

Exploring the Interplay Between Mindfulness, Perceived Teacher Support, and Psychological Well-being Among EFL Learners: The Mediating Role of Student Engagement

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Abstract

In the demanding environment of English as a Foreign Language (EFL) instruction, fostering student well-being has become a critical pedagogical objective. This study examined the predictive relationships between mindfulness, perceived teacher support, and psychological well-being, with a specific focus on the mediating role of student engagement. Adopting a quantitative, cross-sectional design, the researchers collected data from 342 intermediate-level EFL learners in Iran using validated self-report scales. Structural Equation Modeling (SEM) was utilized to test the hypothesized model. The results demonstrated that both mindfulness ($\beta = 0.31$, $p < 0.001$) and perceived teacher support ($\beta = 0.39$, $p < 0.001$) were significant positive predictors of student engagement. Furthermore, student engagement was found to significantly predict psychological well-being ($\beta = 0.44$, $p < 0.001$). Mediation analysis using bootstrapping confirmed that student engagement partially mediated the effects of mindfulness and teacher support on well-being. Overall, the structural model explained 41% of the variance in student engagement and 38% of the variance in psychological well-being. These findings underscore the importance of integrating internal psychological resources with interpersonal environmental supports to foster learner flourishing. The study concludes with practical implications for EFL practitioners, highlighting the need for mindfulness-integrated instruction and affective scaffolding to enhance learner engagement and holistic development.

Keywords: Psychological well-being, Mindfulness, Perceived teacher support, Student engagement, Positive psychology, Structural equation modeling

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INTRODUCTION

The experience of acquiring a second language (L2) is a multifaceted process that transcends cognitive mastery to encompass the psychological and affective states of the "whole person" (Derakhshan & Noughabi, 2024; Mercer & Gregersen, 2020). Within this internal landscape, student well-being has emerged as a critical construct, defined by the integration of high-quality experiences and optimal psychological operations (Ryan & Deci, 2001; Shafiee Rad & Hashemian, 2023). In English as a Foreign Language (EFL) settings, fostering this sense of well-being is recognized as a foundational prerequisite for both academic achievement and the development of emotional resilience (Kutsyuruba et al., 2015; Miller et al., 2013; Tang & Zhu, 2024). This perspective is grounded in the conceptualization of well-being as a learner's perception that their academic journey and personal life are progressing favorably (Huppert, 2017; Kaya & Erdem, 2021).

Despite the established significance of well-being, its antecedents in language learning are rarely isolated; rather, they represent a dynamic interplay between internal psychological dispositions and external environmental factors. A vital internal determinant is mindfulness—the capacity for non-judgmental, present-moment awareness (Kabat-Zinn, 2003). Mindful learners are often better equipped to navigate the stressors of second language (L2) acquisition, such as anxiety and boredom, by maintaining a receptive and regulated state of mind (Fallah, 2017; Mohammad Hosseini et al., 2023). Critically, this internal receptivity may serve as the psychological substrate that allows learners to more effectively process and benefit from external social resources, specifically perceived teacher support. Drawing on Self-Determination Theory (SDT) and Social Support Theory (SST), teacher support reflects the extent to which educators provide the autonomy, involvement, and emotional resources necessary for students to feel valued and safe (Gao et al., 2023; Lei, Cui, & Chiu, 2018; Ryan & Patrick, 2001). In this sense, mindfulness and teacher support are not merely parallel influences

but synergistic forces: Mindfulness provides the internal cognitive clarity required to recognize and utilize the external emotional scaffolding provided by the teacher.

While these resources provide the foundation for flourishing, their impact is often realized through the mechanism of student engagement. Engagement is a multidimensional construct comprising behavioral, emotional, cognitive, and agentic participation in learning (Fredricks et al., 2004; Reeve & Tseng, 2011). It represents the *doing* component of the educational experience, where psychological and social assets are transformed into active commitment (Graham et al., 2017). The potential for mindfulness to enhance a student's receptivity to teacher support suggests a complex mediational pathway, wherein the synergy between self-regulation and social scaffolding triggers the behavioral and agentic investment necessary for psychological well-being.

However, a critical gap persists in the existing literature. Although previous studies have examined these variables in isolation, there is a lack of research investigating their synergistic convergence within an integrated structural framework. Specifically, the potential mediating role of student engagement in channeling the combined effects of internal self-regulation (mindfulness) and external scaffolding (teacher support) toward psychological well-being remains under-theorized. Understanding these mediated pathways is essential for developing a comprehensive model of learner development that accounts for the interaction between personal traits and pedagogical environments.

To address this gap, the present study employs Structural Equation Modeling (SEM) to examine a hypothesized model in which mindfulness and perceived teacher support serve as antecedents of psychological well-being, with student engagement functioning as a mediator. By disentangling these complex relationships among Iranian EFL learners, the present study directly responds to this call for more integrative models. By examining the synergy between mindfulness and teacher support through the mechanism of engagement, it contributes to the growing Positive Psychology agenda in

Second Language Acquisition (SLA), which re-conceptualizes language learning not merely as an academic task but as a context for fostering the learner's overall well-being and capacity for flourishing.

LITERATURE REVIEW

Well-being

Well-being is a multifaceted construct encompassing the quality of an individual's experiences and the highest levels of psychological functioning (Ryan & Deci, 2001). It is often conceptualized as the perception that one's life is progressing favorably, applicable to both individual and collective domains (Huppert, 2017). Positive psychology typically analyzes well-being through two distinct philosophical lenses: Hedonism and eudaimonia (Ryan & Deci, 2001). Hedonism prioritizes pleasure, comfort, and enjoyment (Huta & Ryan, 2010). It is operationalized as subjective well-being, characterized by high positive affect, low negative affect, and overall life satisfaction (Deci & Ryan, 2008; Kaya & Erdem, 2021). In contrast, eudaimonia involves living authentically to realize one's true potential and pursuit of excellence (Lent, 2004; Norton, 1976; Waterman, 1993). This perspective is embodied in psychological well-being, a multidimensional framework comprising autonomy, personal growth, self-acceptance, purpose in life, environmental mastery, and positive relations with others (Kaya & Erdem, 2021; Ryff, 1989).

