Ed Process Int J

www.edupij.com

ISSN 2147-0901 (Print), 2564-8020 (Online)

EDUCATIONAL PROCESS
INTERNATIONAL JOURNAL

Research Article

Cite this article: Stötzer, A., Bagyura, M., & Farkas, É. (2026). Running a Diagnostic on Motivation: Exploring Motivational Dynamics Underlying Non-Anglophone Medical Students' Efforts to Learn English for Medical Purposes. *Educational Process: International Journal, 20,* e2026001. https://doi.org/10.22521/edupij.2026.20.1

Received August 28, 2025
Accepted December 27, 2025

Keywords: English for Medical Purposes, medical education, motivation, linear models, mediation analysis

Author for correspondence:
Andrea Stötzer
stotzer.andrea.maria@med.u-szeged.hu
University of Szeged, Hungary

OPEN ACCESS

© The Author(s), 2025. This is an Open Access article, distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (https://creativecommons.org/licenses/by/4.0/), which permits unrestricted re-use, distribution, and reproduction, provided the original article is properly cited.

Running a Diagnostic on Motivation: Exploring Motivational Dynamics Underlying Non-Anglophone Medical Students' Efforts to Learn English for Medical Purposes

Andrea Stötzer, Márton Bagyura, Éva Farkas

Abstract

Background/purpose. While the significance of English for Medical Purposes (EMP) in medical education continues to grow, research on the motivational dynamics shaping non-Anglophone students' efforts to learn EMP remains limited. To address this gap, we developed a contextualized questionnaire based on the L2 Motivational Self System.

Materials/methods. The study, conducted across Hungary's four medical schools, involved 283 medical students in Hungarian-medium instruction. Using linear regression and mediation analyses, we examined the direct and indirect effects of core motivational dimensions (Ideal L2 Self, Ought-to L2 Self, Integrativeness, and Instrumentality) on students' intended learning effort (ILE).

Results. Results identified Integrativeness, Ideal L2 Self, and Instrumentality Prevention as direct predictors of ILE. Further analyses explored supplementary psychosocial dimensions (Self-efficacy, Self-confidence, L2 anxiety, and Attitude toward EMP), revealing significant but varied effects on ILE's direct predictors.

Conclusion. These findings not only deepen theoretical insights into EMP motivation but also highlight important pedagogical implications. To enhance motivation and sustain engagement in EMP learning, pedagogical strategies should incorporate authentic materials, real-world simulations, and interdisciplinary collaboration while fostering a supportive classroom environment that strengthens self-confidence, reinforces self-efficacy, and minimizes L2 anxiety. By bridging theoretical and practical perspectives, this study contributes to research on EMP motivation and provides insights for curriculum design and instruction.

1. Introduction

English has firmly established itself as the dominant language, the lingua franca of science and academia (Galloway & Rose, 2015; Johnson & Tweedie, 2024; Tweedie & Johnson, 2022). This global dominance has prompted a noticeable shift in higher education from teaching English for General Purposes (EGP) to English for Specific Purposes (ESP) to better address the evolving linguistic and professional demands of students across academic disciplines (Breeze, 2020; Hyland, 2022). The same trend can be observed in the field of English for Medical Purposes (EMP) (Džuganová, 2019; Heming & Nandagopal, 2012). In medical education, non-Anglophone medical students predominantly pursue their undergraduate studies in their mother tongue (Hamad, 2023), although recent studies report an increasing use of English as a Medium of Instruction worldwide, even in non-English-speaking countries (Yang et al., 2019). In fact, 38 of 39 European countries, as well as 55.6% of medical schools worldwide (spanning 105 of 189 countries), rely on their native language as the primary medium of medical education (Hamad, 2023). This very coexistence of national languages as the medium of instruction and English as the global language of science creates a pressing demand for English for Medical Purposes (EMP), ensuring that students can access international resources, research, and collaboration opportunities despite studying in their mother tongue (Dou et al., 2023; Pavel, 2014).

Maher (1987) highlighted the critical importance of EMP as early as 1987; however, teaching and learning EMP remain relatively underexplored in both medical and language education. EMP, a branch of ESP (Hyland, 2022; Hyland & Wong, 2019; Stötzer & Farkas, 2024), focuses on acquiring medical terminology and on using professional language, including preclinical, clinical, and research-related terms. The importance of learning EMP extends beyond future prospects, such as publishing research or working abroad. Even during their studies, medical students benefit significantly from acquiring basic EMP vocabulary, which facilitates access to essential resources, including medical textbooks and research articles, most of which are available in English. Additionally, EMP competency enables participation in international mobility programs, such as clinical placements or exchanges, which are becoming integral to medical education. Thus, developing proficiency in EMP is not merely a future-oriented goal but an immediate necessity that underpins both academic success and professional development (Amano et al., 2023; Ellahham, 2021).

To provide non-Anglophone medical students with effective, high-quality EMP instruction and to develop appropriate curricula and course designs, it is essential to understand their motivation to learn EMP and the extent to which they are willing to invest effort in the process. Nevertheless, the specific motivational factors influencing the learning of EMP remain underexplored in the existing body of research, particularly within established theoretical frameworks like the L2 Motivational Self System (L2MSS) (Dörnyei, 2005, 2009). Despite the growing recognition of EMP as a crucial component of medical education, few empirical studies have examined its motivational dynamics through established theoretical lenses. To address this gap, the present study applies and tests a contextualized version of Dörnyei's L2MSS to capture the motivation of non-Anglophone medical students to learn EMP.

Accordingly, the primary purpose of this research is to investigate the motivational dynamics underlying EMP learning effort by operationalizing and testing a contextualized version of the L2MSS. Specifically, the study addresses the following Research Objectives:

RO1: To examine and demonstrate the direct and indirect effects of the 'core' motivational dimensions (IL2S, O2L2S, INTEG, I_PROM and I_PREV) on medical students' Intended Learning Effort (ILE) in the context of learning EMP.

https://doi.org/10.22521/edupij.2026.20.1 Published online by Universitepark Press

RO2: To explore and demonstrate how 'supplementary' variables (psychosocial dispositions including S_CONF, S_EFF, ATT_POS, ATT_NEG, and L2_ANX) influence those core motivational dimensions which have direct effects on Intended Learning Effort (ILE).

2. Literature Review

Existing studies on EMP learning motivation have predominantly focused on the extrinsic–intrinsic motivational dichotomy (Demír & Hamarat, 2022; Hosseini & Shokrpour, 2019; Nourinezhad et al., 2017; Pavel, 2020) and the instrumental–integrative (Gardner, 2001, 2007) orientations (Marošan & Marković, 2019; Mathis et al., 2021; Mayers, 2023; Tomak & Šendula-Pavelić, 2017), with occasional inclusion of additional dimensions. Notably, no studies on EMP learning motivation to date have applied Dörnyei's L2 Motivational Self System (L2MSS) (Dörnyei, 2005, 2009), despite evidence of its effectiveness in measuring motivation across diverse ESP contexts (Alqahtani, 2017; Brady, 2021; Csizér, 2019; Lanvers, 2016; Liu, 2024).

In the following sections, we introduce the motivational dimensions and the criterion measures we selected to capture and demonstrate medical students' motivation to learn EMP. While the selected dimensions can be broadly situated within the overarching categories of intrinsic and extrinsic motivation – particularly when viewed along a continuum rather than as a strict dichotomy as posited by Self-Determination Theory (SDT) (Ryan & Deci, 2000; Vansteenkiste et al., 2006) – they offer a more refined diagnostic perspective. This nuanced approach provides insights that enable pedagogical implications to be drawn and practical recommendations to be made to improve EMP instruction.

2.1. Core Motivational Dimensions and Criterion Measure

The motivational dimensions selected for this study were chosen for their theoretical and practical relevance, as demonstrated by Brady (2019a, 2019b) and Taguchi et al. (2009). Although Dörnyei's L2MSS has not yet been applied specifically in the context of EMP, Al-Hoorie's (2018) findings highlight the framework's effectiveness in capturing the complexities of learner motivation in diverse cultural and educational settings, further supporting its suitability for the present study. This study builds upon the L2MSS framework, which conceptualizes language learning motivation through three main components: the Ideal L2 Self, the Ought-to L2 Self, and the L2 Learning Experience (Dörnyei, 2005, 2009). Rooted in Markus and Nurius's (1986) possible selves theory and Higgins's (1987) self-discrepancy theory, this framework highlights the motivational impact of one's self-concept. In this study, in the context of EMP, the Ideal L2 Self (IL2S) reflects medical students' future-oriented vision of themselves as confident and proficient users of EMP. The Ought-to L2 Self (O2L2S) captures students' perceived external obligations and social expectations to learn EMP, driven by the desire to meet societal norms, institutional demands, and peer-related pressures. Dörnyei's third construct, the L2 learning experience, primarily relates to external, contextual factors that influence motivation, such as teacher behavior, peer interactions, and institutional support. While undeniably important, these factors were considered beyond the scope of our research.

