Growth mindset and ideal L2 self as predictors of student engagement in EFL students: The mediating role of L2 grit

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ABSTRACT: This research delves into the dynamics of growth mindset, ideal L2 self, grit, and student engagement using well-established data collection instruments in the context of English as a Foreign Language (EFL) learning. A sample comprising 379 participants drawn from diverse language institutes in Iran, provided empirical data for this study. Employing structural equation modeling and validated scales for each construct, the study unveils a partially mediated model, illuminating the intricate relationships among the variables under investigation. The findings reveal that both ideal L2 self and growth mindset exert a significant influence on student engagement, with grit serving as a crucial partial mediator in these associations. Moreover, growth mindset demonstrates a notable indirect effect on student engagement, primarily mediated by grit. The study not only advances our understanding of motivational drivers in EFL learning but also yields practical insights for educators and curriculum designers seeking to bolster student engagement and perseverance in language learning environments.
Keywords: EFL learners, grit, growth mindset, ideal L2 self, student engagement

Mentalidad de crecimiento y yo ideal en L2 como predictores del compromiso estudiantil en estudiantes de inglés como lengua extranjera: El rol mediador de la perseverancia en L2

RESUMEN: Esta investigación indaga en las dinámicas de la mentalidad de crecimiento, el yo ideal en L2, la perseverancia y el compromiso estudiantil utilizando instrumentos de recolección de datos bien establecidos en el contexto del aprendizaje del inglés como lengua extranjera (EFL). Una muestra de 379 participantes provenientes de diversos institutos de idiomas en Irán proporcionó la base empírica para este estudio. Empleando modelado de ecuaciones estructurales y escalas validadas para cada constructo, el estudio revela un modelo parcialmente mediado, iluminando las relaciones intrincadas entre estos factores clave. Los hallazgos muestran que tanto el yo ideal en L2 como la mentalidad de crecimiento ejercen una influencia significativa en el compromiso estudiantil, siendo la perseverancia

un mediador parcial crucial en estas asociaciones. Además, la mentalidad de crecimiento demuestra un notable efecto indirecto en el compromiso estudiantil, principalmente mediado por la perseverancia. El estudio no solo avanza en nuestra comprensión de los impulsores motivacionales en el aprendizaje de EFL, sino que también ofrece ideas prácticas para educadores y diseñadores de currículo que buscan fortalecer el compromiso estudiantil y la perseverancia en entornos de aprendizaje de idiomas.

Palabras clave: estudiantes de EFL, Perseverancia, Mentalidad de crecimiento, Yo ideal en L2, Compromiso estudiantil

1. INTRODUCTION

Acquiring proficiency in the English language, whether as a second language (ESL) or foreign language (EFL), constitutes a multifaceted process that demands substantial time, relies on cognitive resources, and is impacted by psycho-affective variables (Derakhshan & Fathi, 2023; Derakhshan et al., 2023). Within the domain of educational performance, student engagement emerges as a pivotal factor, encompassing psychological, intellectual, and behavioral dimensions (Hiver et al., 2021; Mercer, 2019; Pan et al., 2023). This engagement is manifested through emotional dedication, connectedness to the subject matter, and active participation in tasks (Mercer, 2019). Furthermore, cognitive engagement unfolds when an individual becomes intellectually and emotionally captivated by the material at hand (Al-Obaydi et al., 2023; Lei et al., 2018). Despite being a relatively recent focus, engagement has garnered substantial attention in research within the field of language education, particularly in proficiency-based educational studies (Mercer, 2019; Mercer & Dörnyei, 2020; Shakki, 2022; Wang, 2023). However, a critical gap remains in understanding the intricate interplay between motivational factors and student engagement in the context of language learning, especially among EFL learners.

The process of attaining proficiency in a second or foreign language (L2) is inherently protracted and inevitably marked by setbacks and moments of discouragement (Teimouri et al., 2022). It is in this challenging context that the concept of "grit," as proposed by Keegan (2017), assumes a critical role. Grit serves as the backbone of students' determination to enhance their English language proficiency, regardless of the challenges they may encounter (Alamer, 2021). While the significance of grit is recognized in the domains of personality and learning psychology, its specific role in language learning and its interaction with other motivational factors, such as growth mindset and the ideal L2 self, remains an underexplored area (Derakhshan, Fathi, et al., 2022).

Furthermore, individuals hold distinct beliefs regarding the malleability of human attributes such as personality, ethics, and intelligence (Dweck, 2006, 2017). These beliefs, known as "mindsets," significantly impact academic achievements, particularly in the context of the inherent challenges of L2 acquisition (Lou et al., 2022; Zarrinabadi et al., 2022). The concept of mindsets can be employed broadly categorize individuals into two groups: those embracing a growth mentality, positing that intelligence and skills can be cultivated through practice and strategic planning, and those adhering to the conviction that intellectual capacity is immutable (Dweck, 2006). Such growth and fixed mindsets can profoundly influence how learners approach and engage with the process of language acquisition. Moreover, the concept of "ideal L2 self," as supported by research (Ushioda & Dörnyei, 2009), emerges as

a potent motivational force profoundly influencing engagement, persistence, and ultimately, success in language learning endeavors (Fathi & Hejazi, 2023). The ideal L2 self serves as a powerful motivator, compelling individuals to bridge the gap between their current proficiency and their envisioned proficient selves (Higgins, 1987; Yousefi & Mahmoodi, 2022). However, the intricate relationship between growth mindset, ideal L2 self, grit, and their combined impact on student engagement in the specific context of EFL learning remains an area ripe for exploration.

