



It's the Mind That Matters: A Factor Analysis of L2 Positive Psychology Constructs in Limited English Exposure Language Learning

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ABSTRACT

This study diverges from conventional psychological perspectives that often concentrate on language learning deficiencies necessitating remedial interventions. Instead, it emphasizes the pivotal role of positive psychological constructs in facilitating optimal language development, particularly in contexts characterized by limited exposure to English. Through an exploration of positive psychology dimensions among Thai EFL secondary school students, the research examined the nuanced interplay of positive psychological factors shaping language learning in such contexts. Employing an Exploratory Factor Analysis (EFA) with the inventory and interviews, this study examined the underlying psychological determinants guiding the language learning experiences of 255 Thai EFL secondary school students from diverse regions. Factor analysis, complemented by Kaiser-Meyer-Olkin (KMO) statistics, contributes to refining the inventory and reveals four crucial positive psychology factors that collectively explain 61.158% of the variance in positive psychology levels. The resultant 18-item, 4-factor model encompasses processes within four categories of positive psychology constructs—*Engagement and Enjoyment*, *Grit and Perseverance*, *Interest and Focus*, and *Future Intentions*. This

	<p>model culminates in the development of the EFL Positive Psychology Inventory (EFLPP), which exhibits commendable validity and reliability. Additionally, insights gleaned from semi-structured interviews elucidate three sources of L2 positive psychology constructs: <i>learning environment</i>, <i>pre-determined goals</i>, and <i>personal interests</i>. This study emphasizes the significance of these positive psychology constructs in informing pedagogical strategies aimed at cultivating efficacious language learning experiences. By elucidating learners' positive psychology constructs, the research attempts to equip English educators in EFL contexts with tailored instructional methodologies that align with learners' positive aspirations, thereby augmenting English language learning outcomes.</p> <p>Keywords: EFL contexts, factor analysis, limited exposure, L2 positive psychology constructs</p>
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Introduction

In this globalized world, English serves as a predominant lingua franca across diverse global domains. A considerable proportion of non-native English speakers employ the language for communication, particularly within educational and professional contexts (Sharifian, 2017). Notably, in some regions like Thailand, there is an escalating demand for individuals with proficient English skills, as evidenced by the prevalence of job advertising emphasizing the necessity of a “strong command of the English language” (Foley, 2005, 2007). Consequently, the imperative of English language proficiency is unequivocal. Despite being classified as a foreign language in Thailand, there is a pronounced need to enhance English proficiency to augment employment prospects (Baker & Jarunthawatchai, 2017; Pongsin et al., 2023). As a result, the significance of English language teaching and learning in Thailand has progressively ascended.

In Thailand, English is a compulsory subject from primary school (Grades 1-6) through secondary school (Grades 7-12). In mainstream educational institutions, English instruction is limited to dedicated language lessons: one hour per week for Grades 1 to 3, two hours per week for Grades 4 to 6, and an average of three hours per week at the secondary school level (Darasawang & Watson Todd, 2012). Despite the increased opportunity and accessibility of English language education through its inclusion in the curriculum, Thai EFL learners face significant challenges in effectively utilizing English for communicative purposes (Chaiyasat & Intakaew, 2023).

Moreover, the efficacy of English language learning at this level remains a concern due to various obstacles, including limited exposure to English beyond the classroom (Lee et al., 2023). Recognizing the pivotal nature of this educational stage as a foundational period for developing essential language proficiencies that will facilitate their higher education and future professional endeavors, a series of policy initiatives focused on English language instruction have been implemented. These initiatives aim to address concerns about the lack of improvement in English language learning outcomes across Thailand, with the overarching goal of ensuring more effective implementation of English language teaching and learning methodologies in Thai classrooms (Tandamrong & Parr, 2024).

Despite substantial investments in educational reforms aimed at bolstering English language competencies among Thai EFL learners, tangible outcomes remain elusive (Kirkpatrick, 2012). Noteworthy studies by Baker and Jarunthawatchai (2017) and Hayes (2016) highlight persistent inadequacies in English proficiency among Thai students vis-à-vis their counterparts in other Southeast Asian nations. Furthermore, consistently subpar scores in English on the Thai Ordinary National Education Test (O-NET) over the preceding years (Imsa-ard, 2020) highlight a systemic shortfall despite the pronounced emphasis on English language learning. Compounding this issue is the prevalent treatment of English as a subject matter rather than a functional language for daily use, which confines students' exposure to English predominantly to classroom settings. Consequently, these factors collectively result in low English proficiency among Thai EFL students, casting doubt on the efficacy of English language education in Thailand.

In contexts where English appears distant to learners, mandating English language learning as a compulsory subject can evoke adverse emotional responses, such as anxiety and boredom. Emotions, which are fundamentally intrinsic to language learning and teaching, have historically occupied a peripheral status within applied linguistic research (Dewaele et al., 2019). Swain (2013, p. 195) aptly characterizes emotions as the “elephants in the room”—largely overlooked and undervalued compared to cognitive perspectives. Consequently, the exploration of emotions, particularly positive ones, remains relatively nascent within second language acquisition (SLA) research, which has predominantly focused on negative emotions like language anxiety (Teimouri et al., 2019). However, a holistic examination of diverse emotional states in language learning, including positive emotions such as happiness, pride, and hope, offers a novel understanding of how learners navigate their emotional outlooks towards sustained success in SLA (Dewaele & MacIntyre, 2014; Oxford, 2016).