Further integrating these views, Seligman's (2011) PERMA model identifies five pillars of human flourishing: Positive emotion, engagement, relationships, meaning, and accomplishment (Mercer & Gregersen, 2020). While positive emotion aligns with hedonic well-being, engagement represents a state of "flow" or deep absorption. Relationships emphasize the social dimensions of well-being, whereas meaning involves serving something greater than the self. Accomplishment refers to the intrinsic pursuit of mastery and success (Seligman, 2011).

In educational research, student well-being is often framed through the

dimensions of ‘being’, ‘having’, and ‘doing’ (Graham et al., 2014; Graham et al., 2017; Powell et al., 2018). ‘Being’ refers to emotional fulfillment and personal safety; ‘having’ involves access to structural resources and supportive relationships; and ‘doing’ conceptualizes well-being as an active process of agency and self-care. This framework highlights the synergy between internal satisfaction and external environmental support.

Empirical studies in general education position well-being as a prerequisite for fulfilling academic and social needs (Kutsyuruba et al., 2015), showing a consistent positive correlation with academic achievement (Miller et al., 2013). Key determinants include self-kindness, social support, and present-moment awareness (Stallman et al., 2018). However, stakeholder perspectives may differ; for example, students often link well-being to peer connections, while teachers may emphasize the importance of teacher-student rapport (Graham et al., 2016).

This line of inquiry has extended to L2 and EFL contexts. Enhanced well-being has been found to improve writing proficiency (Shafiee Rad & Jafarpour, 2022) and correlates bidirectionally with emotional intelligence and emotion regulation (Shafiee Rad & Hashemian, 2023). Furthermore, EFL learners’ well-being is positively predicted by grit (Yang, 2021) and positive teacher-learner relationships (Li, 2022). Pedagogical interventions, such as reflective thinking and self-evaluation, have also proven effective in boosting learner well-being (Hammad Al-Rashidi & Aberash, 2024). Despite these contributions, the specific roles of mindfulness and perceived teacher support as antecedents—and student engagement as a potential mediator—remain underexplored in an integrated framework. There is a clear need for research that disentangles how these constructs collectively contribute to holistic well-being in EFL environments.

Mindfulness

Rooted in ancient Theravada Buddhist and Indian yogic traditions (e.g., the concept of *Samaadhi*; Ramasubramanian, 2017), mindfulness is defined as

"the awareness that emerges through paying attention on purpose, in the present moment, and non-judgmentally to the unfolding of experience moment by moment" (Kabat-Zinn, 2003, p. 145). Brown and Ryan (2003) similarly describe it as an individual's heightened awareness and attentiveness to current occurrences. Conceptual frameworks have further refined this construct; Bishop et al. (2004) proposed a dual-factor model involving the self-regulation of attention—sustaining focus on immediate experiences—and an orientation toward experience marked by curiosity and acceptance. Building on this, Shapiro et al. (2006) identified three interdependent axioms—intention, attention, and attitude—which function cyclically to facilitate moment-to-moment mindfulness.

Research on mindfulness originated in the medical field (Kabat-Zinn, 2003), where it has consistently shown therapeutic potential. Early clinical studies demonstrated its efficacy in reducing anxiety and panic symptoms (Kabat-Zinn et al., 1992), while subsequent work highlighted its role in preventing depression relapse (Teasdale et al., 2000) and alleviating psychological distress in chronic illness populations (Reibel et al., 2001). Beyond clinical settings, mindfulness has emerged as a robust educational construct linked to improved academic performance (Bordbar et al., 2024; Caballero et al., 2019; Chiang & Sumell, 2019; Egan et al., 2022). Mechanistically, mindful students exhibit higher boredom tolerance (Galla et al., 2020), greater psychological resilience (Keye & Pidgeon, 2013), and reduced test anxiety (Wang & Zhao, 2015). Furthermore, it enables students to reframe maladaptive thoughts, thereby bolstering academic self-efficacy (Hosseinzadeh et al., 2021) and accelerating stress recovery (Di Pierdomenico et al., 2017).

Recent scholarship has extended these findings to the EFL context. Mindfulness helps mitigate foreign language anxiety and burnout while enhancing self-perceived proficiency (Fallah, 2017; Gao, 2023). Empirical evidence also suggests that mindfulness fosters L2 achievement and self-efficacy through both quantitative and qualitative pathways (Zhang et al., 2024). Affectively, mindful EFL learners report higher levels of enjoyment

and diminished boredom (Fathi et al., 2023; Mohammad Hosseini et al., 2023). Additionally, it serves as a determinant of long-term motivation and self-fulfillment, mediated by resilience (Ghanizadeh et al., 2019).

The relationship between mindfulness and academic engagement has also been substantiated. Correlational and structural modeling studies indicate that mindfulness significantly enhances engagement, both directly (Miralles-Armenteros et al., 2021) and indirectly through the mediation of self-esteem (Artika et al., 2021). In large-scale EFL studies, mindfulness and resilience consistently function as predictors of learner engagement (Liu et al., 2022). Regarding well-being, mindfulness translates critical thinking competencies into positive well-being outcomes (Ding, 2024) and, when combined with grit, significantly enhances the overall well-being of Chinese EFL learners (Tu & Shi, 2024).