In Gardner's socio-educational model (Gardner, 2001), integrativeness refers to a learner's openness to and willingness to integrate into the culture of the target-language community, reflecting intrinsic interest and cultural affinity. Instrumentality, on the other hand, denotes extrinsic motivation driven by practical goals, such as career advancement or academic success, where the language serves as a means to an end (Gardner, 2001). Integrativeness (INTEG), while debated in contemporary motivational research (Gardner, 2001), in our understanding, retains its relevance in this context, reflecting medical students' desire to integrate into the global medical and scientific community, emphasizing the importance of EMP proficiency for professional success, participation in international collaboration, and a sense of belonging within the broader professional network. The inclusion of Instrumentality, divided into Promotion and Prevention orientations (I_PROM and

I_PREV) (Dörnyei, 2005), ensures that the pragmatic aspects of EMP learning are addressed. I_PROM reflects medical students' recognition of the career and academic advantages of learning EMP. It focuses on the aspirational benefits of EMP, such as career advancement, securing scholarships, and professional opportunities. I_PREV reflects an avoidance-based motivation in which students are driven by fear of setbacks or disadvantages, such as professional limitations, diminished career opportunities, or peer judgment. For the purposes of this study, these motivational dimensions (IL2S, O2L2S, INTEG, I_PROM and I_PREV) are referred to as 'core' motivational dimensions.

Intended Learning Effort (ILE) has proved to be a compelling criterion measure for assessing language learning motivation due to its strong correlations with motivational constructs (Csizér & Dörnyei, 2005; Ghorbani & Rashvand Semiyari, 2022; Teimouri et al., 2022; Yetkin & Ekin, 2018), its predictive power regarding learners' engagement, and its reflection of both intrinsic and extrinsic motivational factors. At the same time, it should be acknowledged that ILE is a self-reported measure and, as such, may not fully reflect students' actual effort (Fryer & Dinsmore, 2020; Pekrun, 2020). Nevertheless, in this study, ILE, as the criterion measure, reflects medical students' commitment and willingness to invest effort in developing their EMP skills.

2.2. Supplementary Psychosocial Dimensions

In addition to the core motivational dimensions, we selected psychosocial dimensions that Brady (2019a, 2019b) and Taguchi et al. (2009) have also employed in the context of ESP. In their studies, the supplementary dimensions varied, reflecting the need for flexibility in adapting to specific research contexts. Similarly, we decided to include the following supplementary dimensions based on their relevance to our study objectives:

1. Self-efficacy (S_EFF). The relationship between self-efficacy and motivation in language learning is significant and multifaceted. Following Bandura's (1997) social cognitive theory, self-efficacy refers to learners' beliefs in their capability to organize and execute the actions required to achieve specific learning goals. This makes self-efficacy task-specific and action-oriented, reflecting one's conviction that they can successfully perform a given task. Importantly, self-efficacy should not be conflated with self-confidence. Self-confidence, by contrast, denotes a more general sense of assurance that one possesses the necessary knowledge and abilities and can thus face the task with confidence (see below). Research indicates that higher self-efficacy is associated with greater motivation to engage in language learning activities (Manipol et al., 2024). Piniel and Csizér (2013) demonstrate that self-efficacy and motivation are distinct yet closely linked constructs, suggesting that enhancing self-efficacy can lead to improved motivational outcomes in language learning contexts. In this study, S_EFF reflects medical students' beliefs in their ability to succeed in learning EMP, including their capacity to capitalize on communication opportunities and their confidence in the effectiveness of their efforts.

2. Self-confidence (S_CONF). The relationship between self-confidence and motivation in language learning is well-documented in the literature. Research indicates that learners with higher self-confidence are more likely to engage actively in language learning, which in turn fosters greater motivation (Tsymbal, 2019). Conversely, a lack of self-confidence can lead to anxiety and avoidance behaviors, which diminish motivation and hinder language acquisition (Lao & Buenaventura, 2024). In this study, S_CONF captures students' confidence in their English abilities, both general and medical, highlighting their pride in existing skills, their belief in effective communication across contexts, and their active participation in EMP classes.

3. L2 anxiety (L2_ANX). Research suggests that L2 anxiety can significantly influence learners' motivation levels, often acting as a barrier to effective language acquisition (Jiang & Papi, 2021). Teimouri's (2017) findings support the idea that L2 anxiety can have both facilitative and debilitative effects on motivation. While anxiety may keep learners alert and focused, it can also hinder their

overall motivation if it becomes overwhelming (Teimouri, 2017). In this study, L2_ANX reflects students' language-related anxiety specific to learning EMP, including fears of judgment, self-consciousness about pronunciation or grammar, and apprehension about speaking in class.

4. Positive and Negative Attitude Toward Learning EMP (ATT_POS and ATT_NEG). Research consistently shows that positive attitudes significantly enhance motivation, which in turn facilitates successful language learning outcomes (Ahmed, 2022; Alqahtani, 2017). In this study, ATT_POS illustrates students' proactive and positive disposition and engagement toward learning EMP, highlighting their appreciation of the additional knowledge the subject provides. Conversely, negative attitude (ATT_NEG) reflects students' negative perceptions or reluctance toward learning EMP.

3. Methodology

3.1. Setting

This study employed a quantitative, cross-sectional survey design and was conducted at Hungary's four medical schools, all offering undivided, twelve-semester medical programs in Hungarian as the medium of instruction (HMI program) for state-funded students. At the time of the study, only Semmelweis University and the University of Pécs had mandatory EMP exit requirements, while EMP courses were elective at the University of Debrecen and the University of Szeged. Notably, no standardized EMP curriculum existed across the institutions.

3.2. Data Collection and Participants

We conducted the study between February and April 2024. A non-random, voluntary convenience sampling approach was employed, using email invitations distributed by the respective Registrar's Offices to all undergraduate medical students (years 1 to 6) enrolled in Hungary's HMI medical programs. This sampling approach was deemed the most feasible and ethically appropriate strategy for reaching the full target population within institutional constraints, as it ensured equal opportunity for participation across all four medical schools. This was the most practical and appropriate method for reaching the entire target population of approximately 5800 students (60% female, 40% male, based on Hungarian Statistical Office data) across the four medical schools in the country. The Registrar's Offices distributed the email invitations after we obtained prior approval from the respective Deans.

Participation was voluntary and anonymous, and students provided informed consent for research purposes, supplying non-sensitive data. A total of 283 students completed the self-administered, online questionnaire (Appendix), which was applied in its current form for the first time and featured 55 items on EMP learning motivation, using a 6-point Likert scale. The inclusion criterion required participants to have attended at least one EMP course offered by their respective universities.

The achieved sample (n=283) represents approximately 5% of the total target population (approx. 5,800). A detailed analysis of the sample demographics (Table 1) indicates that while the overall size is adequate for the planned statistical analyses, the sample exhibits an over-representation of first-year students (45.6%) and participants affiliated with the University of Debrecen (46.6%), a factor which must be considered when interpreting the results. Table 1 presents the demographic details of the sample.

Table 1. Respondents' Self-Reported Demographics and English Proficiency Levels (n=283)

		n	%
Gender	Male	89	31.4%
	Female	194	68.6%
Affiliation	Semmelweis University	25	8.8%
	University of Pécs	61	21.6%
	University of Szeged	65	23.0%
	University of Debrecen	132	46.6%
Year	1st	129	45.6%
	2nd	56	19.8%
	3rd	38	13.4%
	4th	24	8.5%
	5th	19	6.7%
	6th	17	6.0%
English proficiency level according to the Common European Framework of Reference	No English language exam	16	5.7%
	A2	2	0.7%
	B2	137	48.4%
	C1	128	45.2%

3.3. Instrument

We began developing the instrument by translating (from English to Hungarian) and contextualizing the items from L2MSS-based questionnaires used in previous international studies (Taguchi et al., 2009; Brady, 2019a, 2019b; Ryan, 2009), which already incorporated Gardner and Lambert's constructs of Integrativeness and Instrumentality (Gardner & Lambert, 1959, 1972). Contextualization was essential, as prior studies applying L2MSS focused on general English or other ESP contexts, while our aim was to address medical students' EMP learning. The process involved both the extensive modification of existing items (e.g., for Ideal L2 Self, Ought-to L2 Self, and the Instrumentality components) and the development of new items (for Attitude toward learning EMP, L2 Anxiety, Self-Confidence, and Integrativeness) to accurately address medical students' EMP learning. Minor adjustments were needed in the case of Intended Learning Effort and Self-Efficacy. The instrument was refined through expert feedback and a 2022 pilot involving a think-aloud protocol with medical students. The detailed development and validation of this contextualized EMP motivation questionnaire are reported in a separate study (Stötzer et al., 2025).

Table 2 outlines the motivational dimensions included in the questionnaire. The abbreviations (e.g., IL2S = Ideal L2 Self, ILE = Intended Learning Effort) are retained throughout the analysis for consistency. These categories represent the adapted scales used to examine students' motivation to learn EMP. Table 2 summarizes the examined dimensions and item counts. All dimensions were

derived using principal component analysis (PCA), with component loadings ranging from 0.535 to 0.933. Only components with eigenvalues greater than one and explaining at least 33% of the variance were retained. Cronbach's α and McDonald's ω values indicated satisfactory internal consistency overall, with only three constructs slightly below the conventional 0.70 threshold: Ought-to L2 Self (α = 0.572, ω = 0.574), Attitude to EMP negative (α = 0.641, ω = 0.649), and Integrativeness (α = 0.651, ω = 0.665) (Stötzer et al., 2025).