Together with the increasing interest in L2 emotions, many scholars have begun developing psychometric instruments to measure L2 emotional experiences across diverse linguistic and cultural contexts. While self-report measures have been extensively used in research on L2 positive psychology in both L1 and L2 contexts, existing instruments may lack specificity when applied to measuring positive psychology in environments with limited English exposure. Thus, this study addresses noticeable gaps in the existing literature by introducing a novel self-perceived inventory tailored to explore L2 positive psychology constructs among EFL learners with limited English exposure. The anticipated findings hold promise not only for enhancing pedagogical practices but also for fostering a deeper understanding of learners' emotional orientations towards English language learning. Ultimately, the insights garnered from this research are poised to empower EFL instructors operating in contexts characterized by limited English proficiency, facilitating more effective support for their learners' language learning experiences.

Literature Review

Positive Psychology Constructs in Language Learning

The advent of positive psychology, initiated by Gillham and Seligman (1999), marked a paradigm shift in psychological inquiry, advocating for a departure from traditional deficit-focused approaches to a more comprehensive understanding of human positive flourishing (Seligman, 2019). This seminal proposition challenged the predominant focus on remedying psychological deficits and emphasized the necessity to explore the mechanisms underlying optimal human functioning. Gillham and Seligman's (1999) conceptualization of positive psychology, initially centered on authentic happiness divided into three pillars, later expanded to include five dimensions encapsulated in the PERMA model (Seligman, 2018). This evolution reflects an augmented empirical emphasis on well-being and achievement, particularly within educational contexts (Olivero et al., 2022).

The integration of positive psychology into SLA has sparked a significant shift from exclusively focusing on negative emotional constructs, such as language learning anxiety, to a fresh exploration of positive emotional states, notably exemplified by language learning enjoyment (e.g., Dewaele et al., 2019). Consequently, a plethora of positive psychological constructs, including enjoyment, hope, grit, optimism, flow, engagement, well-being, creativity, resilience, laughter, strengths, love, courage, and altruism, have garnered scholarly attention within SLA contexts. This burgeoning scholarship aims to elucidate the intricate interplay between these positive

psychological constructs, emotions, and language achievement metrics (Derakhshan et al., 2022).

At the heart of this discourse is the emergence of L2 enjoyment as a focal point, characterized as a multifaceted emotion reflecting the interplay between challenge and perceived ability, thereby fueling individuals' drive for success amidst linguistic challenges (Dewaele & MacIntyre, 2016). Notably, L2 enjoyment has demonstrated positive correlations with language achievement, highlighting its pivotal role within SLA domains. Similarly, constructs such as 'intended effort' and 'grit' have garnered scholarly attention, with the latter defined as perseverance and passion towards long-term goals (Duckworth et al., 2007). Grit has been shown to positively correlate with linguistic performance and learners' willingness to communicate, emphasizing its significance as a predictor of language achievement (Liu & Wang, 2021; Teimouri et al., 2020).

However, the applicability of positive psychology constructs in language learning hinges on contextual nuances, particularly evident in limited English exposure environments where learners face constrained opportunities for real-life English use. Consequently, learners in such contexts may perceive English as inaccessible, leading to feelings of boredom during learning and anxiety during language use. Furthermore, the prevalence of test-oriented pedagogical settings exacerbates the dearth of meaningful English language engagement, resulting in heightened pressure and anxiety among learners (Imsa-ard, 2020). Importantly, the reciprocal relationship between negative emotions, such as anxiety and boredom, underscores the imperative of addressing emotional well-being in language learning contexts (Dewaele & Meftah, 2023).

Nevertheless, cultivating positive psychological states amongst learners presents a promising avenue for mitigating the adverse effects of negative emotions. By fostering positive emotions and characteristics, learners are poised to enhance their cognitive receptivity, thereby facilitating more effective language acquisition processes (Dewaele et al., 2019). Consequently, theories emphasizing the role of positive emotions underscore their catalytic role in promoting emotional regulation and overall well-being within learning environments. With these points in mind and in light of the current understanding of L2 positive psychology in limited English exposure contexts, the present study sought to investigate the following research questions:

1. What are the underlying factor structures of L2 positive psychology constructs of EFL learners in limited English exposure contexts?
2. What are the main sources of their L2 positive psychology constructs during their English language learning?

Research Methodology

Research Participants

The research enlisted a cohort of 255 EFL learners selected via random sampling from secondary educational institutions dispersed across Thailand. These participants were upper secondary school students, aged between 16 and 18, hailing from diverse geographical regions within the nation. The rationale for focusing on this specific group of students stems from the pivotal nature of this educational level. It represents a foundational period where English language instruction is a mandatory component of the curriculum and a critical juncture for cultivating the essential language proficiency requisite for higher education and future professional pursuits. Furthermore, the adolescent years constitute a seminal phase for cognitive and emotional development, exerting a significant influence on language learning and acquisition processes. Consequently, gaining a comprehensive understanding of and enhancing positive psychological factors at this level can effectively address existing challenges, ultimately providing invaluable insights that can inform educational policies and teaching methodologies, thereby improving overall English language proficiency across Thailand. The inclusion criteria included 1) being a Thai student enrolled in a regular academic program, 2) studying at the upper secondary school level, and 3) having limited exposure to the English language of less than 10 hours per week (Sundqvist, 2009). Those who failed to meet these criteria were excluded. Subsequently, they were randomly assigned to two distinct groups: Group 1 ($n=35$) for the administration of the instrument pretest, and Group 2 ($n=220$) designated for exploratory factor analysis (EFA). The determination of this sample size was guided by MacCallum et al. (2001), who highlighted that a sample ranging from 100 to 200 individuals suffices for factor analysis, contingent upon factors such as item communality and factor determination. Thus, including 220 participants for EFA in the study adhered to the stipulated criteria, ensuring the robustness of statistical analyses.