This research endeavors to fill an evident void in the existing body of literature by examining the intricate relationship among growth mindset, the ideal L2 self, and grit as factors forecasting student engagement among individuals learning EFL. By embarking on this inquiry, our objective is to offer valuable perspectives into the multifaceted motivational aspects of language acquisition, thus contributing to a more profound understanding of how these elements collaboratively impact student engagement, endurance, and accomplishments within the EFL learning environment.

2. LITERATURE REVIEW

2.1. L2 motivational self-system

Dörnyei's (2009) L2 motivational self-system (L2MSS) stands as a pivotal framework shedding light on the intricate interplay between motivation and success in the realm of language acquisition. This theoretical construct, rooted in the foundational concepts of self-discrepancy and possible selves (Norman & Aron, 2003), illuminates three pivotal determinants shaping learners' motivation and actions in their pursuit of L2 proficiency: the ideal L2 self, the ought-to L2 self, and the L2 learning experience. At the heart of the L2MSS lies the construct of the ideal L2 self, encapsulating students' envisioning of their future selves as proficient and effective speakers of the second language. Essentially, it encapsulates their aspirations, desires, and objectives in the realm of language acquisition (Fathi & Hejazi, 2023). This potent psychological construct operates as a motivational catalyst, propelling students towards diligent efforts to bridge the gap between their current linguistic abilities and their envisioned future selves as adept L2 communicators (Csizér, 2020; Dörnyei, 2009). The ought-to L2 self involves learners' perceptions of external obligations in their language learning process, influenced by educators, parents, or peers (Fathi & Hejazi, 2023; Yousefi & Mahmoodi, 2022). This aspect of self-motivation drives students to align with external standards and responsibilities associated with language learning (Csizér, 2020). The third component of L2MSS includes contextual motivations influenced by factors like teaching methods, classroom atmosphere, and relationships with peers and instructors. The L2 learning experience significantly impacts learners' interest, engagement, and emotional responsiveness. Positive experiences enhance motivation, while negative ones may reduce enthusiasm and willingness to invest in learning (Dörnyei, 2009,2019b).

Within the L2MSS framework, learners navigate their language learning journey, driven by their aspirations of becoming proficient L2 speakers (ideal L2 self), the perceived obligations to meet external expectations (ought-to L2 self), and the dynamic contextual factors shaping their learning experience. This intricate interplay between internal aspirations, external demands,

and contextual influences forms the essence of L2MSS, offering profound insights into the motivational dynamics that propel individuals toward language learning success (Al-Hoorie, 2018). At the core of Dörnyei's (2009), L2MSS lies a pivotal component - the ideal L2 self. This construct, deeply rooted in the theories of self-discrepancy and possible selves, serves as a powerful motivator, shaping the trajectory of language learners' aspirations and efforts (Al-Hoorie, 2018; Higgins, 1989). The ideal L2 self represents learners' vision of themselves as proficient users of a second language in the future, encompassing their language-learning aspirations and goals (Dörnyei, 2009). This powerful psychological construct serves as a motivational catalyst, driving students to invest significant effort in bridging the gap between their current language skills and their idealized future proficiency (Higgins, 1989).

A substantial body of research underscores the profound influence of the ideal L2 self on motivation and learning behavior (Ueki & Takeuchi, 2013). Previous studies have consistently demonstrated its ability to foster motivated learning behaviors and increased engagement among L2 learners (Al-Hoorie, 2018; Zhou et al., 2023). Moreover, it has been associated with higher levels of L2 motivational intensity and persistence, greater satisfaction, and a heightened willingness to communicate in L2 settings (Fathi & Hejazi, 2023; Lan et al., 2023). Notably, it has also exhibited negative associations with anxiety, relieving the psychological barriers that can impede language learning progress (Fathi & Mohammaddokht, 2021).

Papi et al. (2019) delved into the impact of the ideal L2 self on language use, highlighting its role in encouraging enthusiastic and attentive L2 utilization. This construct not only influences motivation but also guides the actual application of language skills, leading learners to utilize the second language actively and effectively. Lamb's (2012) extensive research on EFL students' motivation levels over a two-year period shed light on the connection between the ideal L2 self and self-regulated learning. Learners with a more vivid and compelling ideal self-image in terms of future L2 use tend to be more motivated to bridge the perceived gap between their current proficiency level and their envisioned ideal selves. This motivation, in turn, fosters a self-regulated approach to acquiring and employing the L2, ultimately contributing to enhanced language learning outcomes (Kim & Kim, 2014).

2.2. Student engagement

Student engagement stands as a cornerstone in the realm of education, representing a multidimensional construct (Reeve et al., 2020; Reeve & Tseng, 2011). This construct is delineated into four principal dimensions, each capturing distinct facets of students' active involvement in the learning process. The dimensions of behavioral, cognitive, emotional, and agentic engagement collectively form a comprehensive perspective on the dynamic interplay between learners and their educational environments (Reeve, 2013).

