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*Iranian Journal  
of  
Language Teaching Research*  
ORIGINAL ARTICLE



Urmia University

## The Interplay between Perceived Teacher Support, Self-regulation, and Psychological Well-being among EFL Students

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### ABSTRACT

This study examined the interconnections between perceived teacher support, student self-regulation, and psychological well-being among undergraduate English majors in Iran ( $n = 347$ ). Confirmatory factor analysis (CFA) validated the measurement model, demonstrating sound internal consistency as well as convergent and discriminant validity. Harman's one-factor test ruled out significant common method bias. Structural equation modeling (SEM) supported the proposed model, revealing a direct positive influence of perceived teacher support on psychological well-being. Moreover, teacher support indirectly enhanced well-being by fostering self-regulation skills. Measurement invariance analyses across genders confirmed configural and metric invariance, suggesting equivalent model structure and factor loadings. However, partial scalar invariance indicated potential minor gender-based differences in interpreting the measures. These findings highlight the significant relationships between teacher support, student self-regulation, and psychological well-being within the Iranian English major context.

**Keywords:** perceived teacher support; self-regulation; psychological well-being; English as a Foreign Language (EFL); Iranian university students

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### ARTICLE HISTORY

**Received:** 14 July 2024

**Revised version received:** 28 Oct. 2024

**Accepted:** 1 Dec. 2024

**Available online:** 15 Dec. 2024

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10.30466/ijltr.2024.121579

## Introduction

The psychological well-being of students has become a critical focus in educational research due to its significant impact on academic achievement, interpersonal relationships, and overall quality of life (Pan et al., 2023; Ryff & Keyes, 1995). Psychological well-being includes emotional, social, and cognitive dimensions, each contributing uniquely to overall mental health (Ryff, 2013). Emotional well-being involves experiencing positive emotions and effectively managing negative ones (Diener & Ryan, 2009; Ryff & Singer, 2008). Social well-being refers to the quality of social interactions and a sense of belonging (Keyes, 1998), while cognitive well-being involves positive perceptions of academic abilities and a sense of purpose (Seligman & Csikszentmihalyi, 2000). Research highlights the integral role of psychological well-being in fostering resilience, academic engagement, organizational mattering, enjoyment, immunity, and success (Derakhshan et al., 2022a; Derakhshan et al., 2024; Suldo et al., 2011; Thapa et al., 2013; Wang et al., 2022). In the context of English as a Foreign Language (EFL) learning, psychological well-being is particularly relevant. EFL students face unique challenges, including language barriers, cultural adjustments, and academic pressures, which can impact their mental health and academic performance (Derakhshan & Yin, 2024; Gao et al., 2023; Sadoughi & Hejazi, 2021). Understanding the factors that contribute to and/or hinder the well-being of EFL students is thus essential for developing effective educational practices and support systems.

Perceived teacher support is a critical factor influencing student psychological well-being. Positive teacher-student relationships, characterized by understanding, approachability, and responsiveness, create a supportive classroom environment that fosters security and trust (Derakhshan et al., 2022b; Hamre & Pianta, 2001). Teacher support includes emotional, instrumental, and informational dimensions (Wentzel, 2002). Emotional support involves care and empathy; instrumental support provides tangible assistance, and informational support offers guidance and feedback (Mercer et al., 2011; Strati et al., 2017). Research consistently highlights the profound impact of perceived teacher support on students' academic engagement, motivation, and well-being (Guo et al., 2020; Pan et al., 2023; Roorda et al., 2011). In EFL contexts, teacher support is crucial as it helps students navigate language learning complexities and enhances their academic and socio-emotional outcomes (Liu & Li, 2023; Shakki, 2022).