Research Instruments

The development of the novel self-perceived inventory focusing on L2 positive psychology constructs among EFL learners with limited English exposure unfolded through four distinct stages, as delineated in Figure 1. A comprehensive exposition of the precise measures undertaken during each phase is expounded upon in subsequent sections.

Figure 1*Development process of the EFL Positive Psychology Inventory****Item generation***

In accordance with the imperative outlined by Seligman and Csikszentmihalyi (2000), which emphasizes the significance of positive emotions and experiences for fostering individual flourishing, the framework of positive psychology accentuates a holistic approach to addressing challenges by integrating positive counterpoints (Lopez et al., 2018). This paradigm highlights the importance of attending to both affective and cognitive dimensions in educational contexts, aiming to cultivate an environment conducive to learners' emotional well-being and intellectual growth. Specifically, positive psychology endeavors to cultivate various positive constructs, including flow, hope, courage, well-being, optimism, creativity, happiness, grit, resilience, strengths, and laughter, with the overarching goal of augmenting linguistic proficiency among learners (Dewaele et al., 2019).

In light of this theoretical backdrop, the items comprising the novel instrument, subsequently referred to as the EFL Positive Psychology (EFLPP), were formulated in English as declarative statements to encapsulate four principal categories of L2 positive psychology constructs, namely *L2 intended effort*, *L2 attention*, *L2 enjoyment*, and *L2 grit*, which are widely acknowledged and frequently adopted in L2 research studies. The initial iteration of the instrument comprised 20 items, each presented in the format of a Likert scale offering respondents five response options ranging from 1 (mostly disagree) to 5 (mostly agree). Participants were tasked with assessing each statement and indicating their level of endorsement of L2 positive psychology constructs.

To ascertain the validity of the items, the Item Objective Congruence (IOC) Index (Rovinelli & Hambleton, 1977) served as the benchmark for evaluating content validity. To ensure the rigor and representativeness of the inventory items, three university instructors with over a decade of experience in English language instruction were enlisted to review the initial pool of items. Operating independently, the expert judges evaluated the efficacy of

the instrument in fulfilling the study's objectives, the relevance of items to identified L2 positive psychology constructs deemed crucial for EFL learners with limited English exposure, and the comprehensibility of items for prospective respondents. Employing the IOC method, each item in the inventory underwent assessment, yielding a score ranging from -1 to 1 (-1 = incongruent, 0 = questionable, +1 = congruent). Items achieving an IOC score equal to or greater than 0.66 were retained for further analysis.

Respondent-driven Trial

Prior to its formal implementation, the inventory underwent a pilot testing phase involving Group 1 participants ($n=35$). Concurrently, participants were invited to provide feedback concerning the clarity and precision of the instrument items. This collaborative feedback mechanism facilitated the identification of potential ambiguities or complexities within the items that could potentially lead to respondent inaccuracies, such as unclear instructions, ambiguous response options, convoluted wording, or overly intricate statements. Subsequently, necessary refinements were made to the instrument based on the insights garnered from participant feedback, resulting in partial modifications to five items to enhance their comprehensibility while preserving their substantive content and meaning.

To evaluate the reliability of the instrument using the initial item pool, Cronbach's alpha coefficient was employed to gauge internal consistency. Generally, Cronbach's alpha values falling within the range of 0.60 to 1.00 are considered acceptable (Bryman & Cramer, 2004). The computed Cronbach's alpha value of 0.738 indicated a high level of reliability for the inventory, affirming its consistency in measuring the intended constructs.

Inventory Administration

The final version of the EFLPP, formulated in Thai and administered via Google Forms, was disseminated to Group 2 participants from November to December 2023. A comprehensive briefing regarding the research objectives was provided to all participants, emphasizing the importance of honest and forthright responses. Subsequently, a total of 220 fully completed responses were obtained, with 67.7% identifying as female, 26.8% as male, and 5.5% choosing not to disclose their gender. The collected data were subsequently exported to a spreadsheet format to facilitate subsequent statistical analyses.

Semi-structured Interviews

Following the completion of the questionnaire survey, semi-structured interviews were conducted to explore the sources of learners' positive psychology constructs. Ten participants were selected based on their responses to the survey, representing diverse demographics such as gender and geographical regions, ensuring a comprehensive representation of various backgrounds. The interviews were conducted by the researcher himself via Zoom meetings, fostering a relaxed environment conducive to participants' availability and comfort. The language used in the interviews was Thai to minimize language barriers and ensure that everyone understood the questions clearly. Participants were encouraged to freely articulate their positive experiences in English learning and with detail. Each interview session spanned approximately 15-20 minutes.

With a primary focus on elucidating participants' personal encounters throughout the process of learning English in contexts characterized by limited exposure to the language, the interviewer tried to deeply examine episodes concerning positive psychology constructs and discern the underlying factors contributing to their positive psychological states.

Data analyses

The primary data analysis followed a systematic three-step process. Initially, descriptive analyses were conducted, followed by an exploratory factor analysis (EFA) aimed at elucidating the underlying factor structure of the EFLPP and discerning interrelationships among the extensive array of variables (RQ1). Specifically, this phase aimed to: a) ascertain the number of factors inherent within the variables, b) identify items loading onto specific factors, and c) eliminate items devoid of significant factor loading. The EFA was executed utilizing the Statistical Package for the Social Sciences (SPSS), version 29.0. Subsequently, path analysis and linear regression were employed to delineate the effect paths (RQ1).