At the forefront of student engagement lies *behavioral engagement*, a dimension that encapsulates students' visible and tangible participation in classroom activities. This encompasses their active involvement in class discussions, their observable facial expressions, and their unwavering commitment to various learning tasks (Fredricks et al., 2019). Behavioral engagement serves as a foundational component and, notably, holds the capacity to predict and influence the other three dimensions of engagement (Mercer & Dörnyei, 2020; Oga-Baldwin,

2019). *Emotional engagement* is linked to students' affective responses to educational materials and activities. It traverses a spectrum of emotions, encompassing enthusiasm, frustration, and even boredom (McKellar et al., 2020). By examining learners' emotional reactions, educators gain insights into their attitudes and the affective dimensions of their learning experiences. The *cognitive* facet of engagement focuses on students' deliberate mental efforts and activities. Within this dimension, learners employ self-regulation techniques to construct meaning, store information in memory, and navigate cognitive challenges (Fredricks & McCollskey, 2012). It underscores the cognitive investments made by students in their pursuit of knowledge and understanding. The dimension of *agentic engagement* emphasizes students' proactive role in personalizing their learning environment. It is characterized by actions such as questioning, making recommendations, seeking additional information, and expressing preferences (Reeve & Tseng, 2011; Reeve et al., 2020). Agentic engagement highlights students' autonomy and active participation in shaping the educational landscape (Reeve, 2013).

Recently, student engagement has garnered substantial attention from the academic community, particularly within the L2 context (Derakhshan et al., 2022; Mohammad Hosseini et al., 2022; Shakki, 2023). The definitions of student engagement have evolved to encapsulate various facets, including task-level participation and overall course engagement (Reeve & Tseng, 2011; Reeve et al., 2020). Diverse interpretations abound, with some defining the concept as the level of students' involvement and connection with the educational process (Skinner et al., 2009), while others perceive it as the emotional effort and commitment students invest in learning course material (Newmann et al., 1992). Skinner and Pitzer (2012) propose that student engagement is often manifested through active participation in classroom activities, reflecting individuals' innate drive to learn and actively engage in their educational process.

The pivotal role of student engagement in academic achievement or failure cannot be overstated (Derakhshan, Fathi, Pawlak, et al., 2022; Mystkowska-Wiertelak, 2022; Reinders & Nakamura, 2022). In L2 instruction, where learners often grapple with language acquisition, student engagement takes on even greater significance (Hiver et al., 2021; Mystkowska-Wiertelak, 2022; Zhang, 2021). It is well-documented that engaged students are more likely to exhibit qualities such as passion, dedication, diligence, and persistence (Fan & Xu, 2020; Zhang et al., 2020). This multifaceted nature of student engagement, which encompasses behavioral, emotional, cognitive, and agentic elements (Henry & Thorsen, 2020; Mystkowska-Wiertelak, 2022), underscores its profound influence on students' educational experiences and outcomes.

2.3. Growth mindset

Mindsets play a pivotal role in shaping learners' behaviors, emotions, and cognitive patterns, with significant implications for their intellectual capacities (Dweck & Yeager, 2019). Two main mindsets have been identified: fixed mindsets, which represent the assumption that intellectual abilities are static, and growth mindsets, which reflect the belief that these abilities are malleable and can be enhanced through sustained effort and dedication (Dweck, 2017; Lou & Li, 2017).

Research has consistently demonstrated that individuals with growth mindsets exhibit higher levels of motivation (Dweck, 2017), grit, and more effective interpersonal relation-

ships, all of which are strongly correlated with academic achievement and enhanced learning outcomes (Lou & Li, 2017; Yeager & Dweck, 2012). Additionally, previous studies have revealed that mindsets exert a positive influence on learner engagement (Zeng et al., 2016; Zhao et al., 2021). To comprehensively grasp the heterogeneous effects of mindsets, Yeager and Dweck (2020) argue that it is imperative to investigate not only why growth mindsets matter but also in what educational contexts they manifest their significance.

Recent studies have shed light on the impact of students' perceptions of their instructors' mindset beliefs on their engagement levels (Kroeper et al., 2022; LaCosse et al., 2021). It is plausible that when students perceive their instructors as supportive of their growth and development, the relationship between mindset and engagement becomes more pronounced. Furthermore, emerging research has unveiled a favorable association between linguistic mindsets and student engagement within L2 classrooms (Lou & Noels, 2017; Lou et al., 2022). Learners exhibit greater willingness to actively participate in their language learning endeavors when they hold the belief that they can enhance their L2 competence (Sadoughi et al., 2023; Zhang et al., 2022). However, it is worth noting that, as indicated by a study conducted by Derakhshan et al. (2022), growth mindsets do not always directly predict academic engagement. This underscores the potential influence of other factors that may modify or moderate the relationship between mindset and learner engagement, emphasizing the need for a nuanced understanding of these dynamics.

2.4. L2 grit

The concept of grit, defined as the steadfast pursuit of long-term objectives coupled with an unwavering passion for progress, has garnered significant attention since its inception by Duckworth et al. (2007). According to Duckworth and colleagues, grit involves vigorous dedication to confronting challenges, sustaining effort, and maintaining interest even in the face of failure, adversity, and periods of stagnant progress (Duckworth et al., 2007). This construct transcends innate abilities and proves to be just as instrumental as skill in predicting a student's ultimate success (Derakhshan, Dewaele, et al., 2022; Duckworth et al., 2021; Fathi & Hejazi, 2023; Li et al., 2018; Teimouri et al., 2022). In fact, in discussions surrounding the pivotal traits conducive to high achievement, grit or synonymous terms like industriousness have been cited as frequently as natural talent across diverse professional domains (Derakhshan et al., 2023; Duckworth et al., 2007; Pan, 2022; Teimouri et al., 2021).