Table 2. Criterion Measure and Core and Supplementary Motivational Dimensions in the Study (n=283)

Dimensions	Abbreviation	Items* (n)
Criterion measure		
Intended Learning Effort	ILE	4
Core motivational dimensions		
Instrumentality- Prevention	I_PREV	5
Instrumentality- Promotion	I_PROM	7
Ideal L2 Self	IL2S	6
Ought-to L2 Self	O2L2S	3
Integrativeness	INTEG	4
Supplementary variables		
Self-Efficacy	S_EFF	3
Self-Confidence	S_CONF	6
L2 Anxiety	L2_ANX	7
Attitude toward learning EMP**	ATT_POS	7
	ATT_NEG	3
Total		55

* *Following Principal Component Analysis (PCA) and Reliability Analyses (RAs)*

** *The Attitude component is split into two components, reflecting positive and negative attitudes after PCA and RAs*

3.4. Data Analysis

To address RO1 and examine the direct and indirect effects of the core motivational dimensions, we employed a two-step analytical procedure. First, we conducted linear regression analysis (Ng et al., 2018) (SPSS Statistics version 28.0) with the stepwise method. Second, we utilized General Linear Model (GLM) Mediation Analysis (Hayes & Little, 2022) (Jamovi version 2.3.28).

In the regression analysis, the predictor variables (I_PREV, I_PROM, IL2S, O2L2S, INTEG) and the dependent variable (ILE) were standardized principal components (mean = 0, standard deviation = 1) derived from the original ordinal variables. As a result, the intercepts in all regression models yielded t-values of 0.000 and p-values of 1.000. The goodness-of-fit of the model was assessed using adjusted R^2, which accounts for both the number of predictors and the sample size. Model significance was determined through an analysis of variance (ANOVA) using the F-test ($p < 0.05$). Standardized β-values were used to interpret the relative effects of the predictors.

To explore the indirect effects of the core motivational predictors on ILE, we conducted GLM Mediation Analysis. This approach allowed us to investigate how the predictors interact to influence ILE. GLM Mediation Analysis was selected for its advantages: (1) it allows for multiple regressions to be fit separately and then combined, (2) it provides model fit metrics for each submodel rather than the entire model, and (3) it offers great flexibility due to its less stringent theoretical model assumptions. This method facilitates a holistic view of the relationships between variables. The strength of mediation effects was measured using standardized indirect effect sizes, and their significance was assessed using a bootstrap procedure with 5,000 iterations and 95% confidence intervals.

Finally, to address RO2 and examine the extent to which the supplementary variables influence the predictors that directly affect the ILE criterion measure, we conducted additional linear regression analyses using the same methodological framework described above.

4. Results

4.1. Direct and Indirect Effects of Core Motivational Dimensions on ILE (RO1)

Table 3 summarizes the results of the linear regression analysis addressing RO1, which identifies the core L2MSS dimensions that directly predict medical students' ILE. The core motivational dimensions are: Integrativeness (INTEG), Ideal L2 Self (IL2S), Instrumentality–Prevention (I_PREV), Instrumentality–Promotion (I_PROM), and Ought-to L2 Self (O2L2S). The key finding is that the model successfully accounts for a substantial 31.0% of the variance in ILE. The three motivational dimensions showing significant direct, positive effects on ILE are INTEG, IL2S, and I_PREV, with INTEG having the strongest impact (β=0.289).

For RO1, the linear regression model (Table 3) was statistically significant ($F=43.240$, $p<0.001$), with an adjusted R^2 of 0.310. This indicates that the model accounts for 31.0% of the variance in ILE, reflecting the overall effect size of the regression model. Furthermore, the predictor variables included in the model contributed significantly to explaining the heterogeneity in ILE, as indicated by the t-test (INTEG $p<0.001$, IL2S $p<0.001$, I_PREV $p<0.05$). The standardized β-values, which represent the relative effect sizes of the predictors, were as follows: INTEG (β=0.289) had the strongest effect on ILE, followed by IL2S (β=0.262) and I_PREV (β=0.155). Together, these results indicate that the individual contributions of these predictors are substantial in explaining the variance in ILE. I_PROM and O2L2S were excluded from the regression model, as they did not show a significant relationship with ILE (t-test: $p>0.05$).

Table 3. Results of Linear Regression Predictive of Intended Learning Effort (ILE)

Variable	Unstandardized β	Standard error	Standardized β	t	p
Intercept: ILE	1.233E-16	0.049		0.000	1.000
Integrativeness (INTEG)	0.289	0.069	0.289	4.197	< 0.001
Ideal L2 Self (IL2S)	0.262	0.056	0.262	4.690	< 0.001
Instrumentality – Prevention (I_PREV)	0.155	0.063	0.155	2.470	< 0.05

https://doi.org/10.22521/edupij.2026.20.1 Published online by Universitepark Press

Overall, these results indicate that students' identification with the international medical community (INTEG) and their self-vision as proficient EMP users (IL2S) are the strongest drivers of learning effort, while prevention motives (I_PREV) also contribute modestly.

After the linear regression analysis, GLM Mediation Analysis was employed to investigate the indirect effects of I_PROM and O2L2S on ILE. Table 4 and Figure 1 present the results of the General Linear Model (GLM) Mediation Analysis, which explored how the core L2MSS dimensions mediate each other's effects on ILE. The key discovery is the significant role of mediation for I_PROM and O2L2S (which had no direct effect) through IL2S and INTEG. Although I_PROM and O2L2S did not exhibit significant direct effects on ILE, both variables demonstrated notable indirect effects (Model I in Table 4 and Figure 1) through their influence on other motivational components. Specifically, I_PROM showed a significant indirect effect on ILE, mediated through IL2S (β=0.140, $p<0.001$) and INTEG (β=0.157, $p<0.01$). O2L2S exhibited significant indirect effects on ILE mediated through IL2S (β=−0.057, $p<0.05$) and INTEG (β=0.030, $p<0.05$).

In the next step, GLM Mediation Analyses were conducted for the core motivational dimensions (INTEG, IL2S, and I_PREV) that were identified as direct predictors of ILE. Models II and III explored the bidirectional influences between INTEG and I_PREV as mediators of ILE. Results indicate that INTEG exerted an indirect effect on ILE via I_PREV ($\beta = 0.100$, $p < 0.01$), while I_PREV influenced ILE through INTEG ($\beta = 0.260$, $p < 0.001$) (Table 4). The models are illustrated in Figure 1.

Table 4. Indirect Effects of Core Motivational Dimensions on Intended Learning Effort (ILE)

Model	Indirect effects	Effect	Standard error	95% CI*		β	p
				Lower	Upper		
I	I_PROM→IL2S→ILE	0.140	0.037	0.067	0.213	0.140	< 0.001
	I_PROM→INTEG→ILE	0.157	0.057	0.045	0.269	0.157	< 0.01
	O2L2S→IL2S→ILE	–0.057	0.019	–0.093	–0.020	–0.057	< 0.01
	O2L2S→INTEG→ILE	0.030	0.014	0.003	0.057	0.030	< 0.05
II	INTEG→I_PREV→ILE	0.100	0.041	0.020	0.181	0.100	< 0.01
III	I_PREV→INTEG→ILE	0.260	0.044	0.173	0.346	0.260	< 0.001

**CI = confidence interval*

https://doi.org/10.22521/edupij.2026.20.1 Published online by Universitepark Press

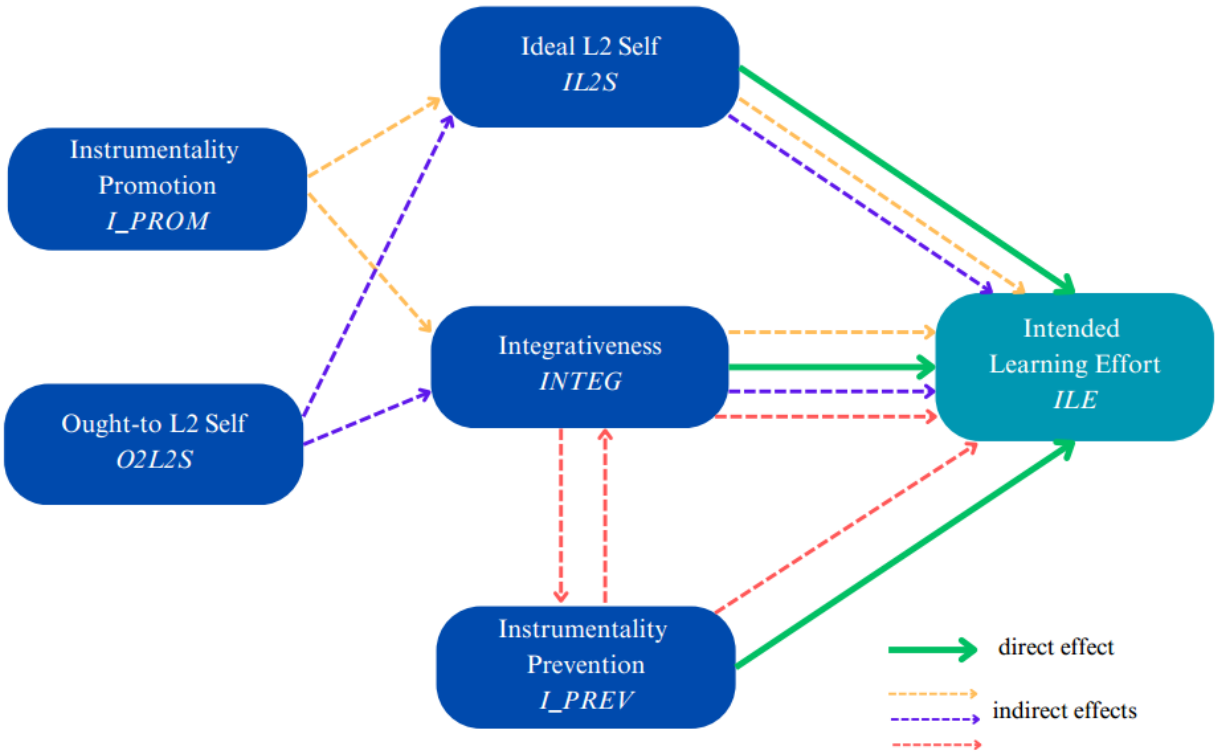

Figure 1. Direct and Indirect Effects of Core Motivational Dimensions On Medical Students' Intended Learning Effort in Learning EMP