Finally, qualitative data garnered from semi-structured interviews underwent thematic analysis. Initially, codes pertaining to the research questions were generated, adopting a data-driven coding approach. Following the identification of prominent patterns or recurring themes across various datasets, the researcher and research assistant (inter-coders) engaged in collaborative discussions to review and refine the codes. Subsequent adjustments were made, and the data were condensed into more concise units aligned with the research questions for further analysis.

By discerning overarching patterns within the datasets, overarching themes were derived to complement and corroborate the quantitative

findings, thereby offering a nuanced and contextually rich dimension to the EFLPP (RQ2).

Ethical considerations

This research study necessitates a comprehensive evaluation of the ethical ramifications that may manifest, highlighting the criticality of proactively addressing such concerns to circumvent any unintended detriment to the study participants. Considering the demographic of participants being under the legal age of majority (below 18 years old), obtaining informed consent from these participants is a paramount to uphold ethical research practices. It is imperative to ensure that the participants possess a thorough comprehension of the research objectives, the level of commitment anticipated, and the prospective benefits that may accrue. Furthermore, safeguarding the confidentiality of study participants is another pivotal consideration. Preserving the anonymity of data sources, to the extent feasible, is a fundamental tenet of sound research methodology. To uphold anonymity, pseudonyms were employed to obscure the identities of the participants, and the original data were securely maintained to mitigate the risk of data breaches. Notably, the study was undertaken on a voluntary basis by all participants and their respective parents or legal guardians.

Findings

Exploratory factor analysis (EFA) Results

A Principal Components Analysis (PCA) was conducted to explore the variance in the initial set of 20 items of the EFLPP and to condense them into a smaller number of factors. Prior to performing PCA, the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy and Bartlett’s Test of Sphericity were administered to assess the suitability of the data for factor analysis. The KMO value obtained was 0.890, and Bartlett’s Chi-square approximation yielded $\chi^2 = 2170.018$ (df = 190, $p = 0.000$), as presented in Table 1, affirming the adequacy of the sampling and the presence of sufficiently large item correlations conducive to PCA (Field, 2009).

Table 1

Kaiser-Meyer-Olkin (KMO) and Bartlett’s Tests

KMO and Bartlett’s Test	
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.890

Bartlett's Test of Sphericity	Approx. Chi-Square	2170.018
	df	190
	Sig.	.000

In this study, Kaiser's (1960) criterion, along with the Eigenvalue Criterion and the percentage of variance, was utilized to determine the appropriate number of factors to extract. According to the Kaiser Criterion, eigenvalues exceeding 1 indicate the number of factors to retain. Moreover, the cumulative proportion of total variance explained by the retained factors should ideally surpass 50% (Beavers et al., 2019).

While adhering to these guidelines, additional considerations were also integrated. It was imperative to extract factors that are not only interpretable but also theoretically meaningful (Matsunaga, 2010). Furthermore, each factor should ideally comprise at least two or three items to facilitate a meaningful interpretation (Henson & Roberts, 2006). Following these criteria, four factors were extracted, collectively explaining 61.158% of the total variance. A detailed breakdown of the variance explained by each factor is provided in Table 2.

Table 2

Principal component analysis summary and total variance explained

Component	Eigenvalue	Percentage of Variance Explained	Cumulative Percentage
1	7.529	37.644	37.644
2	2.187	10.934	48.578
3	1.354	6.770	55.348
4	1.162	5.810	61.158

The analysis explored the factor loading patterns to determine the items exerting significant influence on each factor. Factor loading, which denotes the correlation between an item in the model and its corresponding factor, serves as a pivotal metric in factor analysis (Hair et al., 1998). According to Hair et al. (1998), factor loadings of 0.50 or higher are considered significant, those exceeding 0.40 are deemed important, while loadings of at least 0.30 are regarded as the minimum threshold for a robust factor analysis. Following this guidance, item retention decisions in this study were guided by two principal criteria. Firstly, items exhibiting factor loadings greater than 0.50 or lower than -0.50 in absolute value were retained, indicating a substantial

association with the factor. Conversely, items failing to meet this criterion were deemed ill-suited to the construct and were consequently excluded. Secondly, theoretical relevance and interpretability were paramount in the selection process (Matsunaga, 2010). Items lacking conceptual alignment with others within the same factor were consequently eliminated.

To optimize the selection of items for each L2 positive psychology construct subscale, any items failing to load on any factors above 0.50 were discarded, and the correlation matrix was scrutinized. Consequently, two items (Items 7 and 13) were omitted from the initial pool of 20 items, as their factor loadings were .317 and .394, respectively.

Although factor rotations are commonly employed in principal component analysis (PCA) to enhance result interpretability, Jolliffe (2002) notes that rotated solutions often yield negligible differences from unrotated ones. Moreover, rotations may impose independence among factors, potentially leading to misinterpretations. In this study, since each factor appeared to represent a distinct subset of items and each item was influenced by a limited number of factors (Thurstone, 1947, as cited in Fabrigar et al., 1999), the researcher proceeded with instrument development without conducting factor rotation.