Duckworth et al. (2007) delineate two foundational components that constitute grit: consistency of interest and perseverance of effort. The first component pertains to an individual's enduring passion or strong commitment toward a higher, long-term objective, even when confronted with obstacles, challenges, or setbacks. In contrast, perseverance of effort characterizes a person's inclination to expend sustained energy over an extended duration. This nuanced interplay of sustained interest and persistent effort encapsulates the essence of grit (Duckworth et al., 2021; Sudina & Plonsky, 2021). Studies investigating the interplay between grit and other psychological factors have become increasingly prevalent (Solhi et al., 2023; Mohammad Hosseini et al., 2023; Teimouri et al., 2022). Lake (2013), for instance, unearthed a positive correlation between grit and performance on measures of curiosity, subjective contentment, self-esteem, hope, and overall thriving among college

students. Additionally, Lake's investigation shed light on a significant connection between grit and various "L2 self variables," encompassing the envisioned L2 self, the engaged L2 self, the L2 mastery goal orientation, and a profound enthusiasm for the second language.

In another study, Changlek and Palanukulwong (2015) provided empirical evidence indicating that high-achieving English learners exhibited elevated levels of grit, which, intriguingly, exhibited a negative correlation with anxiety and a positive association with motivation. However, this trend was not observed among low-achieving learners. The integration of grit within L2 learning underscores its profound impact on learners' perseverance, motivation, and ultimately, their attainment of language proficiency (Alamer, 2021; Papi et al., 2019; Sudina & Plonsky, 2021). This integration stands as a testament to the importance of non-cognitive factors in shaping the trajectory of language acquisition, thus emphasizing the necessity for a comprehensive understanding of the determinants of language learning success.

2.5. The Hypothesized Model

In this study, we intend to test a hypothesized model (see Figure 1) that integrates key motivational constructs and their potential impact on student engagement among EFL learners. The hypotheses underlying this model are grounded in the related literature and aim to elucidate the intricate relationships between these constructs.

2.5. The Hypothesized Model

H1: *Ideal L2 self is directly and positively related to student engagement of EFL learners.*
This hypothesis draws on the theoretical framework of the L2MSS by Dörnyei (2009), which posits that the ideal L2 self, representing learners' envisioned proficient future selves, serves as a potent motivator. According to previous research (Al-Hoorie, 2018; Fathi & Hejazi, 2023; Lan et al., 2021), the ideal L2 self has consistently demonstrated its positive influence on motivation, engagement, tenacity, and other aspects of language learning.

H2: *Growth mindset is directly and positively associated with student engagement.*
Research has shown that individuals with a growth mindset tend to exhibit higher levels of motivation, grit, and effective interpersonal relationships (Hu et al., 2022; Lou et al., 2022; Yeager & Dweck, 2012). Individuals embracing a growth mindset are inclined to believe in their ability to improve through effort and dedication. This intrinsic belief fosters higher levels of motivation, encouraging active participation in learning activities—a key component of student engagement (Yeager & Dweck, 2012).

H3: *L2 grit is directly and positively related to student engagement.*
Gritty individuals are known for their sustained efforts and commitment, which align with the attributes associated with engaged learners (McKellar et al., 2020; Wolters & Hussain, 2015). Research has consistently linked grit to academic success and learning (Alamer, 2021; Li et al., 2018; Teimouri et al., 2022), making it reasonable to propose a direct and positive relationship between L2 grit and student engagement.

H4: *L2 grit mediates the relationship between ideal L2 self and student engagement.*

This hypothesis posits that L2 grit serves as a mediating factor in the relationship between the ideal L2 self and student engagement. The ideal L2 self, as a motivational construct, is expected to influence the development of grit, which, in turn, contributes to enhanced engagement (Fathi & Hejazi, 2023; Lake, 2013; Wolters & Hussain, 2015).

H5: *L2 grit mediates the relationship between growth mindset and student engagement.*

Similar to the previous hypothesis, this one suggests that L2 grit acts as a mediator, but in this case, it mediates the relationship between growth mindset and student engagement. Growth mindset may impact the development of grit (Changlek & Palanukulwong, 2015; Zhang et al., 2022), which, in turn, influences engagement (Zeng et al., 2016).
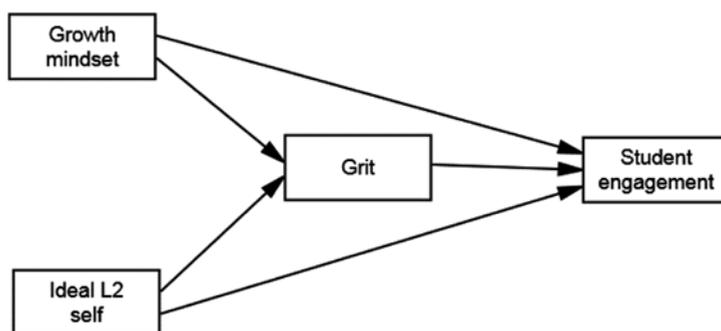

Figure 1. *The Hypothesized Model*

3. METHOD

3.1. Participants

A total of 379 participants enrolled in EFL programs took part in this study. These individuals were sourced from diverse language institutes situated within a metropolitan area in Tehran, Iran. Among these participants, 138 individuals self-identified as male, representing 36.41% of the total sample, whereas 241 participants self-identified as female, making up 63.59% of the sample. It was a prerequisite for participants to possess an intermediate level of English proficiency to be eligible for inclusion in the study.