Despite these robust findings, the nuances of mindfulness within specific EFL pedagogical environments require further scrutiny. Notably, current literature lacks a systematic investigation into the potential mediating role of student engagement in channeling the effects of mindfulness toward well-being. This gap hinders the development of a comprehensive theoretical framework capable of explaining how mindfulness and engagement synergistically foster holistic learner development in language learning settings.

Perceived teacher support

Teacher support is defined by qualities such as empathy, commitment, and reliability, reflecting the extent to which students feel their educators prioritize interpersonal connections (Ryan & Patrick, 2001). This construct is primarily grounded in SDT and SST (Gao et al., 2023). Within the SDT framework, Lei, Cui, and Chiu (2018) identified three dimensions: Autonomy support (fostering agency), involvement (demonstrating care), and structure (providing clear expectations). Complementing this, Tardy's (1985) SST-based model delineates support through its direction, disposition, and content.

Subsequent research has elaborated on the content dimension to include informational, emotional, instrumental, and appraisal dimensions (Gao et al., 2023; Lei, Cui, & Chiu, 2018; Malecki & Demaray, 2003).

In general education, teacher support significantly predicts various student outcomes. It fosters creative thinking—specifically divergent thinking—often mediated by creative self-efficacy (Sun et al., 2021; Zhang et al., 2020). Notably, research suggests these effects may be moderated by gender, with boys sometimes benefiting more than girls (Zhang et al., 2020). Furthermore, support enhances reading literacy by bolstering students' reading enjoyment and self-concept (Ma et al., 2021) and stimulates creative self-efficacy through autonomous motivation and positive emotions (Liu et al., 2021).

In the EFL context, students' perceptions of support vary by demographic factors; for instance, male and senior students often report higher levels of emotional or instrumental support (Liu & Li, 2023). Support has been shown to directly enhance L2 grit through the mediation of learning enjoyment (Hejazi & Sadoughi, 2022) and increase learners' willingness to communicate by reducing L2 anxiety (Hejazi et al., 2023).

Crucially, a strong link exists between teacher support and academic engagement (An et al., 2022; Sadoughi & Hejazi, 2023; Tao et al., 2022; Tas et al., 2019; Zhao & Yang, 2022). This relationship is frequently mediated by motivational factors such as task-value (Tas et al., 2019), L2 grit (Sadoughi & Hejazi, 2023), and achievement emotions like boredom and enjoyment (Zhao & Yang, 2022). Regarding student well-being, empirical evidence consistently associates higher teacher support with improved psychological and subjective well-being in both general and EFL settings (Derakhshan & Fathi, 2024b; Suldo et al., 2009; Tang & Zhu, 2024). Suldo et al. (2009) highlighted that emotional and instrumental support are particularly predictive of well-being, while Derakhshan and Fathi (2024b) found that self-regulation serves as a vital mediator in this process for EFL learners.

Despite these advancements, research has yet to fully elucidate how teacher support impacts holistic well-being in language learning. Specifically,

the potential mediating role of student engagement in the nexus between teacher support and well-being remains under-researched. Investigating these complex mechanisms is essential for refining theoretical models and developing pedagogical strategies that foster supportive, engaging, and healthy EFL environments.

Student Engagement

Student engagement is defined as the psychological investment and effort students exert to master academic knowledge and skills (Newmann et al., 1992). Hu and Kuh (2002) further conceptualized it as the diligence allocated to educationally purposeful activities, which directly impacts learning outcomes. Traditionally, engagement is viewed through a tripartite framework consisting of behavioral, emotional, and cognitive dimensions (Fredricks et al., 2004). Behavioral engagement involves participation in academic and social school activities; emotional engagement encompasses affective reactions to the learning environment; and cognitive engagement reflects a deep investment in mastering complex concepts. Reeve and Tseng (2011) expanded this framework by introducing agentic engagement, which highlights students' proactive role in influencing instructional dynamics.

In general education, engagement is shaped by various psychological factors. For example, psychological capital influences engagement through the mediation of learning empowerment (You, 2016), while the satisfaction of basic needs like competence and relatedness drives engagement via academic self-efficacy and emotions (Zhen et al., 2017). Meta-analytic evidence confirms that engagement positively predicts academic achievement, though this relationship is moderated by gender, cultural values, and reporting methodologies (Lei, Cui, & Zhou, 2018).

Within language learning, student engagement is driven by both teacher-related and learner-specific factors. Research indicates that teachers' work engagement (Zhang & Yang, 2021), emotion regulation (Wang & Ye, 2021), and both individual and collective efficacy (Lu & Mustafa, 2021)

significantly enhance learner participation. Furthermore, teachers' verbal and nonverbal immediacy behaviors serve as critical conduits for academic engagement (Hu & Wang, 2023). On the learner side, autonomous motivation (Wang & Liu, 2022), L2 enjoyment (Liu, 2022), and psychological capital (Derakhshan & Noughabi, 2024) act as primary promoters. Additionally, cognitive-behavioral traits like the ideal L2 self and growth mindset foster engagement, often partially mediated by grit (Derakhshan & Fathi, 2024a).

Engagement also functions as a vital mediator within the L2 context. It transforms affective states—such as enjoyment, anxiety, and boredom—into academic achievement through complex mediational pathways (Feng & Hong, 2022; Wang et al., 2023). This positions engagement not merely as an outcome but as a catalytic process that optimizes learning trajectories. Regarding well-being, a systematic meta-analysis established a strong correlation between engagement and subjective well-being (Wong et al., 2024). In the EFL context, teachers' affective scaffolding has been found to predict both academic engagement and psychological well-being, with evidence suggesting a bidirectional relationship between these two constructs (Pan et al., 2023).

Despite these findings, two significant gaps remain. First, there is a need for a more nuanced exploration of the mechanisms linking engagement and well-being within the specific pedagogical nuances of EFL environments. Second, the potential mediating role of student engagement in the relationship between mindfulness, perceived teacher support, and well-being remains under-theorized. Addressing this theoretical gap is essential to understanding how engagement functions as the primary mechanism through which psychological and interpersonal factors cultivate holistic learner well-being.