Self-regulation, the ability to manage thoughts, emotions, and behaviors strategically, is another pivotal construct linked to student success (Zimmerman, 2000). Effective self-regulation fosters academic achievement, adaptive behavior, and overall well-being (Cleary & Zimmerman, 2001; Posner & Rothbart, 2000). In the EFL context, self-regulation is essential for managing the additional cognitive load and stress associated with language learning (Chularut & DeBacker, 2004; Seker, 2016). Research suggests that self-regulation is closely linked to motivation and goal-setting, with high self-regulation leading to greater academic success and resilience (Cleary & Chen, 2009; Wang et al., 2022). Moreover, teacher support significantly fosters students' self-regulation skills, enhancing their ability to manage emotions, set goals, and overcome challenges (McEown & Sugita-McEown, 2019; Shahmohammadi, 2014).

Despite the widely recognized importance of perceived teacher support and self-regulation in student well-being, understanding how these constructs interact within EFL learning contexts appears to remain somewhat limited. Previous studies have explored these relationships in general educational settings, but the unique challenges faced by EFL students seem to warrant more focused investigation. Moreover, the mediating role of self-regulation between perceived teacher support and psychological well-being among EFL students has not yet been fully explored. This study seeks to address these gaps by examining the interplay between perceived teacher support, self-regulation, and psychological well-being among undergraduate English majors in Iran. Focusing on this specific academic and cultural context may provide nuanced insights into how teacher support and self-regulation could contribute to EFL

student well-being. The findings have the potential to inform targeted interventions and support systems to enhance student well-being and academic success in EFL contexts.

The study introduces several novelties: a comprehensive approach to these constructs within the EFL context, robust measurement and analysis techniques, and an exploration of gender-based differences in perceptions of teacher support. Employing structural equation modeling (SEM) and confirmatory factor analysis (CFA) ensures rigorous validation of the proposed model, offering reliable insights into the relationships between these constructs. The primary purpose of this study is to investigate the direct and indirect relationships between perceived teacher support, self-regulation, and psychological well-being among undergraduate English majors in Iran. Specifically, it examines the associations between perceived teacher support and students' psychological well-being and explores the mediating role of self-regulation in these relationships. Additionally, the study assesses potential gender-based differences in perceptions of teacher support and its associations with self-regulation and well-being. These insights may contribute meaningfully to existing literature, offering potentially valuable information for educators and policymakers. The findings could assist in designing support systems and interventions tailored to EFL learners' specific needs, with the potential to promote both their academic success and psychological well-being.

## Literature Review

### *Student Psychological Well-being*

Student psychological well-being, encompassing emotional, social, and cognitive dimensions (Ryff, 2013; Ryff & Keyes, 1995), plays a fundamental role in academic success, interpersonal relationships, and overall quality of life. This is particularly relevant in the EFL context, where learners often face linguistic and cultural challenges that can negatively affect their mental health and academic performance (Pan et al., 2023). Emotional well-being, defined by positive emotions, life satisfaction, and the ability to manage negative emotions effectively (Diener & Ryan, 2009; Ryff & Singer, 2008), significantly impacts EFL learning outcomes. Research shows that students with higher emotional well-being exhibit greater engagement, motivation, and academic success (Derakhshan, 2022; Lyubomirsky et al., 2005). Tang and Zhu (2024) highlight the role of emotional resilience in overcoming language-related challenges. Their study identifies academic self-efficacy, grit, and teacher support as key predictors of psychological well-being among Chinese EFL students, underscoring the importance of fostering resilience and providing support in language learning environments.

Social well-being, defined by the quality of social relationships, a sense of belonging, and positive interactions (Keyes, 1998), is heavily influenced by teacher-student relationships and peer interactions in EFL settings. Supportive teacher-student relationships foster learning environments that promote students' sense of security, motivation, and overall well-being (Roorda et al., 2011; Sun & Shi, 2022). Perceived emotional support from teachers has been shown to enhance students' social-emotional competence and psychological well-being (Gao et al., 2023). Additionally, the multicultural and collaborative dynamics of EFL classrooms require strong social bonds to alleviate feelings of isolation and anxiety (Ma et al., 2018). Cognitive well-being, characterized by positive perceptions of academic abilities, a sense of purpose, and confidence in overcoming challenges (Seligman & Csikszentmihalyi, 2000), is closely linked to higher academic motivation and achievement (Diseth, 2011). In EFL contexts, factors such as mindfulness, self-efficacy, and self-regulation have been identified as predictors of psychological well-being (Fan & Cui, 2024). These factors enable learners to set meaningful goals and persist

through challenges. Students with confidence in their language skills are more likely to engage in communicative activities and achieve greater proficiency (Bandura, 1997; Genc et al., 2016).