To create our participant cohort, convenience sampling was employed, resulting in a refined age range of 18 to 25 years ($M = 21.08$, $SD = 2.57$). On average, participants reported an English language learning duration spanning from 6 to 12 years ($M = 8.74$, $SD = 2.34$). The decision to employ convenience sampling was rooted in pragmatic considerations, as it allowed for streamlined access to a diversified pool of intermediate EFL learners located within the selected language institutes. This approach was thoughtfully chosen to ensure the study's practical viability, navigate logistical complexities, and facilitate the recruitment of a substantial and heterogeneous assembly of intermediate-level EFL learners.

3.2. Instruments

3.2.1. Ideal L2 self

To assess the participants' conceptualization of their ideal second language self (ideal L2 self), we utilized the 8-item scale developed by Papi and Abdollahzadeh (2012). A representative statement from this construct is as follows: "I can envision myself residing abroad and effectively utilizing English to engage with local communities." Participant responses to these items were collected using a 6-point Likert scale, spanning from 1 ("strongly disagree") to 6 ("strongly agree"). The scale demonstrated strong internal consistency with a Cronbach's alpha of 0.82 in this study.

3.2.2. Growth mindset

Participants' inclination toward a growth mindset was evaluated using items drawn from Papi et al. (2019), originally derived from Dweck's (2013) questionnaire. This concise scale consisted of four items, with responses solicited on a 6-point Likert scale, ranging from 1 ("strongly disagree") to 6 ("strongly agree"). An illustrative statement is as follows: "I believe I can substantially enhance my fundamental language learning abilities." The reliability analysis for this scale yielded a Cronbach's alpha coefficient of 0.92 in this study, signifying a high level of reliability and internal consistency.

3.2.3. L2 grit

The persistence and determination of the EFL learners, reflective of their grit, were assessed using the L2 Grit Scale validated by Teimouri et al. (2022). This scale comprised nine items, encompassing two distinct subscales: Persistence of Effort (POE), featuring five items, such as "I invest significant time and effort in addressing my English language weaknesses," and Consistency of Interest (COI), consisting of four items, such as, for instance, "I exhibited strong enthusiasm for learning English in the past, but my interest has waned recently." Participants indicated their agreement levels using a five-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree). The scale showed an internal consistency of 0.78 in this research, indicating an acceptable level of reliability.

3.2.4. Student engagement

To measure participants' engagement in the study, we employed the Student Engagement Scale, validated by Reeve (2013). This scale, originally designed for university students, assesses four facets of the construct, namely Agentic Engagement (5 items), Behavioral Engagement (4 items), Cognitive Engagement (4 items), and Emotional Engagement (4 items). Each item was rated on a 7-point Likert scale, spanning from 1 (strongly disagree) to 7 (strongly agree). The Cronbach's alpha formula estimated the internal consistency of this scale at 0.88 in this study, denoting a high level of reliability across the assessed facets.

3.3. Procedure

The data-gathering procedure for this investigation was carried out at various branches of a privately operated EFL institution situated in Tehran, Iran. To initiate the study, the researchers secured the cooperation of the institute's management and EFL instructors. With their consent, the data collection phase began. Before participating, all respondents were clearly informed that their involvement in the research was entirely voluntary, and they were reassured about the strict confidentiality and anonymity of their responses. Informed consent was obtained from each participant, ensuring their willingness to contribute to the study. The questionnaires were administered during one of the regular class sessions, with participants instructed to focus on their current course materials while completing the questionnaires. Throughout the data collection process, utmost care was taken to maintain the confidentiality and anonymity of the participants and their responses.

3.4. Data analysis

The initial phase of our data analysis involved conducting descriptive and correlation analyses using SPSS 26.0. These analyses were undertaken to gain insight into the characteristics of the data and to reveal associations among the variables under investigation. For hypothesis testing and examining structural relationships, we employed Amos 25.0 for Structural Equation Modeling (SEM), adhering to the guidelines established by Anderson and Gerbing (1988). To evaluate the model fit and ensure the structural validity of our proposed framework, we employed well-established indices. These indices included χ^2/df, GFI, CFI, RMSEA, and SRMR. Acceptable values for these indices were defined as follows: $\chi^2/df < 3$ ($p > .05$), GFI, CFI, and TLI $> .90$ (Marsh et al., 2004), and RMSEA $< .08$ and SRMR $< .10$ (Kline, 2023). The utilization of these criteria collectively ensured a rigorous assessment of model fit and the structural validity of our analytical framework.

4. RESULTS

First, to ascertain the construct validity of the measures employed in this study and their appropriateness in assessing the targeted constructs, Confirmatory Factor Analyses (CFAs) were conducted. The outcomes of the first-order CFAs, along with the associated reliability indices, are presented in Table 1. The results displayed in Table 1 affirm the satisfactory goodness of fit for each scale. This underscores their suitability for accurately capturing the intended constructs. Additionally, the reliability coefficients offer evidence of the robust internal consistency of the scales. These results collectively speak to the construct validity and reliability of the utilized measures within the context of this study.