In synthesis, while the literature establishes mindfulness and teacher support as individual predictors of engagement and well-being, and engagement as a catalyst for learning and wellness, critical questions remain. It is not yet understood how these constructs operate synergistically within a single framework. Specifically, the mediating mechanism of student engagement in channeling the combined effects of an internal resource

(mindfulness) and an external resource (teacher support) toward holistic psychological well-being is under-theorized. The present model directly tests this integrated pathway, proposing that engagement is the pivotal process through which personal awareness and interpersonal support converge to foster EFL learner flourishing.

PURPOSE OF THE STUDY

The primary objective of this investigation is to examine the predictive relationships between mindfulness, perceived teacher support, and psychological well-being among EFL learners, while specifically exploring the mediating role of student engagement. Beyond testing these constructs in isolation, this study seeks to justify a holistic model where internal psychological receptivity and external social support synergistically drive the learning process. The first set of hypotheses posits that mindfulness and perceived teacher support will directly and positively predict psychological well-being. Mindfulness—defined as non-judgmental, present-moment awareness (Brown & Ryan, 2003)—is expected to enhance well-being by mitigating maladaptive thought patterns (Ding, 2024). Concurrently, teacher support is hypothesized as a critical interpersonal antecedent, providing the essential resources for student flourishing (Derakhshan & Fathi, 2024b; Suldo et al., 2009).

Furthermore, the study hypothesizes that student engagement serves as a significant mediator. It is anticipated that mindfulness will bolster engagement by improving attention regulation and boredom tolerance, thereby making students more "available" for learning (Artika et al., 2021). This internal availability is expected to synergize with teacher support to drive active participation, as support creates a motivationally conducive environment (Sadoughi & Hejazi, 2023). In turn, heightened engagement is expected to be a robust predictor of well-being, acting as the mechanism through which internal and contextual resources are transformed into psychological fulfillment (Pan et al., 2023; Wong et al., 2024). By

investigating these paths, this study aims to address existing theoretical gaps regarding the interaction of internal and external resources in fostering well-being in the EFL context. The study was guided by the following research questions:

1. To what extent do mindfulness and perceived teacher support directly predict psychological well-being among intermediate EFL learners?
2. Does student engagement mediate the relationship between (a) mindfulness and psychological well-being, and (b) perceived teacher support and psychological well-being?

METHOD

This study employed a quantitative, cross-sectional descriptive design (Spector, 2019) to examine the predictive relationships between mindfulness, perceived teacher support, and psychological well-being, with student engagement serving as a mediating variable. A SEM approach was utilized to test the proposed theoretical model, allowing for the simultaneous estimation of multiple latent constructs and the assessment of measurement error.

Participants

The participant pool consisted of 346 intermediate-level EFL students recruited through a convenience sampling method from a prominent private language institute in Tehran, Iran. This institute was selected due to its high enrollment rates and willingness to facilitate academic research. Of the total participants, 189 were female (54.6%) and 157 were male (45.4%), with ages ranging from 18 to 32 years ($M = 23.4$, $SD = 3.8$). Of course, after identifying multivariate outliers, four cases exceeded the critical value, leaving the final analysis proceed with a sample of 342. To ensure a representative academic profile, the sample included individuals from diverse educational backgrounds, including undergraduate university students (62%), post-graduate students (21%), and working professionals (17%) seeking to improve their proficiency for career advancement. To maintain the

homogeneity of the linguistic proficiency level, all participants had successfully completed the institute's standardized placement test—aligned with the Common European Framework of Reference (CEFR) at the B1 level—and were enrolled in intermediate-level courses at the time of data collection. The average length of English study among participants was 2.4 years ($SD = 1.1$), with the majority attending classes for six hours per week across three sessions. Participation was entirely voluntary, and before the administration of instruments, all students provided informed consent and were assured of the anonymity and confidentiality of their data, consistent with the ethical guidelines of the host institution.

Instrumentation

Teacher Support Scale (TSS)

The level of support provided by instructors within the English language classroom was evaluated using the Teacher Support Scale (Metheny et al., 2008). This instrument utilizes a five-point Likert-type format to gauge students' perceptions regarding the degree of attention, assistance, and concern demonstrated by their teachers. Sample items from the scale include "My teacher is interested in my future" and "My teacher cares about what happens to me." To verify the scale's construct validity in the current context, a Confirmatory Factor Analysis (CFA) was performed, yielding acceptable fit indices: the chi-square/degree of freedom ratio ($\chi^2/df = 2.41$), Comparative Fit Index ($CFI = 0.94$), the Tucker–Lewis Index ($TLI = 0.93$), the Root Mean Square Error of Approximation ($RMSEA = 0.062$) [90% Confidence Interval (CI : 0.054, 0.071)], Standardized Root Mean Square Residual ($SRMR = 0.048$). The scale also demonstrated high internal reliability with a Cronbach's alpha of 0.86.

Psychological Well-being Scale (PWBS)

To evaluate the participants' mental health through a multidimensional lens,

this study utilized an 18-item abbreviated version of Ryff and Keyes' (1995) Psychological Well-being Scale (PWBS). This version assesses six distinct dimensions of well-being: Autonomy, Environmental Mastery, Personal Growth, Positive Relations, Purpose in Life, and Self-Acceptance. Participants rated their agreement with each statement on a 7-point Likert scale (1 = "strongly disagree" to 7 = "strongly agree"). Negatively phrased items were reverse-coded during the analysis so that higher aggregate scores represented superior levels of psychological well-being. To ensure a stable measurement model for the second-order well-being construct, the mean scores of the three items for each subscale were utilized as six observed indicators. Construct validity for the six-factor structure was confirmed via CFA: $\chi^2/df = 2.15$, $CFI = 0.92$, $TLI = 0.91$, $RMSEA = 0.058$ [90% CI : 0.049, 0.067], $SRMR = 0.054$. The overall scale reached a Cronbach's alpha of 0.82.

