caution and may not apply to other contexts. Second, the cross-sectional design does not allow us to infer causality or changes over time. Third, the data are based on self-reports, so they reflect students' perceptions rather than actual classroom behaviour. The complete ceiling effect for Item 2 in the international group also limited the psychometric assessment of teacher appreciation. The full-sample CFA does not resolve this group-specific limitation. Finally, some analyses were carried out at the item level, which may reduce the stability of the results and should be interpreted with caution.

Language background was assessed using a single question about the number of languages participants reported speaking. This measure did not capture proficiency in individual languages or the frequency and contexts of language use. Participants may also have interpreted what it means to "speak" a language differently, as the question did not specify a proficiency threshold. The resulting count should therefore be interpreted as a limited indicator of language background rather than a comprehensive measure of multilingual competence. These limitations should be considered when interpreting group differences in the reported number of languages spoken and its associations with FLE.

Overall, the results suggest that FLE can be examined in specialised contexts such as medical language education. The full-sample CFA provided support for the published three-factor structure of the S-FLES, although further research with larger samples is needed to examine its psychometric functioning across different student groups.

Author Contributions: Conceptualization, A.B.; methodology, A.B.; formal analysis, L.M.; investigation, A.B.; writing—original draft preparation, A.B., G.H.; writing—review and editing, G.H. and L.M.; supervision, G.H. All authors have read and agreed to the published version of the manuscript.

Funding: This research received no external funding.

Institutional Review Board Statement: The study was conducted in accordance with the Declaration of Helsinki and approved by the university ethics committee before data collection (protocol code: No. 140-PTERKEB2026/1 and date of approval: 4 January 2026).

Informed Consent Statement: Informed consent was obtained from all participants. Since the questionnaire was anonymous, consent was indicated by voluntarily completing and submitting the questionnaire after participants had received written and oral information about the study.

Data Availability Statement: The data presented in this study are available on request from the corresponding author.

Acknowledgments: The authors would like to thank all students who participated in this study. During the preparation of this manuscript, generative artificial intelligence tools were used to support language editing. The authors reviewed and edited all generated content and take full responsibility for the final version of the manuscript.

Conflicts of Interest: The authors declare no conflicts of interest.

References

Aparici, M., Rosado, E., & Tolchinsky, L. (2024). Multilingual use assessment questionnaire: A proposal for assessing language and literacy experience. *Frontiers in Communication*, *9*, 1394727. [CrossRef]

Benjamini, Y., & Hochberg, Y. (1995). Controlling the false discovery rate: A practical and powerful approach to multiple testing. *Journal of the Royal Statistical Society: Series B (Methodological)*, *57*(1), 289–300. [CrossRef]

Botes, E., Dewaele, J.-M., & Greiff, S. (2020). The power to improve: Effects of multilingualism and perceived proficiency on enjoyment and anxiety in foreign language learning. *European Journal of Applied Linguistics*, *8*(2), 279–306. [CrossRef]

Botes, E., Dewaele, J.-M., & Greiff, S. (2021). The development and validation of the short form of the Foreign Language Enjoyment Scale (S-FLES). *The Modern Language Journal*, *105*(4), 858–876. [CrossRef]

Browne, M. W., & Cudeck, R. (1992). Alternative ways of assessing model fit. *Sociological Methods & Research*, *21*(2), 230–258. [CrossRef]

Calafato, R. (2025). The moderating effect of multilingualism on the relationship between EFL learners' grit, enjoyment, and literacy achievement. *International Journal of Bilingualism*, *29*(1), 255–268. [CrossRef]

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Lawrence Erlbaum Associates.

Dafouz, E., & Smit, U. (2016). Towards a dynamic conceptual framework for English-medium education in multilingual university settings. *Applied Linguistics*, *37*(3), 397–416. [CrossRef]

Dávidovics, A., & Németh, T. (2020). Az orvosi szaknyelv tanulásával és tanításával kapcsolatos percepciók és attitűdök: Így látják a külföldi hallgatók [Perceptions and attitudes towards learning and teaching languages for medical purposes: The perspectives of international students]. In Z. Bocz, & R. Besznyák (Eds.), *Porta lingua* (pp. 249–259). Szaknyelvoktatók és -Kutatók Országos Egyesülete (SZOKOE).

Dávidovics, A., & Németh, T. (2021). International students and languages for specific purposes: The results of a study on international students' perceptions of teaching and learning LSP. *Journal of Languages for Specific Purposes*, *8*, 25.

Dewaele, J.-M., & MacIntyre, P. D. (2014). The two faces of Janus? Anxiety and enjoyment in the foreign language classroom. *Studies in Second Language Learning and Teaching*, *4*(2), 237–256. [CrossRef]

Dewaele, J.-M., & MacIntyre, P. D. (2019). The predictive power of multicultural personality traits, learner and teacher variables on foreign language enjoyment and anxiety. In M. Sato, & S. Loewen (Eds.), *Evidence-based second language pedagogy: A collection of instructed second language acquisition studies* (pp. 263–286). Routledge.