Table 1. *CFA Results*

	CMIN	DF	CMIN/DF	P	CFI	RMSEA	SRMR
Ideal L2 self	350.432	190	1.85	<.001	.980	.035	.030
Growth mindset	270.789	151	1.79	<.001	.971	.045	.041
Grit	312.475	166	1.88	<.001	.976	.035	.031
Student engagement	240.567	125	1.92	<.001	.954	.066	.053

Then convergent as well as discriminant validity was examined. Table 2 provides a comprehensive overview of the measures concerning convergent and discriminant validity, as well as composite reliability for the constructs under investigation. Convergent Validity is established by comparing the Average Variance Extracted (AVE) values with the Minimum Shared Variance (MSV) and the Average Shared Variance (ASV) (Fornell & Larcker, 1981). Notably, the AVE values for the variables distinctly surpass the respective MSV and ASV values, thereby confirming the presence of convergent validity. Also, discriminant validity is robustly demonstrated, as the AVE values for each construct consistently exceed the squared correlations between them (Straub et al., 2004). In addition, composite reliability (CR), an indicator of the internal consistency of the constructs, is presented in Table 3. It is noteworthy that all constructs, encompassing ideal L2 self, growth mindset, grit, and student engagement, exhibit a high level of composite reliability.

Table 2. *Convergent and Discriminant Validity*

	AVE	MSW	ASW	CR
Ideal L2 self	0.361	0.186	0.127	0.810
Growth mindset	0.427	0.212	0.146	0.783
Grit	0.301	0.151	0.106	0.813
Student engagement	0.508	0.561	0.172	0.827

Table 3 presents descriptive statistics and internal consistency for all the variables under investigation. The mean scores for the variables ranged from approximately 2.97 to 3.47, and the standard deviations ranged from approximately 0.59 to 0.71. Internal consistency, as measured by Cronbach's α, was good to excellent for all variables, with values ranging from 0.78 to 0.92.

Table 3. *Descriptive Statistics and Correlations*

	M	SD	Croanbach's α	1	2	3	4
Ideal L2 self	2.97	0.61	0.82	-			
Growth mindset	3.04	0.59	0.92	0.29*	-		
Grit	3.21	0.63	0.78	0.44*	0.37*	-	
Student engagement	3.47	0.71	0.88	0.41*	0.32*	0.47*	-

Note: *p* < .01.

Table 3 displays the correlation coefficients between the variables. Ideal L2 self exhibited noteworthy positive associations with growth mindset (r = 0.29, p < .01), grit (r = 0.44, p < .01), and student engagement (r = 0.41, p < .01). Additionally, growth mindset displayed a significant positive correlation with both grit (r = 0.37, p < .01) and student engagement (r = 0.32, p < .01). Moreover, grit demonstrated a significant positive correlation with student engagement (r = 0.47, p < .01).

With the measurement model demonstrating satisfactory fit, the next step involved scrutinizing the hypotheses by evaluating alternative structural models. Initially, we juxtaposed the hypothesized partial mediation model (Model 3) against two competing models: the full mediation model (Model 2) and the direct effect model (Model 1). Model 1 assumed a direct effect, entailing the setting of all path coefficients to and from grit to zero. Model 2 proposed full mediation, wherein path coefficients from Ideal L2 self and Growth mindset to Student engagement were set to zero. Model 3 maintained the hypothesized partial mediation. Table 5 presents the fit statistics for these models. It was observed that Model 3 outperformed both Model 2 (df = 3, $\Delta\chi^2$ = 218.76, p < 0.001) and Model 1 (df = 9, $\Delta\chi^2$ = 548.75, p < 0.001), indicating a superior fit. The fit indices in Model 3 were statistically significant, thereby confirming its adequacy in explaining the associations among the constructs. Consequently, we retained Model 3, a partially mediated model, as the most appropriate representation, aligning with the study's hypotheses.

Table 4. *Fit Indices of the Three Models*

Model	χ^2	df	$\Delta\chi^2$	GFI	CFI	RMSEA	TLI	SRMR
Direct Effect (1)	1536.12**	721	–	0.81	0.89	0.09	0.88	0.22
Full Mediation (2)	1206.13**	715	329.99	0.86	0.95	0.05	0.94	0.09
Partial Mediation (3)	987.37**	712	218.76	0.90	0.98	0.02	0.97	0.04

Note: $\Delta\chi^2$ represents the disparity in χ^2 values between the present and the following model. **p < 0.001

Figure 2 presents the path estimates for the final partial mediation model, wherein a majority of the path coefficients exhibit statistical significance. However, it is noteworthy that the path from growth mindset to student engagement does not reveal a robust path coefficient (β = 0.13, p < 0.05). Within the structural model, significant associations among the remaining variables are prominently observed. Firstly, ideal L2 self demonstrates a substantial positive relationship with student engagement (β = 0.34, p < 0.01), thereby providing strong support for Hypothesis 1. Secondly, growth mindset exhibits a significant association with grit (β = 0.43, p < 0.001), indicating that higher levels of a growth mindset correlate with increased levels of grit. Thirdly, grit demonstrates a significant and positive relationship with student engagement (β = 0.56, p < 0.001), aligning precisely with the expectations outlined in Hypothesis 3.