Mindful Attention Awareness Scale (MAAS)

Mindfulness—defined as the receptive state of mind in which one observes what is taking place in the present—was measured using the Mindful Attention Awareness Scale (Brown & Ryan, 2003). The instrument comprises 15 items rated on a six-point Likert scale (ranging from 1 = "almost always" to 6 = "almost never"). An illustrative item is: "I often work automatically on tasks without being aware of what I am doing." Higher total scores on this scale indicate a greater degree of dispositional mindfulness. To enhance model parsimony and improve the parameter-to-sample-size ratio, the 15 items were aggregated into three parcels (consisting of five items each) following a random assignment procedure. This parceling approach mitigates the potential for inflated measurement error and model over-identification common in long unidimensional scales. The parceled unifactorial structure was validated through CFA results: $\chi^2/df = 2.78$, $CFI = 0.95$, $TLI = 0.94$, $RMSEA = 0.069$ [90% CI : 0.061, 0.078], $SRMR = 0.041$. The internal consistency for this scale was $\alpha = 0.89$.

Student Engagement Scale

Participants' levels of involvement in their learning were assessed using the Student Engagement Scale, validated by Reeve (2013). Although originally developed for university cohorts, the scale effectively measures four critical dimensions of engagement: Agentic (5 items), Behavioral (4 items), Cognitive (4 items), and Emotional (4 items). Responses were collected via a seven-point Likert scale (1 = "strongly disagree" to 7 = "strongly agree"). A CFA confirmed the four-factor second-order model: $\chi^2/df = 2.33$, $CFI = 0.93$, $TLI = 0.92$, $RMSEA = 0.061$ [90% CI : 0.052, 0.070], $SRMR = 0.051$. The scale demonstrated high internal consistency, with a Cronbach's alpha coefficient of 0.88.

Data Collection Procedure

Data collection was strategically conducted during the mid-semester period of the academic term to ensure that participants had established a stable rapport with their instructors, thereby providing more accurate perceptions of teacher support. After obtaining institutional ethics approval and securing formal permission from the language center administration, the researchers visited the classrooms during scheduled hours to explain the study's objectives and clarify the voluntary nature of participation. To ensure the linguistic validity of the instruments and accommodate the EFL context, the original English scales underwent a rigorous double-blind back-translation procedure involving two independent bilingual experts in Applied Linguistics, following the guidelines proposed by Beaton et al. (2000). To further bolster the internal validity of the responses, a pilot study was conducted with a sub-sample of 30 intermediate EFL students—whose data were excluded from the final analysis—to verify the clarity, cultural appropriateness, and readability of the translated Persian items. Once the instruments were refined based on pilot feedback, participants were provided with a questionnaire package containing a brief demographic section followed by the four scales. Strict procedural controls were implemented to

minimize common method bias. For example, the order of the scales was counterbalanced across the participants, and the "psychological separation" technique was used by framing the mindfulness and engagement sections as unrelated educational inquiries. The questionnaires were completed in a quiet classroom setting and took approximately 20 minutes to finish, after which the researchers collected the booklets and provided a brief debriefing to the students.

Data Analysis

The data analysis followed a multi-stage approach aimed at ensuring both the reliability of the measurements and the robustness of the structural predictions. Initial data screening was performed using Statistical Package for the Social Sciences (SPSS; Version 26) to identify and address missing values, univariate and multivariate outliers and to assess the normality of the distribution through skewness and kurtosis checks. Following the recommendations of Hair et al. (2019), SEM was subsequently conducted using Analysis of Moment Structures (AMOS; Version 24) to test the hypothesized mediation model through a two-step modeling approach. In the first step, a measurement model was estimated via CFA to verify the factor structure, convergent validity, and discriminant validity of the latent constructs. Mindfulness was modeled using three parcels, while Teacher Support was treated as a unidimensional construct with its original items. Student Engagement and Psychological Well-being were modeled as second-order latent variables; for the former, the four subscale scores served as indicators, and for the latter, the six dimension mean scores were utilized as indicators to ensure a parsimonious measurement structure. Convergent validity was assessed through Average Variance Extracted (*AVE*) and Composite Reliability (*CR*) values, ensuring all constructs met the established thresholds of 0.50 and 0.70, respectively.

In the second step, the structural model was examined to test the direct and indirect pathways within the theoretical framework. Model fit was

evaluated using a comprehensive suite of indices, including $\chi^2/df < 3.0$, $CFI > 0.90$, $TLI > 0.90$, $SRMR < 0.08$, and $RMSEA < 0.08$ with its associated 90% CI. To address potential issues of non-normality and to provide a more rigorous test of the mediating role of student engagement, a bootstrapping procedure with 5,000 resamples and 95% bias-corrected CIs was employed, as this method is considered superior for detecting indirect effects in complex models (Preacher & Hayes, 2008). Finally, the squared multiple correlations (R^2) were examined to determine the proportion of variance explained in the dependent variables by the predictors.