A positive school climate, characterized by inclusivity and support, contributes to higher levels of student engagement, satisfaction, and overall well-being (Astor et al., 1999; Thapa et al., 2013). Such environments alleviate learning-related stress and anxiety, fostering a sense of safety and belonging (Mohammad Hosseini et al., 2022). Conversely, bullying, a prevalent risk factor (Arsenault et al., 2010), necessitates effective anti-bullying programs to safeguard students' psychological well-being. Teacher and collective efficacy play a role in mitigating stressors and enhancing psychological well-being (Fathi et al., 2020). Recent research delves deeper into specific psychological processes influencing well-being. Mindfulness programs demonstrate positive impacts on student well-being, aggression reduction, and classroom climate (Lombas et al., 2019), offering potential for managing language learning stressors. The interplay of various psychological elements influencing well-being in university students, including EFL learners, has been explored (Morales-Rodríguez et al., 2020). Additionally, instructor support for student autonomy mediates motivation and well-being (Neufeld & Malin, 2020), aligning with the mediating role of social support and learning motivation in reducing burnout's negative effects on student well-being (Rehman et al., 2020).

The extant literature highlights the critical role of psychological well-being in EFL students' academic and personal growth. However, further research is needed to explore the underlying mechanisms linking teacher support, school climate, and peer relationships to well-being. Additionally, examining these factors in diverse contexts and developing culturally sensitive interventions remain key priorities for advancing the field.

### ***Self-Regulation***

Self-regulation, defined as the ability to strategically manage thoughts, emotions, and behaviors (Zimmerman, 2000), is fundamental to student success in both academic and emotional domains. It promotes academic achievement (Posner & Rothbart, 2000), adaptive behavior, and overall well-being (Cleary & Zimmerman, 2001; Zimmerman, 2008). In the context of language learning, self-regulation is critical for addressing the challenges of acquiring a second language (Oxford, 2016).

Zimmerman's (2000) social cognitive model of self-regulation outlines a three-phase process: forethought, performance, and self-reflection. In the forethought phase, students set goals, plan strategies, and activate motivation (Vohs & Baumeister, 2016). The performance phase involves implementing these strategies, while self-reflection focuses on evaluating outcomes and adjusting approaches for future improvement (Cleary & Chen, 2009). This model is particularly applicable in EFL contexts, where learners must constantly refine their strategies to master a new language (Rose et al., 2018). Research consistently demonstrates the positive impact of self-regulation on academic performance. EFL students who effectively manage their learning strategies and sustain motivation often achieve better outcomes (Derakhshan & Fathi, 2024). Chularut and DeBacker (2004) showed that using concept mapping as a self-regulation tool significantly enhanced academic performance, self-regulation skills, and self-efficacy in English learning. Moreover, self-regulation is closely linked to motivation and goal-setting, which are essential for language learning success. Students with strong self-regulation skills are more likely to set ambitious goals, persist through challenges, and attain higher academic achievement (Cleary & Chen, 2009).