Table 5. *Path estimates of structural model*

Standardized path coefficients (t-value)	Direct effects model	Full mediation model	Partial mediation model
Ideal self → SE	0.37 (5.39***)		0.34 (5.12**)
Growth → SE	0.22 (3.12**)		0.13 (1.94*)
Ideal self → grit		0.42 (6.37***)	0.39 (6.04***)
Growth → grit		0.41 (6.59***)	0.43 (6.74***)
Grit → SE		0.61 (8.57***)	0.56 (8.07***)

Note: Ideal self: ideal L2 self; Growth: growth mindset; SE: student engagement, *p < 0.05, **p < 0.01, ***p < 0.001

To explore the potential mediating role of grit, we adopted Baron and Kenny's (1986) three-step method. In the direct model (see Table 6), both ideal L2 self and growth mindset demonstrated significant associations with student engagement (ideal L2 self → student engagement: 0.37, $p < 0.001$; growth mindset → student engagement: 0.22, $p < 0.01$), thus confirming the first step. Moving on to the full mediation model, we observed that both ideal L2 self and growth mindset significantly influenced grit (ideal L2 self → grit: 0.42, $p < .0001$; growth mindset → grit: 0.41, $p < 0.001$), thus confirming the second step.

In the partial mediation model, Ideal L2 self exhibited a positive association with student engagement ($\beta = 0.34$, $p < 0.01$). Grit was identified as a partial mediator in this relationship, with its indirect effect (0.21) being smaller than the direct effect (0.21 < 0.34) of ideal L2 self on student engagement, thereby providing robust support for Hypothesis 4. While growth mindset did not display a strong direct relationship with student engagement, it was noteworthy that grit fully mediated this relationship (0.43 × 0.56 = 0.24 > 0.13), offering compelling validation for Hypothesis 5. Finally, to assess the likelihood of a shared methodological bias, we performed Harman's single-factor assessment (Podsakoff & Organ, 1986), encompassing all indicators from the four concepts in the examination. The findings from this analysis revealed that the first factor accounted for only 42.17% of the total variance. Importantly, this value is below the widely acknowledged threshold of 50%, which is commonly accepted as indicative of significant common method bias. As such, we confidently assert that common method bias did not pose a substantial concern in the context of this study. This further strengthens the validity and reliability of our research findings.
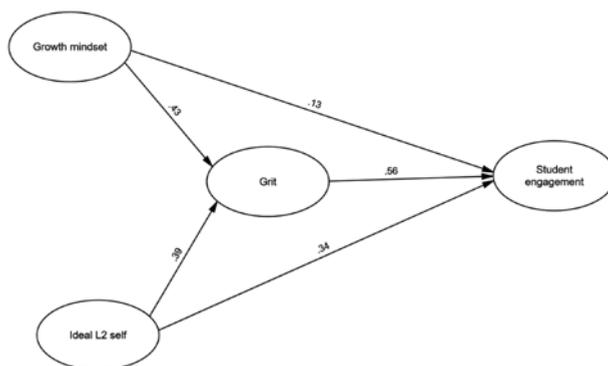
Figure 2. *The Final Model*

5. DISCUSSION

   The present study investigated the relationship between growth mindset and the ideal L2 self as predictors of student engagement in EFL students through the mediating role of L2 grit. The results of our study provide compelling evidence for the direct predictive role of the ideal L2 self in determining student engagement among EFL learners. This finding resonates with prior research highlighting the fundamental significance of motivation in enhancing students' educational engagement (Al-Hoorie, 2018; Fathi & Hejazi, 2023; Lan et al., 2021). Dörnyei (2019a) aptly notes that engaged students are inherently driven by a motivating force that guides their behaviors. Our findings align with the theoretical underpinnings of the L2MSS, as proposed by Dörnyei (2009), which posits that learners who can envision their ideal L2 selves as proficient and effective language users are inherently motivated to bridge the gap between their current language proficiency and their envisioned future selves.
   The motivational impetus generated by the ideal L2 self, as evidenced in our study, subsequently translates into a heightened level of engagement in the language learning process (Yousefi & Mahmoodi, 2022). Students who vividly imagine themselves as competent L2 users are more likely to be highly motivated to take actions aimed at closing the gap between their present L2 abilities and their idealized selves as effective and proficient L2 users (Liu et al., 2022). This heightened motivation stems from their ability to vividly and concretely envision themselves as capable users of a foreign language (Fathi et al., 2023), which, in turn, fuels their enthusiasm and commitment to learning. Importantly, our findings suggest that students with clearer and more realistic ideal L2 selves exhibit significantly higher levels of motivation in their language studies and experience more positive emotions. This aligns with prior research demonstrating the constructive impact of the ideal L2 self on various facets of language learning, including motivation (Fathi & Hejazi, 2023), perseverance (Al-Hoorie, 2018), and willingness to communicate (Fathi et al., 2023). Our study extends these insights by emphasizing the pivotal role of the ideal L2 self in fostering student engagement.
   Our study's second noteworthy finding underscores the direct and positive predictive relationship between grit and student engagement in EFL learners. This outcome aligns partially with the study conducted by Teimouri et al. (2022) within the domain of language

acquisition. Teimouri et al. (2022) identified a positive correlation between a student's grit and their language proficiency, providing support for the idea that individuals with high levels of grit are better equipped to maintain their language achievements at a consistently high level. Grit encapsulates not only the capacity to tackle challenges with unwavering diligence but also the ability to sustain effort and interest over extended periods, even in the face of setbacks and obstacles (Solhi et al., 2023). Translating this into the context of language learning, it becomes evident that individuals endowed with higher levels of grit are better poised to persevere in their language studies (Derakhshan & Fathi, 2023). They exhibit the tenacity needed to persist, even when confronted with difficulties, bouts of boredom (Derakhshan et al., 2021), or plateaus in their linguistic progress (Zhang et al., 2022).