Table 3

Communalities of each item

No.	Items	Extraction
1	Even if English language is not a mandatory subject, I would still choose to take this course.	.528
2	I am highly focused on learning English.	.607
3	I want to dedicate a lot of time to learning English.	.714
4	If there are English language courses in the future, I would probably enroll.	.679
5	I always listen attentively to the teacher in English class.	.642
6	I easily stay focused while studying English.	.537
8	I enjoy and have fun learning English.	.679
9	I never get bored learning English.	.497
10	I believe that the atmosphere in my English classroom is positive.	.503
11	Learning English is fun for me.	.681
12	I am a diligent English language student.	.630
14	When it comes to English class, I am a diligent and attentive student.	.690
15	I feel like I still have interest in learning English.	.657
16	Once I decide to learn English, nothing can hinder my success in learning.	.648

17	I refuse to let anything stop me from developing my English language skills.	.704
18	I am always interested in English as I used to be.	.779
19	I have enjoyed learning English a lot in the past, and now that interest has still remained.	.756
20	I dedicate time and effort to improving my English language weaknesses.	.592

* Extraction Method: Principal Component Analysis.

The Cronbach’s alpha coefficients for the four factors ranged from 0.690 to 0.863, while the overall reliability of the revised instrument stood at 0.800. Table 3 presents the results of the exploratory factor analysis (EFA), detailing the factor loadings and reliabilities across the four factors.

Subsequently, the researcher collaborated with two experts in language education and educational psychology to scrutinize the items loading onto each factor. This process involved exploring the theoretical underpinnings of these items and assigning conceptual names to the constructs they represented. Furthermore, the clarity and comprehensibility of the items were reassessed to ensure their readability and understanding. Following this iterative revision process, the finalized version of the EFLPP comprised 18 items distributed across four factors: *Engagement and Enjoyment* (seven items), *Grit and Perseverance* (two factors with four items each), *Interest and Focus* (three items), and *Future Intentions* (Table 3).

These retained items encapsulate key facets of L2 Positive Psychology Constructs, covering Intended Effort, L2 Attention, L2 Enjoyment, and L2 Grit, recognized as essential components for EFL learners. The refined EFLPP, reflecting these constructs, served as the basis for subsequent statistical analyses.

Table 3

EFA: factor loadings and reliability

Items	Factors			
	1	2	3	4
<i>Factor 1: Engagement and Enjoyment ($\alpha = .863$)</i>				
5. I always listen attentively to the teacher in English class.	.765			
14. When it comes to English class, I am a diligent and attentive student.	.706			
10. I believe that the atmosphere in my English classroom is positive.	.697			
11. Learning English is fun for me.	.620			
2. I am highly focused on learning English.	.620			
8. I enjoy and have fun learning English.	.584			

9. I never get bored learning English.	.514
Factor 2: Grit and Perseverance ($\alpha = .789$)	
17. I refuse to let anything stop me from developing my English language skills.	.736
20. I dedicate time and effort to improving my English language weaknesses.	.731
16. Once I decide to learn English, nothing can hinder my success in learning.	.727
12. I am a diligent English language student.	.571
Factor 3: Interest and Focus ($\alpha = .812$)	
18. I am always interested in English as I used to be.	.856
19. I have enjoyed learning English a lot in the past, and now that interest has still remained.	.840
15. I feel like I still have interest in learning English.	.789
6. I easily stay focused while studying English.	.489
Factor 4: Future Intentions ($\alpha = .690$)	
4. If there are English language courses in the future, I would probably enroll.	.805
3. I want to dedicate a lot of time to learning English.	.743
1. Even if English language is not a mandatory subject, I would still choose to take this course.	.552
Extraction Method: Principal Component Analysis	
Rotation Method: Varimax with Kiser Normalization	
a. Rotation converged in 6 iterations.	

To explore the relationships among the four identified factors and their association with participants' perceived levels of positive psychology, a Pearson correlation analysis was conducted, and the findings are summarized in Table 4.

The results presented in Table 4 revealed significant positive correlations among all four factors, with a high level of statistical significance at $p < 0.01$. This indicates that individuals who exhibit higher levels of one factor are likely to demonstrate elevated levels in other factors as well, suggesting a potential mutual influence among the four factors comprising the EFLPP. Notably, the correlation between Factor 1 and Factor 2 emerged as the most robust ($r = 0.670$). However, the correlation between Factor 3 and Factor 4 ($r = 0.349, p < 0.01$) appeared relatively weaker compared to the correlation observed between Factor 1 ($r = 0.418, p < 0.01$) and Factor 2 ($r = 0.364, p < 0.01$).

Table 4

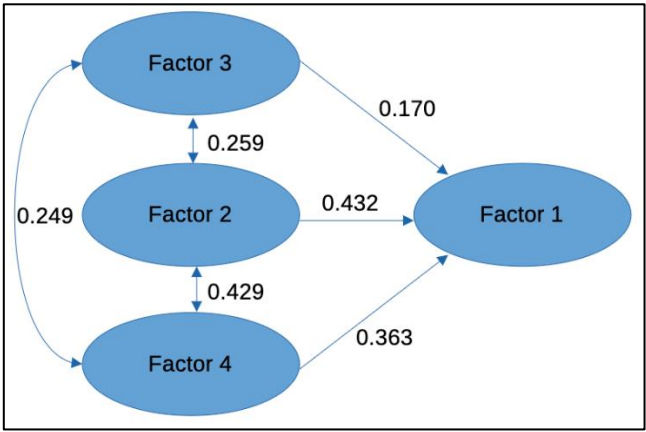
Inter-correlations of the four factors of EFLPP

	Factor 1	Factor 2	Factor 3	Factor 4
Factor 1	1.00			
Factor 2	.670**	1.00		
Factor 3	.418**	.364**	1.00	
Factor 4	.615**	.486**	.249**	1.00

Note: Factor 1 = Engagement and Enjoyment; Factor 2 = Grit and Perseverance; Factor 3 = Interest and Focus; Factor 4 = Future Intentions. ** $p < 0.01$ (all two-tailed tests).