4.2. Effects of Supplementary Dimensions on Direct Predictors of ILE (RO2)

Table 5 and Figure 2 present the results of the linear regression analyses conducted for RO2, examining the influence of supplementary psychosocial dimensions on the core motivational predictors identified in RO1 (INTEG, IL2S, and I_PREV). The supplementary variables include Self-Confidence (S_CONF), Self-Efficacy (S_EFF), Positive Attitude toward learning EMP (ATT_POS), Negative Attitude toward learning EMP (ATT_NEG), and L2 Anxiety (L2_ANX). The most critical finding is the pervasive, strong influence of S_CONF and ATT_POS across the models. Notably, L2_ANX shows a strong, positive association with both INTEG and I_PREV.

To address RO2, three linear regression models were conducted (Table 5 and Figure 2), with IL2S, INTEG, and I_PREV as the dependent variables.

Model A, with INTEG as the dependent variable, was statistically significant ($F=33.755$, $p<0.001$), with an adjusted R^2 of 0.258, explaining 25.8% of the variance. Significant predictors were ATT_POS ($\beta=0.360$, $p<0.001$), L2_ANX ($\beta=0.324$, $p<0.001$), and S_CONF ($\beta=0.304$, $p<0.001$).

Model B, examining IL2S, was statistically significant ($F=168.190$, $p<0.001$) with an adjusted R^2 of 0.542. This indicates that 54.2% of the variance in IL2S can be explained by the predictors included in the model. The analysis revealed that S_CONF had the strongest effect ($\beta=0.561$, $p<0.001$), followed by S_EFF ($\beta=0.214$, $p<0.001$).

In Model C, where I_PREV was the dependent variable, the regression was again statistically significant ($F=29.720$, $p<0.001$), with an adjusted R^2 of 0.289, explaining 28.9% of the variance. The strongest effects were observed for ATT_POS ($\beta=0.399$, $p<0.001$), L2_ANX ($\beta=0.471$, $p<0.001$), followed by S_CONF ($\beta=0.277$, $p<0.001$). Additionally, ATT_NEG ($\beta=-0.186$, $p<0.001$) had a negative effect on I_PREV.

Table 5. Results of Linear Regression Examining Supplementary Psychosocial Dimensions Predictive of Ideal L2 Self (IL2S), Integrativeness (INTEG), and Instrumentality Prevention (I_PREV)

Model	Variable	Unstandardized β	Standard error	Standardized β	t	p
A	Intercept: ***INTEG***	−4.209E-17	0.051		0.000	1.000
	Attitude to learning EMP Positive *(ATT_POS)*	0.360	0.062	0.360	5.765	<0.001
	L2 Anxiety *(L2_ANX)*	0.324	0.059	0.324	5.451	<0.001
	Self-Confidence *(S_CONF)*	0.304	0.066	0.304	4.570	<0.001
B	Intercept:***IL2S***	−3.213E-17	0.040		0.000	1.000
	Self-Confidence *(S_CONF)*	0.561	0.063	0.561	8.850	<0.001
	Self-Efficacy *(S_EFF)*	0.214	0.063	0.214	3.375	<0.001
C	Intercept: ***I_PREV***	−1.072E-16	0.050		0.000	1.000
	Attitude to learning EMP Positive *(ATT_POS)*	0.399	0.062	0.399	6.469	<0.001
	L2 Anxiety *(L2_ANX)*	0.471	0.061	0.471	7.764	<0.001
	Self-Confidence *(S_CONF)*	0.277	0.070	0.277	3.945	<0.001
	Attitude to learning EMP Negative *(ATT_NEG)*	−0.186	0.055	−0.186	−3.400	<0.001

Taken together, these findings suggest that affective dispositions such as self-confidence and positive attitudes play a decisive role in shaping the motivational profile of EMP learners.

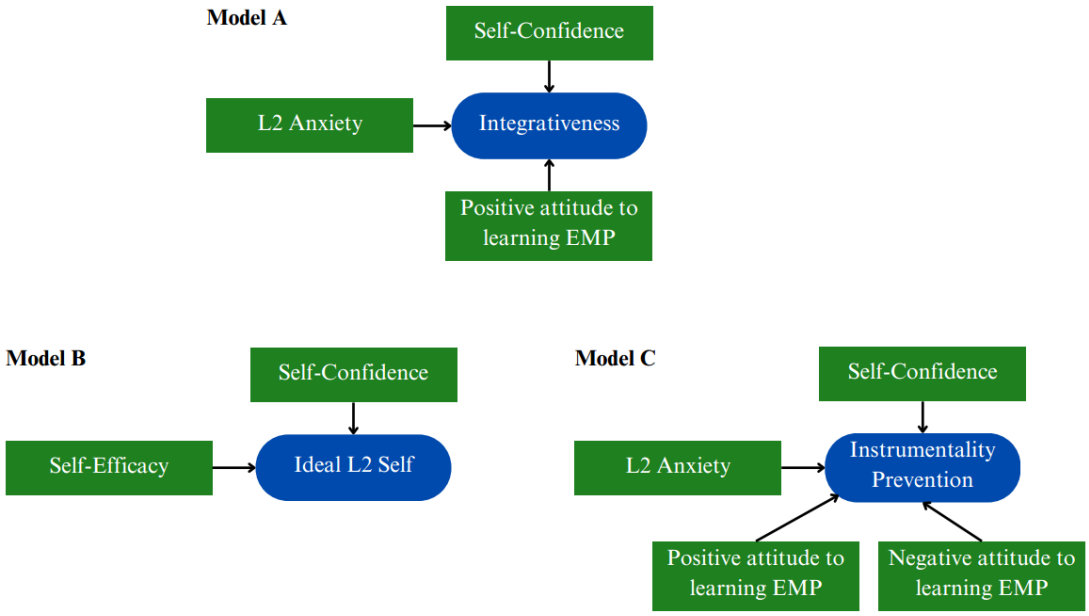

Figure 2. The effects of supplementary motivational dimensions on the direct predictors of Intended Learning Effort

5. Discussion

This section discusses the results in relation to the research objectives and relevant theoretical and empirical frameworks. Overall, the findings show that three 'core' motivational dimensions—Integrativeness, Ideal L2 Self, and Instrumentality Prevention—directly predict medical students' ILE, while supplementary psychosocial factors such as self-confidence, self-efficacy, attitude, and L2 anxiety exert indirect but meaningful effects. Together, these results reveal a complex interplay between cognitive, affective, and vision-related factors shaping EMP motivation in non-Anglophone medical contexts.

5.1. Effects of Core Motivational Dimensions on Students' Effort to Learn EMP (RO1)

The first research objective (RO1) sought to determine which motivational dimensions most strongly predict Hungarian medical students' effort to learn EMP. The findings identify INTEG, IL2S, and I_PREV as direct predictors of ILE, with INTEG emerging as the strongest. The dominant role of INTEG highlights students' aspirations to access international research and collaboration, as well as their desire to belong to the wider medical and scientific community. These findings align with prior research suggesting the central role of Integrativeness in second language motivation (Demír & Hamarat, 2022; Marošan & Marković, 2019; Tomak & Šendula-Pavelić, 2017). Traditionally, integrative motivation has been linked to cultural and linguistic affinity. However, in specialized contexts like learning EMP, its relevance highlights the evolving nature of Integrativeness. In such settings, integrative motivation may extend beyond cultural orientation to include a broader conceptualization – one, where identifying with an international professional community becomes central to motivation, rather than affiliation with a specific culture.