The established connection between grit and student engagement resonates harmoniously with the broader literature that underscores grit's role in augmenting academic performance and fostering favorable learning outcomes (Duckworth et al., 2021). Gritty individuals are celebrated for their extraordinary perseverance, a quality that equips them to adeptly navigate the myriad challenges and setbacks that invariably punctuate the language learning process. In essence, these individuals are not easily deterred by the hurdles they encounter, but rather, they use setbacks as stepping stones toward further growth and accomplishment (Wolters & Hussain, 2015).

In addition, our study revealed a significant relationship between growth mindset and student engagement, mediated by the presence of L2 grit. Growth-minded individuals, as postulated by Dweck (2006), perceive setbacks and challenges as opportunities for personal and intellectual growth rather than insurmountable barriers. This mindset orientation propels them to invest sustained effort and maintain their enthusiasm for learning, two fundamental components of grit as defined by Duckworth et al. (2007). This finding aligns with the research conducted by Lou et al. (2022), which demonstrated a positive correlation between language mindsets and engagement in foreign language learning. It suggests that growth mindsets serve as accurate and favorable predictors of academic engagement (Hu et al., 2022). Furthermore, the presence of L2 grit acts as a mediator in this relationship. Students harboring a growth mindset exhibit greater persistence in the face of educational challenges, resulting in heightened engagement within educational settings (Sadoughi et al., 2023).

Individuals with growth-oriented language mindsets view their L2 skills and competencies as malleable, fostering a sense of ownership over their learning process (Lou & Noels, 2017). They prioritize the learning journey over performance metrics, displaying a readiness to seek assistance and invest substantial time and effort into skill development (Zarrinabadi et al., 2022). Moreover, they perceive setbacks and failures as valuable learning opportunities rather than deterrents (Zhang et al., 2022). This mindset leads to an increased willingness to exert effort to enhance performance, attributing achievement to personal endeavor rather than innate talent (Yeager & Dweck, 2012), resulting in elevated engagement in the L2 learning process.

The mediating role of L2 grit implies that the positive impact of a growth mindset on student engagement is, at least in part, channeled through the cultivation of gritty attributes. Learners with a growth mindset are predisposed to persevere in their language learning endeavors, demonstrating resilience even when confronted with challenges or experiencing plateaus in progress (Zhang et al., 2022). This persistence, in turn, contributes to heightened

engagement with learning activities and a deeper dedication to language learning goals (Zhao et al., 2021). This finding is consistent with prior research that has explored the intricate relationship between growth mindset and related psychological factors. Studies have substantiated that a growth mindset correlates positively with self-regulation, emotional resilience, and a heightened willingness to seek out and confront challenges (Dweck & Yeager, 2019; Yeager & Dweck, 2020). These qualities collectively form the bedrock of grit, providing further support for the mediating role of grit in the relationship between mindset and engagement. In essence, the development of a growth mindset not only directly fosters engagement but also does so indirectly, by nurturing the attributes that constitute grit.

6. CONCLUSIONS

The study explored motivational factors in EFL learning and their influence on student engagement. The findings highlighted the roles of ideal L2 self, growth mindset, and L2 grit. The ideal L2 self significantly affected student engagement. L2 grit directly correlated with engagement, emphasizing perseverance for long-term goals. Mediation analysis revealed the interplay between growth mindset, L2 grit, and engagement. L2 grit acted as a key mediator, showing how a growth mindset affected engagement. This highlighted the growth mindset's potential to foster grit attributes and increase engagement in EFL learners.

The findings of this study serve as a basis for significant implications for both theory and practice in the field of language education. Firstly, the confirmed direct influence of the ideal L2 self on student engagement underscores the importance of nurturing students' aspirations and self-perceptions in language learning. Language instructors and educators can incorporate strategies that encourage students to envision themselves as proficient L2 users, thereby fostering a sense of purpose and dedication. Moreover, the intermediary function of L2 grit in the association between a growth-oriented mindset and student involvement underscores the interlinked character of motivational elements. Educators can leverage this insight by designing interventions that cultivate a growth mindset, with a particular emphasis on fostering perseverance and a passion for long-term goals. By nurturing these gritty attributes, instructors can indirectly enhance student engagement, leading to more fruitful language learning experiences.

Although this study significantly enhances our understanding of motivational aspects in EFL learning, it does have inherent limitations. For one thing, the study's context was specific to a particular cultural and educational setting, potentially limiting the generalizability of findings across diverse environments. Subsequent research endeavors could enrich our understanding by exploring these relationships in varied linguistic and cultural contexts. Additionally, the study relied on self-reported measures to assess constructs like the ideal L2 self, growth mindset, and L2 grit. Despite their established validity and reliability, inherent response biases might exist. To overcome this limitation, future investigations could adopt mixed-method approaches or integrate objective measures, thus providing a more comprehensive understanding of these constructs. Moreover, the study's cross-sectional design restricts the establishment of causal relationships. Longitudinal studies could serve as a promising avenue, offering invaluable insights into the dynamic nature of these motivational factors and their prolonged influence on student engagement over time. Addressing these aspects in

future research endeavors could fortify the depth and breadth of our understanding regarding the interplay of motivational elements in EFL learning environments.

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