Figure 2

Graphic Representation of the 4-Factor EFL Positive Psychology Inventory



To depict the interrelationship among the variables under investigation, Figure 2 illustrates a correlation map delineating the significant relationships as outlined in Table 4. Elaborating on this, the levels of *Grit and Perseverance* ($r = 0.432, p < 0.001$), *Interest and Focus* ($r = 0.170, p < 0.001$), and *Future Intentions* ($r = 0.363, p < 0.001$) exhibited positive correlations with *Engagement and Enjoyment*. Notably, the degree of *Grit and Perseverance* demonstrated the most robust positive correlation with both *Engagement and Enjoyment* ($r = 0.432, p < 0.001$) and *Future Intentions* ($r = 0.429, p < 0.001$), respectively. This suggests that learners with high levels of grit and perseverance, coupled with strong interest and focus, along with clear future intentions, are inclined to actively engage in and derive enjoyment from their language learning experiences.

Qualitative Results: Sources of L2 Positive Psychology Constructors

Upon the aforementioned quantitative analysis, it becomes evident that the self-perceived positive psychology constructs among EFL learners were significantly shaped by their individual lived experiences. Seeking a deeper comprehension of the genuine emotions and experiences of EFL learners navigating English learning within contexts of limited exposure, a group of 10 participants was solicited for a subsequent interview phase. Their candid responses provided valuable insights into the emotional landscape encountered during the language learning journey. Through a rigorous thematic analysis of the interview transcripts, three overarching themes emerged, encapsulating the essence of participants' experiences. Presented below are illustrative excerpts representative of each thematic category.

Learning environment

The analysis of interview data revealed that participants' perceptions of their learning environment significantly influence their assessment of positive psychology constructs. This observation is exemplified by representative responses from interviewees S1 and S6, as demonstrated below:

"I really liked learning English at school when the atmosphere was positive and chill, especially with a teacher who's super supportive and classmates who never judge each other. It just puts a smile on my face. I'd say my English learning experience feels pretty great." [S1]

"Whenever our teacher lets us do language activities, whether on our own or in groups, it's like an instant happiness boost for me. Doing language practice exercises with the class always brings me joy." [S6]

Alongside the supportive influence of teachers in the classroom setting, certain interviewees emphasized the significance of teaching methodologies and learning activities as pivotal factors shaping their enthusiasm for learning English. This sentiment is echoed by participants S2, S4, S5, and S8:

"What really makes English class enjoyable for me is how the teacher plans the activities. They should be interesting and engaging, not just listening to the teacher talk. I prefer activities that are interactive and fun." [S2]

“I think English class should be fun and involve us in activities. I don’t like it when the teacher does all the talking and the class feels too centered around them.” [S4]

“I have noticed that English teachers are usually very lively and energetic, which makes me excited to come to class. Their enthusiasm keeps me engaged and paying attention.” [S5]

“I absolutely love my English class. The way my teacher teaches is amazing. She’s caring, explains everything clearly, and never makes the class dull. She encourages us to share our thoughts and ideas without putting any pressure on us.” [S8]

However, some learners expressed apprehensions regarding aspects of the learning environment that could potentially impact their positive psychology. Specifically, learners emphasized the importance of teachers adopting a holistic approach, ensuring equitable attention across the entire class rather than focusing solely on a particular group of learners seated at the forefront. Additionally, learners advocated for teachers to allow for extended periods of ‘wait’ time, affording learners ample opportunity to formulate responses independently. Representative responses elucidating these concerns are provided below:

“I wish the teacher would pay more attention to all of us in class. Sometimes, it feels like they focus more on students in the front row and overlook the rest of us. I try to participate, but sometimes my contributions go unnoticed.” [S3]

“I think it would be better if the teacher waited a bit longer for our responses. Sometimes, I need more time to think, and rushing can make me feel pressured. It would be nice if the focus was more on our learning process rather than just finishing the lesson quickly.” [S7]

Pre-determined goals

Through the interviews, the researcher also identified that pre-determined goals of language learning play a pivotal role in shaping learners’ positive psychology in L2 learning. The significance of predetermined goals was emphasized by some participants, as exemplified by the following representative responses:

“I have a strong desire to learn English because I want to be able to communicate effectively in English. Ever since I was a child, I have admired adults who can speak English fluently,

and I have always wanted to speak like them. So, I have been working hard to improve my English skills.” [S1]

“It might sound ridiculous, but my parents have always emphasized the importance of learning English since I was young. Their words have stuck with me, and I think that is why I enjoy learning English so much. Their encouragement has motivated me to strive for proficiency in English.” [S8]

“I believe that mastering English can open up better job opportunities and lead to higher pay. That is why I am determined to study English diligently. I keep reminding myself of the potential benefits of being proficient in English, which motivates me to work hard.” [S6]

Personal interests

The interview analysis revealed that learners’ individual interests in mastering the English language can significantly influence their positive psychology in L2 learning. This observation is exemplified by the following representative responses:

“For me, English is not just a subject; it’s fun. I enjoy the sound of the language, especially when my English teacher speaks. Her pronunciation and intonation are impeccable, and I aspire to speak English beautifully and fluently like her one day.” [S1]

“Since I was young, I have been fascinated by people who can speak another language, especially English. I admire the way English speakers communicate, and it’s different from Thai. This fascination has driven me to improve my English skills and strive for fluency.” [S9]

Notably, the thematic analysis of the semi-structured interviews unveiled numerous parallels with prior investigations into L2 positive psychology constructs conducted by some scholars (e.g., Byrd & Abrams, 2022; Lee & Taylor, 2022; Shao et al., 2020). However, for EFL learners undergoing instruction in contexts with limited exposure to English, the learning contexts emerged as the foremost determinant of their learning satisfaction.