The benefits of self-regulation extend beyond academics, encompassing significant emotional and social advantages. Emotional self-regulation, the ability to manage and express emotions appropriately (Eisenberg & Spinrad, 2004), helps students cope with the stress and anxiety often

associated with language learning. Mastery of emotional self-regulation enables students to form positive relationships and navigate social situations effectively, crucial for success in multicultural and collaborative classroom environments (Hadwin et al., 2017; Zeman et al., 2006). Educators are pivotal in developing self-regulation skills in students. Instructional techniques such as goal-setting, self-monitoring, and self-reflection (Zimmerman, 2008) are instrumental in empowering students to cultivate these essential skills. Yang and Zhang (2023) demonstrated that incorporating self-regulation strategies into teaching significantly enhances student engagement with feedback, resulting in improved writing skills among Chinese EFL student writers. Furthermore, various intervention studies indicate that fostering self-regulation not only boosts academic performance but also promotes positive classroom behavior (Pandey et al., 2018).

The well-documented link between self-regulation and student psychological well-being underscores the importance of these skills. Longitudinal research by Fomina et al. (2020) and Morosanova et al. (2021) reveals a consistent association between stronger self-regulation and higher levels of psychological well-being throughout early adolescence. This connection suggests that early development of self-regulation skills can serve as a preventative measure against negative mental health outcomes, a benefit that extends to EFL learners. Additionally, Ghonsooly and Ghanizadeh (2013) found a close relationship between self-efficacy and self-regulation, both of which contribute to enhanced psychological well-being among Iranian EFL teachers, a finding that is likely applicable to students as well.

Research highlights the critical role of self-regulation in promoting mental health and academic success across diverse student populations. Wang et al. (2022) emphasized that goal-oriented self-regulation enhances well-being by fostering achievement, reducing stress, and encouraging positive emotions. In EFL settings, Seker (2016) found a strong correlation between self-regulation strategies and language proficiency, underscoring their relevance in foreign language education. Self-efficacy beliefs, a central aspect of self-regulation, are vital for student motivation and psychological well-being (Schunk, 1990). Students with high self-efficacy are more confident in their abilities, demonstrating greater resilience and maintaining a positive emotional outlook. Teng and Zhang (2022) further confirmed that self-regulation significantly contributes to both academic and emotional success among EFL learners. The positive effects of self-regulation on well-being operate through several mechanisms. Effective emotional regulation enables students to manage stress and mitigate negative emotions (Eisenberg & Spinrad, 2004). Enhanced coping skills allow students to address challenges constructively, reducing feelings of helplessness (Zautra et al., 2005). Additionally, higher self-efficacy strengthens students' sense of control and competence, fostering positive emotions and overall well-being (Fathi et al., 2024b; Schunk, 2005; Zhang et al., 2024). These findings underscore the importance of self-regulation as a foundation for both academic achievement and psychological resilience.

### ***Perceived Teacher Support***

Student success is strongly influenced by their perception of teacher support, a fundamental aspect of the educational process (Mercer et al., 2011). Research demonstrates that positive teacher-student relationships contribute to enhanced motivation, engagement, and well-being (Tao et al., 2022). When students view their teachers as understanding, approachable, and responsive, it fosters a classroom environment characterized by security and trust (Hamre & Pianta, 2001; Lozano Botellero et al., 2023). Teacher support encompasses emotional, instrumental, and informational dimensions (Wentzel, 2002). Emotional support involves care, empathy, and encouragement, creating a nurturing learning atmosphere (Strati et al., 2017). Instrumental support refers to providing tangible assistance and resources to help students address academic challenges, while informational support includes guidance and feedback that enhance students' understanding and mastery of academic content (Mercer et al., 2011).

The extensive impact of perceived teacher support on students' academic and socio-emotional outcomes is well-established. Students who report high levels of teacher support demonstrate increased academic engagement, motivation, and achievement (Liu et al., 2023; Roorda et al., 2011). Strong teacher-student emotional connections promote a positive classroom climate, which is associated with improved well-being and fewer behavioral problems (Guo et al., 2020). In the EFL context, Liu and Li (2023) highlighted the significant influence of teacher support on educational outcomes, encompassing academic, instrumental, and emotional dimensions. Their study revealed nuanced differences, noting that male students perceived higher levels of emotional support compared to female students, while senior high school students reported receiving more instrumental and overall support than their junior high counterparts. These findings underscore the multifaceted and context-specific nature of teacher support in EFL environments.