RESULTS

Preliminary Analysis and Data Screening

Prior to the primary analysis, the data were screened for missingness, outliers, and normality. Missing data (less than 1.5% of the total dataset) were found to be missing completely at random (MCAR) via Little's MCAR test ($\chi^2 = 42.18$, $df = 38$, $p = 0.295$) and were addressed using the expectation-maximization algorithm. Univariate normality was confirmed, as skewness and kurtosis values for all indicators fell within the recommended range of ± 2 and ± 7 , respectively (Hair et al., 2019). Multivariate outliers were identified using Mahalanobis distance (D^2); four cases exceeded the critical value ($\chi^2 = 32.84$, $p < .001$) and were excluded. Furthermore, multi-collinearity was assessed using Variance Inflation Factors (VIF); all values were below 2.5, indicating no significant redundancy among predictors. Common Method Bias (CMB) was evaluated using Harman's single-factor test, where the first factor explained only 28.4% of the total variance—well below the 50% threshold—suggesting that common method variance did not pose a threat to the study's internal validity. The final analysis proceeded with a sample of 342.

Descriptive Statistics and Inter-Correlations

Table 1 presents the means (M), standard deviations (SD), and zero-order

correlations among the study variables. As hypothesized, mindfulness displayed a significant positive correlation with psychological well-being ($r = 0.42, p < .01$) and student engagement ($r = 0.38, p < 0.01$). Similarly, perceived teacher support was positively associated with student engagement ($r = 0.46, p < 0.01$) and well-being ($r = 0.35, p < 0.01$). Furthermore, a strong positive correlation was observed between student engagement and well-being ($r = 0.54, p < 0.01$), providing preliminary support for the proposed mediation model.

Table 1: Descriptive Statistics and Pearson Correlations for Latent Variables

Variables	<i>M</i>	<i>SD</i>	1	2	3	4
1. Mindfulness	4.12	0.82	—			
2. Teacher Support	3.84	0.76	.24**	—		
3. Student Engagement	4.98	0.91	.38**	.46**	—	
4. Psychological Well-being	5.21	0.88	.42**	.35**	.54**	—

Note. ** $p < 0.01$; $N = 342$

Assessment of the Measurement Model

To evaluate the psychometric properties of the latent constructs, a measurement model was estimated using the Maximum Likelihood (ML) method. The model consisted of four latent variables: mindfulness (modeled with three parcels), teacher support (unidimensional), student engagement (modeled as a second-order factor with four subscale indicators), and psychological well-being (modeled as a second-order factor with its six dimension mean scores serving as indicators). The measurement model demonstrated a robust fit: $\chi^2 = 384.22, df = 164, \chi^2/df = 2.34, CFI = 0.948, TLI = 0.939, RMSEA = 0.062$ [90% *CI*: 0.055, 0.071], and $SRMR = 0.044$. Convergent validity was established through significant standardized factor loadings ($p < .001$) ranging from 0.68 to 0.89. Furthermore, the *AVE* for all constructs (Mindfulness: 0.58, Teacher Support: 0.54, Engagement: 0.61, Well-being: 0.52) exceeded the 0.50 threshold. Discriminant validity was confirmed using the Fornell–Larcker criterion, as the square root of the *AVE*

for each construct was greater than its highest correlation with any other construct.

Structural Equation Modeling and Mediation Analysis

The structural model was examined to test the hypothesized direct and indirect pathways. The model showed an acceptable fit: $\chi^2 = 412.56$, $df = 168$, $\chi^2/df = 2.45$, $CFI = 0.941$, $TLI = 0.932$, $RMSEA = 0.065$ [90% CI : 0.058, 0.073], and $SRMR = 0.051$. Table 2 summarizes the standardized direct paths, while Table 3 details the mediation effects.

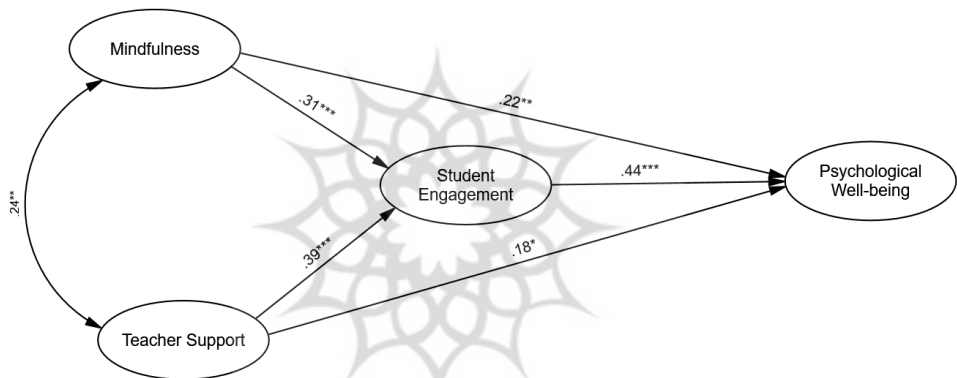


Figure 1. Final structural model with standardized path coefficients

As illustrated in Figure 1, mindfulness ($\beta = 0.31$, $p < 0.001$) and teacher support ($\beta = 0.39$, $p < 0.001$) emerged as significant predictors of student engagement. Student engagement, in turn, significantly predicted psychological well-being ($\beta = 0.44$, $p < 0.001$). Importantly, the direct paths from mindfulness to psychological well-being ($\beta = 0.22$, $p < 0.001$) and from teacher support to psychological well-being ($\beta = 0.18$, $p = 0.015$) remained significant after the inclusion of the mediator, providing evidence for a partial mediation mechanism. The statistical significance of these paths is further corroborated by their respective critical ratios (CRs), all of which exceeded

the thresholds for significance.

Table 2: Standardized Direct Effects of the Structural Model

Direct Path	β	SE	CR (t-value)	p
Mindfulness → Engagement	.31	.05	5.84	< .001
Teacher Support → Engagement	.39	.06	6.52	< .001
Engagement → Well-being	.44	.07	6.28	< .001
Mindfulness → Well-being	.22	.06	3.61	.001
Teacher Support → Well-being	.18	.05	2.43	.015

To rigorously assess the indirect effects, a nonparametric bootstrapping procedure with 5,000 resamples and 95% bias-corrected CIs was employed. As reported in Table 3, all indirect effects were statistically significant, as none of the CIs included zero. Overall, the model explained 41% of the variance in student engagement and 38% of the variance in psychological well-being.