Dewaele, J.-M., & Saito, K. (2022). Positive psychology can help overcome the pernicious native speaker ideology. *The European Educational Researcher*, *5*(2), 225–234. [CrossRef]

Dewaele, J.-M., Saito, K., & Halimi, F. (2023). How foreign language enjoyment acts as a buoy for sagging motivation: A longitudinal investigation. *Applied Linguistics*, *44*(1), 22–45. [CrossRef]

Dewaele, J.-M., Sanz Ferrer, M., Kamal Ahmed, I., & Albakistani, A. (2024). Does multilingualism affect foreign language classroom anxiety and foreign language enjoyment? *Porta Linguarum*, *IX*, 13–29. [CrossRef]

Dörnyei, Z. (2009). The L2 motivational self system. In Z. Dörnyei, & E. Ushioda (Eds.), *Motivation, language identity and the L2 self* (pp. 9–42). Multilingual Matters.

Faubl, N., Pótó, Z., Marek, E., Birkás, B., Füzesi, Z., & Németh, T. (2021). Kulturális különbözőségek elfogadása a külföldi orvostanhallgatók beilleszkedésében. *Orvosi Hetilap*, *162*(25), 978–987. [CrossRef]

Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, *18*(1), 39–50. [CrossRef]

Fredrickson, B. L. (2001). The role of positive emotions in positive psychology: The broaden-and-build theory of positive emotions. *American Psychologist*, *56*(3), 218–226. [CrossRef]

Hild, G., Berta, A., & Németh, T. (2021a). "Kicsit beszélek magyarul, kérem röviden válaszoljon.": Esettanulmány három, Magyarországon tanuló külföldi orvostanhallgatóval. ["I speak little Hungarian, please answer in short": A case study with three foreign students studying medicine in Hungary.]. *Tudásmenedzsment*, *22*(2), 20–36. [CrossRef]

Hild, G., Csongor, A., & Németh, T. (2019, June 13–14). *Student mobility in a transcultural medical university in Hungary: A case study of one Jordanian and two Norwegian students*. Intercultural Communicative Competence: Competitive Advantage for Global Employability (ICCAGE) International Conference Proceedings, Prague, Czech Republic.

Hild, G., Csongor, A., & Németh, T. (2021b, March 25–26). *A longitudinal case study with four Norwegian students studying medicine in Hungary*. The 3rd International Conference of Pedagogic Interaction: Opportunities and Prospects, Saratov, Russia.

Hu, L.-t., & 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. [CrossRef]

Krashen, S. D. (1985). *The input hypothesis: Issues and implications*. Longman.

Li, C.-H. (2016). Confirmatory factor analysis with ordinal data: Comparing robust maximum likelihood and diagonally weighted least squares. *Behavior Research Methods*, *48*(3), 936–949. [CrossRef]

Li, Z., & Liu, Y. (2022). Theorising language learning experience in LOTE motivation with PERMA: A positive psychology perspective. *System*, *112*, 102975. [CrossRef]

MacIntyre, P. D., & Mercer, S. (2014). Introducing positive psychology to SLA. *Studies in Second Language Learning and Teaching*, *4*(2), 153–172. [CrossRef]

Mercer, S. (2011). The beliefs of two expert EFL learners. *The Language Learning Journal*, *39*(1), 57–74. [CrossRef]

Németh, T., Marek, E., Sütő, B., & Hild, G. (2024). Study abroad at home: The impact of a multilingual and multicultural classroom experience on non-native medical students' English language skills development. *Education Sciences*, *14*(6), 626. [CrossRef]

Oxford, R. L. (2016). Powerfully positive: Searching for a model of language learner well-being. In D. Gabryś-Barker, & D. Gałajda (Eds.), *Positive psychology perspectives on foreign language learning and teaching* (pp. 21–37). Springer. [CrossRef]

Pekrun, R. (2024). Control-value theory: From achievement emotion to a general theory of human emotions. *Educational Psychology Review*, *36*, 83. [CrossRef]

Proietti Ergün, A. L., & Ersöz Demirdağ, H. (2022). The relation between Foreign Language Enjoyment, subjective well-being, and perceived stress in multilingual students. *Journal of Multilingual and Multicultural Development*, *45*(7), 2575–2587. [CrossRef]

Rashid, S., & Malik, S. (2026). Foreign language enjoyment, L2 grit, and perceived teacher support in TESOL contexts: A structural equation modeling study of L2 willingness to communicate. *Education Sciences*, *16*(1), 89. [CrossRef]

R Core Team. (2026). *R: A language and environment for statistical computing* (Version 4.6.1). R Foundation for Statistical Computing. Available online: https://www.R-project.org/ (accessed on 26 September 2026).

Seligman, M. E. P. (2011). *Flourish: A visionary new understanding of happiness and well-being*. Free Press.

Shao, K., Jiang, A. L., Kutuk, G., & Parkinson, B. (2025). Exploring peer emotion transmission in foreign language classrooms: A social psychological investigation using mixed methods. *Studies in Second Language Learning and Teaching*, *15*(3), 593–622. [CrossRef]

Sun, W., & Shi, H. (2026). Fostering flow experience in foreign language learning: Examining synergetic effects of expectancy-value beliefs and emotions. *Applied Linguistics Review*, *17*(4), 1563–1599. [CrossRef]

Wu, W., & Kabilan, M. K. (2025). Foreign language enjoyment in language learning from a positive psychology perspective: A scoping review. *Frontiers in Psychology*, *16*, 1545114. [CrossRef]

Disclaimer/Publisher's Note: The statements, opinions and data contained in all publications are solely those of the individual author(s) and contributor(s) and not of MDPI and/or the editor(s). MDPI and/or the editor(s) disclaim responsibility for any injury to people or property resulting from any ideas, methods, instructions or products referred to in the content.