Discussion

The primary aim of this study was to develop a self-perceived inventory, namely the EFL Positive Psychology (EFLPP) Inventory, to

explore the perceived positive psychology constructs among EFL learners within environments characterized by limited exposure to English. Through an exploratory factor analysis conducted on the initial set of 20 inventory items, four factors comprising 18 items were extracted. The findings of this investigation demonstrated that the EFLPP inventory exhibited a satisfactory level of reliability and demonstrated adequate content validity.

Distinguishing itself from existing instruments assessing positive psychology constructs, the EFLPP stands out by its ability to measure EFL learners' perceived positive psychology constructs, which may differ from those perceived by individuals with greater exposure to English, ESL learners, or native English speakers. Consequently, the EFLPP offers a distinct lens through which to comprehend EFL learners' positive psychological states within contexts where English exposure is limited. Specifically, the inventory breaks down EFL positive psychology into *Engagement and Enjoyment*, *Grit and Perseverance*, *Interest and Focus*, and *Future Intentions*. This alignment with prior research findings (e.g., Dewaele et al., 2019), emphasizing the significance of L2 positive psychology constructs encompassing aspects such as well-being, optimism, happiness, and grit in enhancing language progress, is noteworthy. Therefore, it is crucial to acknowledge that in order for EFL learners, especially those with limited exposure to English, to find enjoyment from English learning, careful consideration of these four factors of positive psychology constructs (PPC) is essential.

Examining each factor individually, Factor 1 pertains to *engagement and enjoyment*, resonating with the framework put forth by Fredrickson (2001) suggesting that foreign language enjoyment has emerged as a concept within the evolving context of positive psychology. This notion is further supported by Wang et al. (2023), who posit that foreign language enjoyment constitutes a key facet of positive emotional states within positive psychology. Constructs such as foreign language enjoyment have the potential to enhance learners' cognitive resources and bolster their emotional resilience (Wei et al., 2019). Consistent with previous research (e.g., Han & Wang, 2021), the emotional aspect of enjoyment is closely intertwined with learners' affective experiences, while its cognitive dimension is linked to their positive attitudes (Han & Wang, 2021). Enjoyment, in this context, is seen as a byproduct of enthusiasm, whereby learners with positive emotional constructs are inclined to introspect, acquire new educational competencies, and effectively acquire language skills (Dewaele & MacIntyre, 2014).

Furthermore, existing literature (e.g., Botes et al., 2022; Deweale & Alfawzan, 2018) highlights the correlation between heightened levels of enjoyment among foreign language learners and their academic performance and language proficiency. Notably, studies have revealed a significant correlation between enjoyment and learners' academic achievements in

foreign language contexts, as well as a noteworthy correlation between learners' foreign language enjoyment, willingness to communicate, and academic attainment. Additionally, Eccles (2016) contends that learners' academic engagement exhibits a positive and substantial relationship with both academic achievement and resilience. Moreover, learners' engagement may be influenced by various factors including their background level, task complexity, instructors' pedagogical approaches, motivation, and teaching styles. This assertion is echoed in the qualitative interview data, where learners identified the "learning environment" as a pivotal source of L2 positive psychology. Establishing a conducive learning atmosphere can potentially optimize learners' learning efficiency (Qiu, 2022). Thus, to foster enhanced academic engagement, language instructors must carefully consider their teaching methodologies and styles, tailoring lessons to accommodate learners' diverse language backgrounds.

Regarding Factor 2, focusing on *Grit and Perseverance*, the significance of grit cannot be overstated (Sudina et al., 2021). Grit, defined as a non-cognitive attribute characterized by perseverance and a steadfast commitment to long-term objectives, plays a pivotal role in the academic context (Azari Noughabi et al., 2022). Teachers who exhibit a strong passion for both their learners and teaching effort tend to experience greater satisfaction and overall well-being (Azari Noughabi et al., 2022). Similarly, it stands to reason that learners who harbor a deep-seated passion for their educational pursuits are likely to experience heightened well-being as well. Moreover, Duckworth et al. (2007) emphasize the significance of grit and its correlation with life satisfaction as integral components of successful learning outcomes. Gritty individuals demonstrate a resolute determination to pursue their aspirations, maintaining focus and resilience in the face of obstacles or setbacks (Verner-Filion et al., 2020). Shao (2023) further highlights the association between grit and performance achievement, suggesting that individuals endowed with grit tend to exhibit enhanced well-being and are less susceptible to burnout. Moreover, the robust positive correlation observed between Grit and Perseverance and Engagement and Enjoyment ($r = 0.432, p < 0.001$) is consistent with prior studies linking grit to foreign language enjoyment and academic engagement (e.g., Derakhshan, 2022; Teimouri et al., 2020). Additionally, qualitative interview data emphasized learners' predetermined goals in learning English, further affirming the pivotal role of grit alongside other factors.