IL2S, the second strongest predictor, reflects students' strong self-vision as proficient EMP users. While this finding is novel in the EMP domain, it demonstrates the relevance and applicability of IL2S in this context. Moreover, it extends prior research in other ESP settings (e.g., Martín-González & Chaves-Yuste, 2024) and highlights the pivotal role of future-oriented goals in sustaining learning effort. Recent vision-based intervention studies provide strong empirical support for this approach: Sandu and Rodríguez Gil (2023) demonstrated that imagery-based motivational activities significantly enhanced students' Ideal L2 Self in a university EFL context. Similarly, Sato (2021) implemented a

vision intervention linked to communicative tasks and found increased Ideal L2 Self and target-language use, with the Ideal L2 Self positively correlating with actual L2 performance only after the intervention. These findings underscore the potential value of integrating vision-building strategies within EMP curricula to reinforce students' long-term motivational orientation. Examining the role of the Ideal L2 Self and its significance in shaping intended learning effort is particularly informative for educators: the Ideal L2 Self fosters self-regulated learning and encourages a proactive approach to language acquisition (Alqahtani, 2017). Given that language learning is a lifelong process, it is crucial to adopt appropriate pedagogical strategies that not only cultivate but also reinforce this perspective among students. In the context of EMP, this means fostering an understanding that language development extends beyond graduation and remains integral to their professional journey.

I_PREV, while exhibiting a weaker effect, also predicts ILE, indicating that avoidance-based motives, such as striving to avoid professional disadvantages, academic setbacks, or negative peer judgment, can contribute to effort. While often considered less ideal than promotion-driven motives, prevention-focused orientation can nonetheless play a substantial role in maintaining consistent learning effort (Csizér, 2019; Teimouri, 2017), particularly in high-stakes academic contexts such as medical education.

Neither O2L2S nor I_PROM demonstrated significant direct effects on ILE, but mediation analyses revealed their indirect influence through IL2S and INTEG. O2L2S had a negative indirect effect on ILE via IL2S, suggesting that stronger obligations to learn EMP may weaken learners' self-concept, thereby reducing effort. However, O2L2S also exhibited a smaller but positive indirect effect on ILE through INTEG, indicating that external expectations can still contribute to engagement when aligned with integrative motivation. This suggests that external obligations, when framed in ways that resonate with students' aspirations to join the international medical community, may be partially internalized and transformed into integrative motives. In line with Self-Determination Theory (Ryan & Deci, 2000), externally imposed requirements can undergo a process of internalization, shifting from controlled forms of regulation to more autonomous orientations. This mechanism may explain why O2L2S, despite lacking a direct impact on sustained effort, can exert an indirect influence by reinforcing students' sense of belonging to the global professional community. Pedagogically, this finding underscores the importance of aligning curricular requirements and institutional expectations with learners' broader professional visions, thereby enhancing the likelihood that external pressures evolve into self-endorsed goals. Taken together, these results suggest that although external factors (O2L2S) or ambitious long-term outcomes (I_PROM) may provide an initial impetus for attending classes or acknowledging the relevance of EMP, they exert comparatively weaker influence on the maintenance of proactive, self-regulated learning effort.

5.2. Effects of Supplementary Dimensions on the Direct Predictors of ILE (RO2)

The second stage of the diagnostic process, i.e., the second research objective (RO2), examined how supplementary motivational dimensions influence the core motivational dimensions that proved to be direct predictors of ILE (i.e., INTEG, IL2S, and I_PREV). Results show that S_CONF, S_EFF, ATT_POS, ATT_NEG, and L2_ANX exert significant, though varied, effects.

S_CONF emerged as a particularly influential factor, significantly predicting both INTEG and IL2S. Students with higher confidence in their English abilities are more likely to envision themselves as proficient EMP users and to feel a stronger sense of belonging to the medical community. Both S_CONF and S_EFF significantly predicted IL2S, aligning with Al-Hoorie's (2018) meta-analysis, which highlights the close link between self-efficacy and the Ideal L2 Self. Moreover, evidence suggests that this relationship is bidirectional: Roshandel et al. (2018) found that the Ideal L2 Self significantly predicts self-efficacy.

L2_ANX significantly influences both INTEG and I_PREV. Higher L2 anxiety appears to heighten sensitivity to the potential negative consequences of insufficient EMP proficiency, strengthening prevention-driven motivation. Conversely, lower anxiety levels may reduce the perceived urgency of such risks. Notably, higher-anxiety EMP learners may also exhibit a stronger sense of belonging to the medical community. Similarly, students' positive attitude (ATT_POS) toward learning EMP predicts both INTEG and I_PREV. A positive attitude fosters a stronger identification with the medical community (INTEG) and reinforces the recognition of EMP as essential for academic and professional success (I_PREV), motivating students to meet external expectations and avoid potential disadvantages in their careers.

ATT_NEG predicts I_PREV negatively, indicating that students with unfavorable views of EMP are less likely to be motivated by concerns about avoiding disadvantages or fulfilling external expectations. Such students may downplay the relevance of EMP, reducing their prevention-driven motivation.

5.3. From Diagnosis to Support: Pedagogical Implications

The findings suggest that the respondent Hungarian medical students (predominantly lower-year students with a relatively high level [B2-C1] of English proficiency) demonstrate a strong motivational foundation for learning EMP. INTEG, IL2S, and I_PREV play central roles, indicating their awareness of EMP's significance, their aspiration to belong to the medical community, and their strong vision of themselves as proficient users of English in professional contexts. This profile underscores the importance of sustaining and further enhancing these existing motivational strengths through effective and engaging teaching practices. Consequently, the question naturally arises as to which pedagogical strategies EMP teachers can employ to foster the vision of a competent EMP user and to create a supportive and engaging learning environment that reinforces self-confidence and self-efficacy, while minimizing L2 anxiety.

A key strategy for promoting IL2S and INTEG is integrating authentic materials through content- and context-based teaching. Content-based instruction, where students engage with authentic medical texts, enables learners to see the relevance of English in their professional lives (Antić, 2016). Faure (2018) emphasizes that incorporating medical topics into EMP courses supports language acquisition and consolidates students' medical knowledge, making language learning more meaningful and effective. Likewise, context-based teaching, such as using real-world scenarios and simulations, enhances students' ability to connect EMP learning with their future professional roles. Role-playing medical consultations (Hambuch et al., 2024) or conducting simulated ward rounds helps students envision themselves using English confidently and effectively in professional settings. Wiertlewska (2019) proposes a new paradigm where EMP is approached through medical subjects, reinforcing content knowledge via EMP. A key setting for this is the skills labs, a widely used method bridging theoretical instruction and clinical practice. Skills labs provide a low-stakes environment for practicing essential medical skills, including doctor-patient communication, before transitioning to real clinical settings. Their simulation-based nature makes them ideal for integrating EMP instruction, allowing both Hungarian and international students to train together in an authentic yet controlled clinical environment.

Beyond authentic, content-based, and context-based approaches, recent research highlights the value of vision-oriented pedagogies in strengthening learners' Ideal L2 Self. Vision-based interventions have shown that guided imagery tasks, structured self-exploration, and future-self mapping can significantly enhance students' motivation and sustained effort (Sandu & Rodríguez Gil, 2023; Sato, 2021). For practitioners, motivational lesson frameworks, such as those outlined in Dörnyei and Hadfield (2013) and Dörnyei and Kubanyiova (2014), offer adaptable classroom activities that can be integrated into EMP instruction to help students envision themselves as confident future

users of medical English. Embedding such vision-building activities alongside simulation-based learning may therefore amplify both the authenticity and the motivational impact of EMP courses.

For these methods to succeed, an interdisciplinary collaboration between EMP instructors and medical content teachers would be essential. Joint efforts to design tasks that blend linguistic and professional content can ensure that students are exposed to authentic medical content and contexts while improving their language skills. Faure (2018) argues that involving medical professionals in EMP instruction not only enhances authenticity but also boosts students' confidence by demonstrating the practical use of medical English in professional settings. A further step towards authenticity involves providing non-Anglophone students with opportunities to attend lectures in the EMI program or offering elective courses in which students can choose the language of instruction. Additionally, joint classes that bring together students from EMI and non-EMI programs can create opportunities for real-life language practice and cross-cultural exchange. These interactions not only strengthen linguistic competence but also enhance students' intercultural awareness – an increasingly critical skill in globalized medical practice (Lu & Corbett, 2012). Establishing professional networks that enable EMP educators in non-Anglophone contexts to gain insights into the use of English as a working language in authentic medical settings could also enhance instructional authenticity and, consequently, improve the overall effectiveness of EMP instruction.

Building a positive and supportive environment is also key. Fostering motivation also requires creating a classroom atmosphere that reduces anxiety, boosts self-confidence, and supports self-efficacy. Scaffolding techniques, where teachers provide step-by-step support tailored to individual needs, can help students overcome initial challenges in understanding medical texts or performing communicative tasks. Over time, this approach enhances learners' self-confidence and self-efficacy, which, as the study shows, are pivotal to reinforcing the Ideal L2 Self. Reducing L2 anxiety is equally important. Teachers can address this by promoting a non-judgmental, inclusive classroom climate where mistakes are seen as natural parts of learning. Peer collaboration (near-peer teaching and peer-teaching) and group tasks can further alleviate anxiety by shifting the focus from individual performance to collective achievement.

In summary, the findings contribute to the growing body of research extending the L2MSS to specialized educational domains. They confirm the cross-contextual relevance of Integrativeness and the Ideal L2 Self, while also highlighting the distinctive influence of prevention-focused motivation and affective factors in high-stakes professional training environments such as medicine. These insights refine our understanding of how motivation operates in EMP learning and offer a diagnostic basis for pedagogical interventions aimed at sustaining long-term engagement.