Moreover, perceived teacher support is closely linked to students' self-efficacy beliefs, which are their confidence in their academic abilities (Tao et al., 2022; Wentzel, 1998). When students feel supported by their teachers, they develop greater confidence and a willingness to tackle challenging tasks (Bandura, 1997; Liu et al., 2023). This positive reinforcement boosts academic motivation and resilience (Wentzel, 2002). Sadoughi and Hejazi (2021) found that teacher support significantly impacts EFL learners' academic engagement, primarily through positive academic emotions, highlighting the importance of teacher support in enhancing both emotional well-being and academic motivation for EFL students. Teacher support also significantly influences students' socio-emotional development. High levels of support are associated with improved social skills, reduced stress, and enhanced emotional well-being (Hamre & Pianta, 2001; Tennant et al., 2015). Interventions aimed at enhancing teacher support have shown promising results. Professional development programs for teachers that focus on improving emotional and instructional support can lead to positive changes in teacher-student interactions and a more supportive classroom environment (Jennings et al., 2017; Rimm-Kaufman et al., 2007). In the context of EFL education, teacher support plays a vital role in enhancing student engagement and alleviating anxiety associated with language acquisition. Shakki (2022) showed that the relationship between teacher support and student rapport significantly influences the engagement levels of Iranian EFL students, emphasizing the importance of strong relational support in language classrooms. Furthermore, Luan et al. (2023) investigated the role of perceived social support in online EFL learning environments, revealing that teacher support substantially boosts student engagement and learning outcomes, especially in remote and digital settings.

Research highlights the essential role of teacher support in fostering students' self-regulation and psychological well-being. Supportive teachers play a crucial role in helping students manage their emotions, thoughts, and behaviors effectively (McEown & Sugita-McEown, 2019). McCaslin et al. (2014) introduced the concept of co-regulation, illustrating how strategies such as scaffolding, feedback, and collaborative problem-solving can enhance students' self-regulation. Similarly, Shahmohammadi (2014) demonstrated that clear expectations, positive reinforcement, and autonomy-supportive practices positively influence students' ability to self-regulate. These findings suggest that supportive teacher behaviors provide a safe and encouraging environment, promoting self-awareness and a growth mindset.

The connection between teacher support and student psychological well-being is also well-established. Studies (e.g., Brandseth et al., 2019; Guo et al., 2020; Lin et al., 2022) have consistently reported a positive association between perceived teacher support and improved well-being. Teachers who offer emotional support foster positive emotions, instill hope, and build resilience in students. Suldo et al. (2009) found that teacher support reduces anxiety and enhances feelings of belonging and acceptance, contributing to students' subjective well-being. Lin et al. (2022) identified hope as a critical mediator, suggesting that strong teacher-student relationships enhance optimism and a sense of agency. Furthermore, Guo et al. (2020) emphasized the role of

teacher support in reducing negative emotions and promoting resilience, while Buchanan and Bowen (2008) underscored the complementary role of peer support alongside teacher support.

In summary, the literature demonstrates the significant impact of teacher support on both academic success and psychological well-being, particularly in EFL contexts. By creating structured and supportive learning environments, promoting autonomy, and employing co-regulation strategies, teachers empower students to develop self-regulation skills, which are essential for academic achievement and mental health. Additionally, teacher support fosters positive emotions, resilience, and a sense of belonging, acting as a buffer against stress and contributing to overall student well-being. These findings underscore the multifaceted influence of teacher support on students' academic and personal development.