Factor 3, pertaining to learners' *interests and focus*, emphasizes the pivotal role of intrinsic motivation in sustaining learners' engagement amidst the inherent challenges of language learning (Dörnyei & Ushioda, 2021). Moreover, the positive correlation between grit and learners' interests ($r = 0.259, p < 0.001$) highlights the resilience of interests in the face of adversity

(Duckworth et al., 2021). Learners endowed with high levels of L2 grit are more likely to maintain their interests in language learning, regardless of encountered challenges. Furthermore, Factor 4, centered on *Future Intentions*, reveals a substantial interplay between grit and future aspirations ($r = 0.429$, $p < 0.001$). This aligns with the findings of Lee and Park (2024), emphasizing the pivotal role of grit in shaping learners' motivation and future goals. Notably, learners' future intentions are intricately linked to their enjoyment and engagement in language learning. As learners derive satisfaction from the process of English language acquisition, their intrinsic interests and intentions to enhance their language skills are likely to flourish. Furthermore, personal interests in learning English emerge as a critical determinant of learners' L2 positive psychology, aligning with previous research highlighting the correlation between intrinsic motivation and learners' self-efficacy and future intentions (Liu, 2020).

Theoretical implications

From a theoretical standpoint, the findings of this study offer valuable insights into L2 positive psychology constructs, particularly within the often-neglected domain of limited English exposure environments. An essential aspect is the understanding of the intricate interplay among variables constituting L2 positive psychology constructs, shedding light on the factors that facilitate successful language learning. The results substantiate the conceptual framework of positive psychology, revealing the multifaceted roles played by various factors—*Engagement and Enjoyment*, *Grit and Perseverance*, *Interest and Focus*, and *Future Intentions*—in shaping the language learning process. Another significant contribution of this study also lies in its comprehensive examination of the dynamics underpinning the relationships among all four factors. By delineating the intricate interconnections influencing each aspect of positive psychology, this research offers novel insights into the contextual and individual determinants essential for fostering meaningful language learning experiences. While the identified relationships should not be seen as exhaustive, they serve as a foundational groundwork for future investigations examining L2 positive psychology constructs within a more comprehensive and systematic framework. This study thus represents an initial step towards a more holistic understanding of L2 positive psychology constructs as a cohesive conceptual entity.

Pedagogical implications

The utilization of the refined inventory in this study holds significant implications for EFL educators in understanding learners' inclinations towards English language learning and their concurrent positive psychological states. By drawing insights from this instrument, educators are empowered to tailor instructional methodologies and classroom atmospheres conducive to fostering a supportive learning context. This, in turn, encourages learners to engage with English language learning without feeling undue pressure (Oladrostam et al., 2024; Sadeghi & Pourbahram, 2024). The insights provided by the EFLPP inventory also enable educators the opportunity to make informed decisions regarding instructional strategies and to adapt teaching methodologies to better align with the individualized needs and learning styles of their students. Moreover, the application of the EFLPP in research offers researchers a valuable tool for exploring the positive psychology constructs of EFL learners within contexts of limited English exposure. Notably, certain strategies, particularly those related to grit and perseverance, have been underrepresented in previous literature on L2 positive psychology constructs. Consequently, the EFLPP inventory has the potential to enrich the understanding of EFL learners' positive psychology constructs and better serve the objectives of researchers in the field of L2 psychology. However, it is pertinent to acknowledge that the inventory, as presently constructed, does not comprehensively cover the entirety of positive psychology constructs that are recognized to exert influence on the efficacy of EFL learners' learning endeavors. Therefore, to attain a more comprehensive understanding of EFL learners' positive psychology constructs, it is recommended to complement the inventory with supplementary data sources such as classroom observations and student reflections.

Conclusion

This study embarked on an exploration of the reliability and validity of the recently developed EFL Positive Psychology (EFLPP) Inventory, designed specifically to explore the positive psychology constructs pertinent to EFL learners, particularly those situated within environments with limited exposure to English. The scrutiny revealed that the EFLPP inventory exhibited commendable reliability and validity, comprising four discernible factors encompassing 18 items. These factors delineate four principal categories of positive psychology constructs—*Engagement and Enjoyment*, *Grit and Perseverance*, *Interest and Focus*, and *Future Intentions*—which are deemed pivotal for the pursuit of foreign language acquisition. The utility of this

inventory extends to EFL pedagogical settings and L2 psychology research, providing valuable insights into the multifarious motivational forces underpinning English language learning efforts.

However, while the researcher aimed to create a perfect research study, it is inevitable that some limitations crept in, calling for attention to be addressed. Primarily, the sample size employed for Exploratory Factor Analysis (EFA) was comparatively modest, comprising 220 participants. While this sample size meets prior scholarly recommendations, the incorporation of larger groups would enhance the statistical robustness of our findings and afford a closer approximation to the broader population. Secondly, the participants in the EFLPP inventory were exclusively drawn from the cohort of secondary school EFL students. It is worth considering whether analogous outcomes would ensue if the research were conducted with diverse groups representing varying educational levels. Another limitation pertains to the genesis of the inventory items, which emerged from statistical analyses conducted within the confines of a context characterized by limited exposure to English. Consequently, it is plausible that the inventory may not fully capture all the constructs commonly held by ESL/EFL learners in general, particularly those with greater exposure to English. Future studies could seek to replicate this research with expanded participant pools hailing from diverse contexts or educational tiers, thereby engendering findings of heightened generalizability.

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