To our knowledge, this is the first empirical study to apply and validate Dörnyei's L2MSS within the domain of learning EMP. The findings suggest that the same approach could inform research and pedagogy internationally, particularly in other non-EMI medical programs where non-Anglophone students require EMP for their academic and professional development.

6. Limitations and Future Directions

While this study fills a research gap and provides valuable, unprecedented insights into the motivational factors influencing medical students' efforts in learning EMP, several limitations must be acknowledged. First, the overrepresentation of first- and second-year students and female participants may limit the generalizability of the findings. Second, there are differences in EMP-related outcome requirements across medical schools, which are likely to impact students' motivational dispositions. Furthermore, respondents from the University of Debrecen, where no formal outcome requirement existed at the time of the study, were overrepresented. Third, the focus on Hungarian medical students limits the applicability of the results to other linguistic and cultural contexts. However, the questionnaire and the model-building approach developed in this study are

versatile and can be effectively applied in other settings. Conducting similar research in other countries would not only yield valuable insights for those settings but also enable meaningful cross-country comparisons.

The successful implementation of the teaching strategies and approaches outlined above raises broader questions regarding teacher expertise in EMP instruction, which warrants further investigation. Effective EMP educators must not only demonstrate advanced English proficiency and pedagogical competence but also possess a solid understanding of medical contexts. While collaboration with content specialists or international collaboration among EMP instructors can partially bridge this gap, it also underscores the need for further research into the development of specialized teacher training programs. Future studies could explore the most effective models for equipping EMP instructors with both linguistic and domain-specific knowledge, ensuring they can meet the unique demands of medical language education. Equally important, however, is preparing instructors to apply motivational strategies in the classroom. As this study has shown, sustaining students' engagement in EMP is strongly linked to factors such as self-confidence, self-efficacy, and vision of their future professional selves. Thus, teacher training models should not only provide subject-specific expertise but also incorporate evidence-based approaches for fostering and maintaining learner motivation.

7. Conclusion

This study set out to examine (RO1) the direct and indirect effects of core motivational dimensions (IL2S, O2L2S, INTEG, I_PROM, and I_PREV) on Hungarian medical students' ILE. The analyses revealed that Integrativeness, Ideal L2 Self, and Instrumentality Prevention were the strongest direct predictors of ILE, together explaining 31% of the variance. This highlights that belonging to the international medical community and envisioning oneself as a proficient EMP user are key motivational forces behind sustained learning effort.

With respect to (RO2), the study explored how supplementary psychosocial dimensions (Self-Confidence, Self-Efficacy, L2 Anxiety, and Attitudes) shape those core predictors. Findings indicated that self-confidence and self-efficacy substantially reinforce the Ideal L2 Self, while positive attitudes and moderate anxiety levels contribute to Integrativeness and prevention-driven motivation. Together, these interrelations demonstrate that EMP motivation is sustained not only by instrumental goals but also by affective and self-regulatory dispositions.

Although this study focused on Hungarian medical students, the findings have broader implications: (1) This study provides robust evidence supporting the relevance of Dörnyei's L2MSS (2005, 2009) in the context of EMP. (2) Methodologically, the study underscores the utility of adapting and contextualizing scales from established motivational frameworks for domain-specific settings. (3) These insights provide valuable guidance for educators and policymakers aiming to enhance curriculum design and instructional practices in EMP and beyond. In an increasingly globalized medical field, where English serves as the lingua franca, the transfer of professional knowledge cannot be separated from the effective teaching and learning of EMP. By aligning instructional practices with students' motivational profiles, medical schools can better equip future professionals for the demands of global medical communication, collaboration, and lifelong learning. Well-designed and targeted EMP education can significantly contribute to students' academic success, professional development, and preparedness for the demands of a global medical community. Strong collaboration between EMP teachers and content teachers would ensure that EMP instruction not only meets students' immediate needs but also equips them with the linguistic, communicative, and intercultural competencies necessary to thrive in their future careers. Enhancing the quality and effectiveness of EMP education is, therefore, not only in the interest of students but also a shared responsibility in advancing medical education as a whole.

Pedagogically, the findings highlight the importance of designing EMP instruction that integrates authentic, simulation-based, and vision-building activities to enhance medical students' Ideal L2 Self and Integrativeness, while creating psychologically supportive environments that mitigate L2 anxiety and foster self-efficacy. From a research perspective, the study underscores the applicability of the L2MSS to EMP and calls for future investigations that extend this contextualized framework to other linguistic and cultural settings and to teacher-related motivational factors.

In sum, by directly addressing the research questions and translating empirical patterns into actionable recommendations, this study contributes to a more comprehensive understanding of how motivational and psychosocial factors interact to sustain non-Anglophone medical students' engagement in learning English for Medical Purposes.

Declarations

Author Contributions. A.S.: Literature review, Conceptualization, Methodology, Investigation, Writing – original draft, Visualization, Data analysis. É.F.: Writing - Review & Editing, Supervision. M.B.: Data analysis. All authors have read and approved the published version of the article.
Conflicts of Interest. The authors declare no conflict of interest.
Funding. This research received no external funding.
Ethical Approval. Ethical approval for this study was obtained from the Ethics Committee of the Doctoral School of Education of the University of Szeged (approval ID: 1/2023).
Data Availability Statement. The data can be provided by the corresponding author upon request.
Acknowledgments. The authors would like to thank all participants and contributors to this study.

References

Ahmed, M. A. (2022). Attitudes of medical sciences students towards English language learning: A case study of health sciences colleges in Saudi Arabia. *International Journal of Linguistics and Translation Studies*, *3*(1), 10–19. https://doi.org/10.36892/ijlts.v3i1.209

Al-Hoorie, A. H. (2018). The L2 motivational self system: A meta-analysis. *Studies in Second Language Learning and Teaching*, *8*(4), 721–754. https://doi.org/10.14746/ssllt.2018.8.4.2

Alqahtani, A. F. (2017). A study of the language learning motivation of Saudi military cadets. *International Journal of Applied Linguistics and English Literature*, *6*(4), 163–172. https://doi.org/10.7575/aiac.ijalel.v.6n.4p.163

Amano, T., Ramírez-Castañeda, V., Berdejo-Espinola, V., Borokini, I., Chowdhury, S., Golivets, M., González-Trujillo, J. D., Montaño-Centellas, F., Paudel, K., White, R. L., & Veríssimo, D. (2023). The manifold costs of being a non-native English speaker in science. *PLOS Biology*, *21*(7), e3002184. https://doi.org/10.1371/journal.pbio.3002184

Antić, Z. (2016). Teacher education in English for special purposes. *Acta Facultatis Medicae Naissensis*, *33*(3), 211–215. https://doi.org/10.1515/afmnai-2016-0022

Bandura, A. (1997). *Self-efficacy: The exercise of control.* Freeman.

Brady, K. I. (2019a). A multidimensional view of L2 motivation in southeast Spain: Through the 'Ideal Selves' looking glass. *Porta Linguarum*, *31*, 37–52. https://doi.org/10.30827/portalin.vi31.13821

Brady, K. I. (2019b). Exploring the L2 motivational self system in Spain: Study design and preliminary findings. *Journal of English Studies*, *17*, 43–73. https://doi.org/10.18172/jes.3575

Brady, K. I. (2021). Positive psychology and L2 motivation in ESP. In L. Escobar & A. Ibáñez Moreno (Eds.), *Mediating specialized knowledge and L2 abilities* (pp. 111–132). Springer International Publishing. https://doi.org/10.1007/978-3-030-87476-6_6

Breeze, R. (Ed.). (2020). From the editors. *Language Value*, 12(1). https://doi.org/10.6035/LanguageV.2020.12.1

Csizér, K. (2019). The L2 motivational self system. In M. Lamb, K. Csizér, A. Henry, & S. Ryan (Eds.), *The Palgrave handbook of motivation for language learning* (pp. 71–93). Springer International Publishing. https://doi.org/10.1007/978-3-030-28380-3_4

Csizér, K., & Dörnyei, Z. (2005). Language learners' motivational profiles and their motivated learning behavior. *Language Learning*, *55*(4), 613–659. https://doi.org/10.1111/j.0023-8333.2005.00319.x

Demír, B., & Hamarat, B. (2022). Development of a new language learning motivation scale for medical students. *İnsan ve Toplum Bilimleri Araştırmaları Dergisi*, *11*(4), 2289–2310. https://doi.org/10.15869/itobiad.1146278

Dou, A. Q., Chan, S. H., & Win, M. T. (2023). Changing visions in ESP development and teaching: Past, present, and future vistas. *Frontiers in Psychology*, *14*, 1140659. https://doi.org/10.3389/fpsyg.2023.1140659

Dörnyei, Z. (2005). *The psychology of the language learner: Individual differences in second language acquisition*. Lawrence Erlbaum.