Table 3. Standardized Indirect and Total Effects with 95% Confidence Intervals

Path	β (Indirect)	SE	Lower CI	Upper CI	Result
MF → SE → PWB	.136	.04	.078	.224	Significant
TS → SE → PWB	.171	.05	.095	.282	Significant
Total Effect (MF → PWB)	.356	.07	.221	.482	Significant
Total Effect (TS → PWB)	.351	.08	.198	.496	Significant

Note. MF = Mindfulness; TS = Teacher Support; SE = Student Engagement; PWB = Psychological Well-being.

The bootstrapping analysis, summarized in Table 3, confirms the significance of the proposed mediation pathways. The indirect effect of mindfulness on psychological well-being through student engagement was significant ($\beta = 0.136$, 95% CI [0.078, 0.224]), as was the indirect effect of teacher support on well-being via engagement ($\beta = 0.171$, 95% CI [0.095, 0.282]). Furthermore, the total effects of both mindfulness ($\beta = 0.356$, 95% CI [0.221, 0.482]) and teacher support ($\beta = 0.351$, 95% CI [0.198, 0.496]) on

psychological well-being were significant. These results provide robust support for the hypothesized model, indicating that student engagement functions as a meaningful partial mediator.

All in all, the results of the structural equation modeling provide clear answers to the study's research questions. In response to research question 1, concerning the direct effects, both mindfulness ($\beta = 0.22, p < 0.001$) and perceived teacher support ($\beta = 0.18, p = 0.015$) were significant direct predictors of psychological well-being. In response to research question 2, the bootstrapping analysis confirmed that student engagement served as a significant mediator, with significant indirect effects observed for both the pathway from mindfulness to well-being ($\beta = 0.136, 95\% CI [0.078, 0.224]$) and the pathway from teacher support to well-being ($\beta = 0.171, 95\% CI [0.095, 0.282]$).

DISCUSSION

The present study investigated the predictive relationships between mindfulness, perceived teacher support, and psychological well-being among EFL learners, with a specific focus on the mediating role of student engagement. The findings from the SEM analysis revealed that both mindfulness and perceived teacher support are significant predictors of psychological well-being, both directly and indirectly through student engagement. These results offer a comprehensive understanding of how internal psychological dispositions and external social supports collectively contribute to the flourishing of language learners.

The Predictive Role of Mindfulness on Well-being and Engagement

The results suggest that mindfulness is positively associated with both student engagement and psychological well-being. This association aligns with the conceptualization of mindfulness as a state of heightened awareness and non-judgmental acceptance (Brown & Ryan, 2003; Kabat-Zinn, 2003). The

observed link to well-being corroborates recent EFL-specific research suggesting that mindful learners may experience higher levels of eudaimonic and hedonic fulfillment (Ding, 2024; Tu & Shi, 2024). A plausible explanation for this relationship is that mindfulness may facilitate learners in decoupling themselves from the inherent stressors of L2 acquisition—such as foreign language anxiety—thereby potentially promoting a more stable sense of psychological operations (Fallah, 2017; Gao, 2023). By maintaining a present-moment orientation, students might be less likely to be overwhelmed by past failures or future-oriented anxieties, a mechanism supported by Shapiro et al.'s (2006) model of intention, attention, and attitude. However, given the cross-sectional nature of this study, these results should be interpreted as significant correlations rather than established causal sequences.

Furthermore, the significant path from mindfulness to engagement supports previous findings that mindful students are more deeply absorbed in their academic tasks (Artika et al., 2021; Miralles-Armenteros et al., 2021). Within the EFL context, mindfulness may function as a cognitive-affective regulator that enhances boredom tolerance (Galla et al., 2020). L2 learning often involves repetitive and tedious drills; mindful students, by virtue of their regulated attention, are better positioned to sustain effort during these tasks, thereby increasing their behavioral and cognitive engagement (Fathi et al., 2023; Mohammad Hosseini et al., 2023).

The Impact of Perceived Teacher Support

Consistent with SST and SDT, perceived teacher support emerged as a robust predictor of both student engagement and well-being. This finding echoes the work of Ryan and Patrick (2001) and Lei, Cui, and Chiu (2018), all of whom emphasized that when students perceive their instructors as empathetic and committed, their sense of relatedness is fulfilled. In the Iranian EFL context, where teachers are often viewed as primary sources of linguistic and emotional guidance, the appraisal and emotional support provided by

instructors are likely to be particularly transformative (Derakhshan & Fathi, 2024b; Hejazi & Sadoughi, 2022).

The predictive link between teacher support and engagement is further justified by the findings of Zhao and Yang (2022) and Sadoughi and Hejazi (2023), who noted that supportive instructional environments mitigate negative achievement emotions like boredom and anxiety while bolstering grit and task-value. When teachers provide clear structure and autonomy support, learners are more likely to exhibit agentic engagement, actively participating in the shaping of their own learning experiences (Reeve & Tseng, 2011). Moreover, the direct effect of support on well-being confirms that the classroom social climate is a fundamental prerequisite for student flourishing (Suldo et al., 2009). Supportive teachers provide a "secure base" that allows students to embrace challenges, thereby fostering personal growth and environmental mastery—key components of psychological well-being (Ryff, 1989).

The Mediating Role of Student Engagement and Resource Synergy

A central contribution of this study is the confirmation of student engagement as a partial mediator in the relationships between mindfulness, teacher support, and psychological well-being. This suggests that while mindfulness and teacher support are associated with well-being, a significant portion of their influence is channeled through the students' active involvement in the learning process. This finding is consistent with the meta-analytic evidence provided by Wong et al. (2024), which positioned engagement as a primary correlate of subjective well-being.