### ***The Structural Model***

Building upon the established literature, this research proposes a model that examines the interplay between perceived teacher support, self-regulation, and student psychological well-being. This model rests on two key hypotheses:

*H1: Perceived teacher support is directly related to the psychological well-being of students.*

Extensive research consistently demonstrates the positive impact of teacher support on student well-being. The existing literature (e.g., Guo et al., 2020; Lin et al., 2022; Brandseth et al., 2019; Liu & Li, 2023) highlights the association between supportive teachers and heightened levels of well-being, suggesting that these teachers act as catalysts, fostering positive emotions, hope, and resilience. This aligns with the Social Support Theory, which posits that positive social interactions, like those with supportive teachers, fulfill fundamental needs for belongingness, esteem, and control, thereby contributing significantly to well-being (Cohen & Wills, 1985).

In the context of EFL learning, teacher support is particularly critical. The existing literature (e.g., Liu & Li, 2023; Sadoughi & Hejazi, 2021; Shakki, 2022) found that perceived EFL teacher support, encompassing academic, instrumental, and emotional dimensions, significantly impacts student well-being. Sadoughi and Hejazi (2021) further demonstrate that EFL learners' academic engagement is influenced by teacher support through the mediation of positive academic emotions. These findings underscore that supportive teacher-student relationships in EFL settings not only enhance academic performance but also foster a nurturing environment that promotes psychological well-being.

*H2: Self-regulation mediates the relationship between perceived teacher support and students' psychological well-being.*

Emerging evidence suggests that self-regulation plays a crucial role in mediating the influence of teacher support on well-being. The existing literature (e.g., Guo et al., 2020; Lin et al., 2022; Wang et al., 2022) identifies hope and reduced negative emotions as key mediators. Supportive teacher-student relationships foster optimism and a sense of agency, which act as buffers against stress and contribute to well-being (Lin et al., 2022). Additionally, teacher support can equip students with self-regulatory skills that enhance their ability to manage emotions, set goals, and navigate challenges effectively (Wang et al., 2022). This improved self-efficacy further strengthens their well-being by reducing stress and promoting positive emotions.

In the EFL context, effective self-regulation is vital for language acquisition. The existing literature (e.g., Chularut & DeBacker, 2004; Seker, 2016; Teng & Zhang, 2022) found that self-regulation strategies like concept mapping significantly enhance EFL students' academic

performance and self-efficacy. This aligns with the Self-Determination Theory (SDT), which emphasizes the importance of autonomy, competence, and relatedness for well-being (Deci & Ryan, 2000). Supportive teachers can foster these needs by creating an environment that encourages self-directed learning and provides opportunities for students to experience success, thereby enhancing their self-regulation and ultimately, their well-being.

## **Methods**

### ***Participants and Procedures***

A total of 347 undergraduate English major students participated in this study, recruited from the University of Kurdistan, Golestan University, and Alzahra University in Iran. The sample consisted of approximately 39.19% male students ( $n = 136$ ) and 60.81% female students ( $n = 211$ ). The average age of participants was 20.2 years ( $SD = 1.5$  years). Participants were recruited through convenience sampling via online student forums and social media groups at the participating universities. Inclusion criteria required participants to be currently enrolled undergraduate English majors aged 18 or older. This focus on undergraduate English majors was chosen to examine the constructs within a specific academic and cultural context, reflecting the regional and institutional diversity represented by these universities. While the universities included in this study were situated in different provinces and varied in size and academic emphasis, all shared a similar national educational framework, ensuring comparability in their English language programs and cultural context.

In addition to gender and age, optional demographic data were collected, including year of study, academic major within the English department (e.g., English literature, English language teaching), and living situation (on-campus or off-campus). For instance, 29.97% of the participants were first-year students, 25.07% were second-year students, 24.93% were third-year students, and 20.03% were fourth-year students. Regarding academic majors, 49.86% of the participants were studying English literature, 40.06% were in English language teaching, and 10.08% were in translation studies. Concerning living situations, 55.04% of the students lived on-campus, while 44.96% resided off-campus. Due to sample size limitations within these subgroups, analyses of potential variations were exploratory and not reported in detail.