Dörnyei, Z. (2009). The L2 motivational self system. In *Motivation, language identity and the L2 self* (pp. 9–42). Multilingual Matters. https://doi.org/10.21832/9781847691293-003

Dörnyei, Z., & Hadfield, J. (2014). *Motivating learning* (1st ed.). Routledge. https://doi.org/10.4324/9781315833286

Dörnyei, Z., & Kubanyiova, M. (2014). *Motivating learners, motivating teachers: Building vision in the language classroom*. Cambridge University Press. https://books.google.hu/books?id=_qmEnQEACAAJ

Džuganová, B. (2019). Medical language – a unique linguistic phenomenon. *JAHR*, *10*(1), 129–145. https://doi.org/10.21860/j.10.1.7

Ellahham, S. (2021). Communication in health care: Impact of language and accent on health care safety, quality, and patient experience. *American Journal of Medical Quality*, *36*(5), 355–364. https://doi.org/10.1097/01.JMQ.0000735476.37189.90

Faure, P. (2018). Strategies for designing and optimising an English for medical purposes course for French medical students. *LSP International Journal*, *3*(1). https://doi.org/10.11113/lspi.v3n1.33

Fryer, L. K., & Dinsmore, D. L. (2020). The promise and pitfalls of self-report. *Frontline Learning Research*, *8*(3), 1–9. https://doi.org/10.14786/flr.v8i3.623

Galloway, N., & Rose, H. (2015). *Introducing global Englishes*. Routledge. https://doi.org/10.4324/9781315734347

Gardner, R. C. (2001). Integrative motivation and second language acquisition. In Z. Dörnyei & R. Schmidt (Eds.), *Motivation and second language acquisition* (pp. 1–19). University of Hawaii, Second Language Teaching & Curriculum Center.

Gardner, R. C. (2007). Motivation and second language acquisition. *Porta Linguarum Revista Interuniversitaria de Didáctica de las Lenguas Extranjeras*. https://doi.org/10.30827/Digibug.31616

Gardner, R. C., & Lambert, W. E. (1959). Motivational variables in second-language acquisition. *Canadian Journal of Psychology / Revue canadienne de psychologie*, *13*(4), 266–272. https://doi.org/10.1037/h0083787

Gardner, R. C., & Lambert, W. E. (1972). *Attitudes and motivation in second-language learning.* Newbury House Publishers.

Ghorbani, M., & Rashvand Semiyari, S. (2022). The impact of the Big Five personality traits and motivational self-system on Iranian EFL learners' intended effort: An investigation into McAdams' model of personality. *RELC Journal*, *53*(1), 24–39. https://doi.org/10.1177/0033688220933011

Hamad, A. A. (2023). Decolonization of medical education: A global screening of instructional languages and mother tongue dependence. *Journal of Medicine, Surgery, and Public Health*, *1*, 100007. https://doi.org/10.1016/j.glmedi.2023.100007

Hambuch, A., Fekete, J., Berta, A., Halász, R., Makszin, L., Németh, T., Szalai-Szolcsányi, J., Warta, V., Zrínyi, A., Kránicz, R., Eklics, K., & Csongor, A. (2024). Az orvosi kommunikáció oktatásának fejlesztése a Pécsi Tudományegyetem Általános Orvostudományi Karán a „Szimulációs Beteg" program bevezetésével [Enhancing medical communication education through the implementation of the "Simulated Patient" program at the University Medical School of Pécs]. *Orvosi Hetilap*, *165*(33), 1286–1294. https://doi.org/10.1556/650.2024.33103

Hayes, A. F., & Little, T. D. (2022). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach* (3rd ed.). Guilford Press.

Heming, T. A., & Nandagopal, S. (2012). Comparative difficulties with non-scientific general vocabulary and scientific/medical terminology in English as a second language (ESL) medical students. *Sultan Qaboos University Medical Journal*, *12*(4), 485–492. https://doi.org/10.12816/0003175

Higgins, E. T. (1987). Self-discrepancy: A theory relating self and affect. *Psychological Review*, *94*(3), 319–340. https://doi.org/10.1037/0033-295X.94.3.319

Hosseini, A., & Shokrpour, N. (2019). Exploring motivating factors among Iranian medical and nursing ESP language learners. *Cogent Arts & Humanities*, *6*(1), 1634324. https://doi.org/10.1080/23311983.2019.1634324

Hyland, K. (2022). English for Specific Purposes: What is it and where is it taking us? *ESP Today*, *10*(2), 202–220. https://doi.org/10.18485/esptoday.2022.10.2.1

Hyland, K., & Wong, L. L. C. (2019). *Specialised English: New directions in ESP and EAP research and practice*. Routledge.

Jiang, C., & Papi, M. (2021). The motivation-anxiety interface in language learning: A regulatory focus perspective. *International Journal of Applied Linguistics*, *32*(1), 25–40. https://doi.org/10.1111/ijal.12375

Johnson, R. C., & Tweedie, M. G. (2024). Introduction to the special issue: English for international medical communication. *English for Specific Purposes*, *75*, 66–68. https://doi.org/10.1016/j.esp.2024.04.002

Lanvers, U. (2016). Lots of selves, some rebellious: Developing the self-discrepancy model for language learners. *System*, *60*, 79–92. https://doi.org/10.1016/j.system.2016.05.012

Lao, A. L., & Buenaventura, V. P. (2024). Foreign language anxiety and reading motivation of students. *American Journal of Multidisciplinary Research and Innovation*, *3*(3), 45–55. https://doi.org/10.54536/ajmri.v3i3.2693

Liu, M. (2024). Mapping the landscape of research on the L2 motivational self-system theory (2005–2021): A bibliometric and text network analysis. *System*, *120*, 103180. https://doi.org/10.1016/j.system.2023.103180

Lu, P., & Corbett, J. (Eds.). (2012). *English in medical education: An intercultural approach to teaching language and values*. Multilingual Matters. https://doi.org/10.21832/9781847697776

Maher, J. (1987). English as an international language of medicine. *Medical Education*, *21*(4), 283–284. https://doi.org/10.1111/j.1365-2923.1987.tb00363.x

Manipol, L. K. D., Nasrullah, N., & Jumariati, J. (2024). Analysis of self-efficacy and motivation as contributing factors in second language acquisition: A literature review. *Acitya: Journal of Teaching and Education*, *6*(1), 1–18. https://doi.org/10.30650/ajte.v6i1.3702

Markus, H., & Nurius, P. (1986). Possible selves. *American Psychologist*, *41*(9), 954–969. https://doi.org/10.1037/0003-066X.41.9.954

Marošan, Z., & Marković, V. (2019). Instrumental and integrative motivation in teaching English for medical purposes. *Medicinski Pregled*, *72*(3–4), 98–104. https://doi.org/10.2298/MPNS1904098M

Martín-González, D., & Chaves-Yuste, B. (2024). From English for general purposes to English for specific purposes: The role of motivation in higher education in Spain. *ESP Today*, *12*(1), 26–48. https://doi.org/10.18485/esptoday.2024.12.1.2

Mathis, B. J., Mayers, T., & Miyamasu, F. (2021). English as a vocational passport: Japanese medical students and second language learning motivation. *Education Sciences*, *12*(1), 8. https://doi.org/10.3390/educsci12010008

Mayers, T., Mathis, B. J., Maki, N., & Maeno, T. (2023). Japanese medical students' English language learning motivation, willingness to communicate, and the impact of the COVID-19 pandemic. *International Medical Education*, *2*(4), 283–292. https://doi.org/10.3390/ime2040027

Ng, S. F., Chew, Y. M., Chng, P. E., & Ng, K. S. (2018). An insight of linear regression analysis. *Scientific Research Journal*, *15*(2), 1. https://doi.org/10.24191/srj.v15i2.9347

Nourinezhad, S., Shokrpour, N., & Shahsavar, Z. (2017). The relationship between intrinsic/extrinsic motivation and medical students' L2 writing. *Khazar Journal of Humanities and Social Sciences*, *20*(4), 71–81. https://doi.org/10.5782/223-2621.2017.20.4.71

Pavel, E. (2014). Teaching English for medical purposes. *Bulletin of the Transilvania University of Brasov*, *7*(2), 39–46.