The mediation effect can be explained by the transformative nature of engagement (Fredricks et al., 2004). Within this mediational model, agentic engagement—the process through which students proactively contribute to and influence the flow of instruction—emerges as a critical bridge between environmental support and psychological fulfillment. When teachers provide

high levels of autonomy support and structure, they effectively invite students to take initiative in their learning journey (Reeve & Tseng, 2011; Sadoughi & Hejazi, 2023). This agentic initiative directly satisfies the Autonomy and Environmental Mastery dimensions of Ryff's (1989) framework, as students transition from passive recipients of knowledge to active architects of their own educational environment.

Furthermore, when students are mindfully present and feel supported by their teachers, they become more behaviorally active and emotionally invested. This state of "flow" and psychological commitment (Newmann et al., 1992) likely fosters a greater sense of personal growth and positive relations with others. By actively participating in their learning journey, students are better positioned to realize their personal potential and maintain a sense of purpose in life, thereby reinforcing the eudaimonic dimensions of the PWBS framework (Kaya & Erdem, 2021; Ryff, 1989). In other words, engagement serves as the "doing" component of well-being (Graham et al., 2017), where the act of successfully navigating the complexities of an L2 through high effort and positive affect reinforces the learner's sense of self-acceptance.

Crucially, the findings imply a synergistic effect between internal psychological resources and external social supports. While mindfulness provides learners with the internal regulation needed to stay present, perceived teacher support offers the external scaffolding that validates their agency. Together, these dual influences appear to create a *buffering effect* against the inherent challenges of EFL learning; the interpersonal connection provided by the teacher complements the self-regulatory capacity of mindfulness to sustain high levels of agentic and behavioral engagement. This result supports the *catalytic* view of engagement proposed in recent EFL literature (Feng & Hong, 2022; Wang et al., 2023), wherein engagement bridges the gap between individual psychological resources and interpersonal supports to facilitate holistic flourishing.

CONCLUSION AND IMPLICATIONS

This study provided empirical evidence for a structural model in which mindfulness and perceived teacher support collectively foster psychological well-being through the partial mediation of student engagement. The results derived from a sample of 342 Iranian EFL learners confirmed that neither internal dispositions nor external environmental factors operate in isolation; rather, they synergistically drive the behavioral, cognitive, and agentic involvement required for psychological flourishing. Specifically, the data established that student engagement—particularly its agentic dimension—is the primary mechanism through which teacher support is converted into a sense of autonomy and environmental mastery. Ultimately, the investigation demonstrates that while mindfulness mitigates the immediate stressors of language acquisition, it is the active, supported engagement in the classroom that translates these psychological resources into long-term eudaimonic well-being.

Theoretically, this research advances the positive psychology movement in SLA by validating an integrated architecture of well-being that moves beyond simple bivariate correlations. First, it extends SDT by illustrating that the satisfaction of psychological needs through teacher support is a prerequisite for the conversion of mindfulness into sustained eudaimonic functioning. Second, by identifying student engagement as a critical mediator, the study offers a conceptual bridge between SST and Ryff's (1989) multidimensional well-being model. This shifts the theoretical focus from viewing engagement merely as a precursor to achievement toward a more holistic view of engagement as a catalyst for human flourishing. Consequently, these findings challenge traditional cognitive-heavy models of SLA, suggesting that the "whole person" perspective requires a theoretical synthesis of internal self-regulation and interpersonal scaffolding.

Building on these theoretical insights, the findings suggest several practical applications for language education, starting with the integration of mindfulness into standard instruction. Language institutes should consider

moving beyond traditional, purely linguistic curricula to incorporate mindful L2 learning practices, such as brief, three-minute grounding exercises at the start of lessons to help students decouple from external stressors and focus on the immediate task. Closely related to this is the need for professional development programs that equip EFL teachers with specific skills in affective scaffolding. Training should focus on providing emotional and appraisal support, encouraging teachers to offer feedback that is not only linguistically corrective but also psychologically supportive by emphasizing progress and mastery over perfection.

Moreover, the results underscore the importance of fostering agentic engagement by designing tasks that allow for greater student agency. Educators can achieve this by offering choices in project topics or involving students in collaborative goal-setting, thereby encouraging them to influence the instructional flow and enhance their own well-being. Finally, educational institutions should strive to create socially supportive learning climates rooted in reliability and empathy. Implementing simple yet effective strategies, such as teachers demonstrating a genuine interest in students' future career goals or offering instrumental assistance outside of regular class hours, can significantly strengthen the perceived support that drives sustained learner engagement.

Despite the robustness of the structural model, certain limitations warrant consideration. First, the cross-sectional nature of the data prevents the establishment of definitive causality. While the model is theoretically grounded, a longitudinal design would be superior in tracking how the interplay between teacher support and mindfulness evolves over a full academic year. Future researchers should consider latent growth curve modeling to observe these fluctuations over time.

Second, the study relied on self-report measures, which may be susceptible to social desirability bias, particularly regarding perceptions of teacher support and engagement levels. Future inquiries could enhance validity by incorporating triangulated data, such as teacher ratings of student engagement or classroom observations.

Third, the sample was limited to intermediate-level adult learners in a private institute context. This homogeneity may restrict the generalizability of the findings to younger learners or those at different proficiency levels. Comparative studies across different ages and educational settings (e.g., public schools vs. private universities) would clarify if the mediating role of engagement remains consistent across diverse demographics. Finally, while this study focused on teacher support as the primary social antecedent, peer support and familial influence are also critical components of a student's social ecosystem. Future research should expand the model to include these variables, perhaps exploring a multi-level mediation analysis that accounts for the nested nature of students within classrooms and broader social networks.

Disclosure statement

No potential conflict of interest was reported by the authors.

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