Pavel, E. (2020). Language learner motivation and strategies in English for medical purposes. *Philobiblon. Transylvanian Journal of Multidisciplinary Research in the Humanities*, *25*(1), 125–138. https://doi.org/10.26424/philobib.2020.25.1.08

Pekrun, R. (2020). Self-report is indispensable to assess students' learning. *Frontline Learning Research*, *8*(3), 185–193. https://doi.org/10.14786/flr.v8i3.637

Piniel, K., & Csizér, K. (2013). L2 motivation, anxiety and self-efficacy: The interrelationship of individual variables in the secondary school context. *Studies in Second Language Learning and Teaching*, *3*(4), 523–550. https://doi.org/10.14746/ssllt.2013.3.4.5

Roshandel, J., Ghonsooly, B., & Ghanizadeh, A. (2018). L2 motivational self-system and self-efficacy: A quantitative survey-based study. *International Journal of Instruction*, *11*(1), 329–344. https://doi.org/10.12973/iji.2018.11123a

Ryan, S. (2009). Self and identity in L2 motivation in Japan: The ideal L2 self and Japanese learners of English. In Z. Dörnyei & E. Ushioda (Eds.), *Motivation, language identity and the L2 self* (pp. 120–143). Multilingual Matters. https://doi.org/10.21832/9781847691293-007

Ryan, R. M., & Deci, E. L. (2000). Intrinsic and extrinsic motivations: Classic definitions and new directions. *Contemporary Educational Psychology*, *25*(1), 54–67. https://doi.org/10.1006/ceps.1999.1020

Sandu, B. M., & Rodríguez Gil, M. E. (2023). Engaging Spanish English-major undergraduate students through imagery and motivational activities. *Revista de Filología de la Universidad de La Laguna*, (47), 331–356. https://doi.org/10.25145/j.refiull.2023.47.17

Sato, M. (2021). Generating a roadmap for possible selves via a vision intervention: Alignment of second language motivation and classroom behavior. *TESOL Quarterly*, *55*(2), 427–457. https://doi.org/10.1002/tesq.611

Stötzer, A., & Farkas, É. (2024). ContEMPorary matter: Updating our understanding of English for medical purposes. *Journal of Teaching English for Specific and Academic Purposes*, 741. https://doi.org/10.22190/JTESAP241006055S

Stötzer, A., Farkas, E., & Bagyura, M. (2025). From theory to instrument: Developing an L2 motivational self system-inspired questionnaire. *Educational Process: International Journal*, 16, e2025252. https://doi.org/10.22521/edupij.2025.16.252

Taguchi, T., Magid, M., & Papi, M. (2009). The L2 motivational self system among Japanese, Chinese and Iranian learners of English: A comparative study. In Z. Dörnyei & E. Ushioda (Eds.), *Motivation, language identity and the L2 self* (pp. 66–97). Multilingual Matters. https://doi.org/10.21832/9781847691293-005

Teimouri, Y. (2017). L2 selves, emotions, and motivated behaviors. *Studies in Second Language Acquisition*, *39*(4), 681–709. https://doi.org/10.1017/S0272263116000243

Teimouri, Y., Papi, M., & Tahmouresi, S. (2022). Individual differences in how language learners pursue goals: Regulatory mode perspective. *Studies in Second Language Acquisition*, *44*(3), 633–658. https://doi.org/10.1017/S0272263121000413

Tomak, T., & Šendula-Pavelić, M. (2017). Motivation towards studying English for specific purposes among students of medical and healthcare studies. *JAHR*, *8/2*(16), 151–170. https://doi.org/10.21860/j.8.2.1

Tsymbal, S. V. (2019). Enhancing students' confidence and motivation in learning English with the use of online game training sessions. *Information Technologies and Learning Tools*, *71*(3), 227. https://doi.org/10.33407/itlt.v71i3.2460

Tweedie, M. G., & Johnson, R. C. (2022). *Medical English as a lingua franca*. De Gruyter. https://doi.org/10.1515/9783110697025

Vansteenkiste, M., Lens, W., & Deci, E. L. (2006). Intrinsic versus extrinsic goal contents in self-determination theory: Another look at the quality of academic motivation. *Educational Psychologist*, *41*(1), 19–31. https://doi.org/10.1207/s15326985ep4101_4

Wiertlewska, J. (2019). The new paradigm of medical English teaching at the university level. *Scripta Neophilologica Posnaniensia*, *19*, 223–230. https://doi.org/10.14746/snp.2019.19.15

Yang, M., O'Sullivan, P. S., Irby, D. M., Chen, Z., Lin, C., & Lin, C. (2019). Challenges and adaptations in implementing an English-medium medical program: A case study in China. *BMC Medical Education*, *19*(1), 15. https://doi.org/10.1186/s12909-018-1452-3

Yetkin, R., & Ekin, S. (2018). Motivational orientations of secondary school EFL learners toward language learning. *Eurasian Journal of Applied Linguistics*, *4*(2), 375–388. https://doi.org/10.32601/ejal.464202

About the Contributor(s)

Andrea Stötzer, is an assistant lecturer at the Department for Medical Communication and Translation Studies, Albert Szent-Györgyi Medical School, University of Szeged. Her teaching focuses on English for Medical Purposes, medical translation and interpreting, as well as Hungarian for Medical Purposes. Her research interests include ESP learning, motivation, and the professional identity of ESP teachers.
Email: stotzer.andrea.maria@med.u-szeged.hu
ORCID: http://orcid.org/0000-0002-1064-2416

Márton Bagyura, PhD, is an assistant lecturer at the Department of Communication and Media Studies, University of Pécs. His main research interests are suburban governance, suburban gentrification, urban planning, ageing, informal carers, and gender and sexual minorities.
Email: bagyura.marton@pte.hu
ORCID: http://orcid.org/0000-0001-6224-0315

Éva Farkas, PhD, works as a teacher and supervisor at the Doctoral School of Education, University of Szeged, Hungary. She has 25 years of experience in adult learning and education policies in Hungary and Europe, with a special focus on the professionalization of adult learning and education as well as validation of learning outcomes achieved in non-formal learning contexts. In the last decade, her research interests have focused on learning outcomes-based curriculum design and learning management in higher education. In 2019, she was inducted into the International Adult and Continuing Education Hall of Fame and has served as its president since September 2022.
Email: farkaseva9@gmail.com
ORCID: http://orcid.org/0009-0002-9474-1514

Appendix I.

English for Medical Purposes (EMP) Motivation Questionnaire Statements

(all statements are designed to be rated on a 6-point Likert scale)

Intended Learning Effort

I am willing to make a serious effort to learn EMP.

I work hard to improve my EMP skills.

I believe I am doing everything I can to learn EMP.

I will probably continue to improve my EMP even after I graduate.

Ideal L2 Self

I can imagine myself communicating effortlessly with patients in English abroad.

I can picture myself giving a presentation in English at a conference.

I think it is likely that I will publish in English.

I believe that one day I will be able to communicate fluently and without anxiety in English in a professional setting.

I see myself as a confident user of EMP in the future.

I can imagine myself communicating effortlessly in English with colleagues abroad.

Ought-to L2 Self

I am studying EMP because everyone says it is essential these days.

I attend EMP classes because, as a student in this medical school, I am expected to know EMP.

My peers/classmates are also studying EMP, and I do not want to be left out.

Integrativeness

I believe that within the medical professional community, only those with English language skills can succeed.

I am also studying EMP because it is the only way I can participate in the work of the scientific community.

Knowing EMP is important to me because it allows me to become a part of the international professional (publishing and scientific) community.

If I were not studying EMP, I would feel like I am missing out on something.

Instrumentality – Promotion

I believe that knowing EMP will give me more opportunities to find a suitable job.

Learning EMP is important to me for my career.

Knowing EMP is important to me because I would like to apply for a scholarship abroad (e.g., Erasmus).

EMP is important to me so that I can present at conferences.

EMP is important to me because I would like to work in a preclinical department, doing research and/or teaching.

EMP is important to me because it is the only way to advance in the scientific field.

EMP is important to me because there is a chance I will work abroad one day.

Instrumentality – Prevention

Knowing EMP is important to me because I do not want a lack of language skills to hold me back in scientific work or applying for scholarships.

EMP is important to me because I do not want the lack of it to limit my future opportunities.

Knowing EMP is important to me because I do not want my colleagues to look down on me in the future for not speaking English or not publishing in English.

If I had not studied EMP, I would be at a disadvantage compared to my classmates.

Many study resources, like videos and diagrams, are in English, and I do not want to be at a disadvantage by not understanding them.

Positive Attitude toward learning EMP

I think it would be useful if every medical student were required to learn EMP.

It almost feels natural to me that learning English is necessary, and now it's time to learn EMP.

I put in a lot of effort to improve my EMP skills.

I also enjoy EMP classes because I feel that, in addition to improving my English, I am gaining additional knowledge.

I especially enjoy(ed) EMP classes.

The EMP classes provide(d) a refreshing break from studying other professional subjects.

I like the EMP classes because we cover topics related to the medical field.

Negative Attitude toward learning EMP

In my opinion, it would be enough to focus on general English skills at university; one can learn EMP later on.

I believe that EMP is just Latin words that need to be pronounced in English.

I am attending EMP classes because it was the only option I could take.

L2 Anxiety

I am afraid my classmates will laugh at me in the EMP class.

I am worried that the EMP teacher will make fun of me in class.

In EMP class, I only speak up if I'm sure the grammar is correct.

In EMP class, it bothers me when I hear my pronunciation sound too Hungarian ('Hunglish').

It bothers me that my classmates speak English better than I do in EMP class.

I feel especially anxious in EMP classes.

I am reluctant to speak up in EMP classes.

Self-Confidence

I think I have a good aptitude for English.

I believe I can make myself understood in any everyday situation in English.

I think I could make myself understood in any professional (medical) situation in English.

I am proud of my general English skills.

I am proud of the EMP skills I have acquired so far.

I enjoy(ed) being able to actively participate in EMP classes and speak a lot.

Self-Efficacy

I find learning EMP fairly easy.

I try to take advantage of opportunities to communicate in English.

If I make an effort, I learn EMP easily.

Publisher's Note: *The opinions, statements, and data presented in all publications are solely those of the individual author(s) and contributors and do not reflect the views of Universitepark, EDUPIJ, and/or the editor(s). Universitepark, the Journal, and/or the editor(s) accept no responsibility for any harm or damage to persons or property arising from the use of ideas, methods, instructions, or products mentioned in the content.*