The study protocol received ethical approval from the Institutional Review Board (IRB) of the University of Kurdistan. All participants provided informed consent before commencing the online survey. Data collection was conducted using Google Forms, a widely accessible and secure platform, ensuring participant anonymity. Participation was voluntary, and participants could withdraw at any time without consequences. Upon survey completion, participants received information about mental health resources available at their respective universities. Data collection spanned a three-week period in December 2023. The online survey platform facilitated efficient data collection while minimizing disruptions to students' academic schedules.

### ***Instruments***

The questionnaire consisted of a total of 59 items across three instruments and required approximately 15–20 minutes to complete.



### *Teacher Support Scale*

To assess students' perceptions of teacher support within English language classes, the Teacher Support Scale (TSS; Metheny et al., 2008) was employed. This 21-item, five-point Likert-type instrument measures students' agreement with statements regarding their teacher's interest, helpfulness, and care. Example items include "My teacher is interested in my future" and "My teacher cares about what happens to me." The TSS has demonstrated strong reliability and validity in previous studies, with Cronbach's alpha coefficients ranging from 0.85 to 0.92 (Metheny et al., 2008; Oliveira et al., 2023).

### *Self-Regulated Learning Scale*

Students' self-regulatory capacity in English language learning was measured using the Self-Regulatory Control Scale for Language Learning (SRLang; Tseng et al., 2017). This 20-item, four-point Likert scale, ranging from 1 ("strongly disagree") to 4 ("strongly agree"), evaluates students' proactive control over language learning strategies across four dimensions: boredom control, awareness control, goal control, and emotion control. Sample items include "When I feel stressed about English learning, I know how to reduce this stress" (boredom control) and "When feeling bored with learning English, I know how to regulate my mood in order to invigorate the learning process" (emotion control). Higher scores indicate greater self-regulatory capacity. The SRLang scale has demonstrated satisfactory psychometric properties in prior studies, with Cronbach's alpha coefficients exceeding 0.80 across its subscales (Derakhshan & Fathi, 2024; Tseng et al., 2017).

### *Psychological Well-being Scale*

To gain a holistic understanding of students' mental well-being, we employed a shortened version of the Psychological Well-being Scale (PWBS) developed by Ryff & Keyes (1995). This 18-item instrument delves into six key facets of psychological well-being, with each facet measured by three statements. Participants indicated their level of agreement with each statement on a 7-point scale, ranging from 1 ("strongly disagree") to 7 ("strongly agree"). To ensure higher scores reflected greater well-being, responses were reverse-coded during scoring.

The six facets assessed by the PWBS provide a nuanced picture of student well-being. Autonomy captures feelings of independence and self-determination. Environmental mastery reflects students' sense of control over their environment and their ability to create situations that align with their values. The personal growth facet measures the extent to which students feel they are continuously developing and learning. Positive relations assess the quality of students' interpersonal relationships and their sense of connection with others. Purpose in life captures students' sense of direction and having meaningful goals. Finally, self-acceptance reflects students' positive self-regard and acceptance of their past experiences. By examining these six facets, we gained a comprehensive understanding of the psychological well-being of the student population in this study. The PWBS has been validated in various studies, demonstrating strong reliability with Cronbach's alpha coefficients typically ranging from 0.82 to 0.89 (Ryff & Keyes, 1995; Springer & Hauser, 2006).

### *Data analysis*

The statistical analysis of the gathered data was conducted using SPSS version 26 and AMOS version 24. Initially, the dataset underwent scrutiny through an examination of skewness, kurtosis, and descriptive statistics. Following this, a two-phase structural equation modeling strategy, as recommended by Kline (2015), was implemented. In the first stage, the confirmatory factor

analysis (CFA) was employed to assess the measurement model. Subsequently, upon the confirmation of the measurement model, the structural model was subjected to testing. Various indices were taken into consideration to evaluate the model fit. These included the root-mean-square error of approximation (RMSEA), where values below 0.05 indicated a good fit and those between 0.05 and 0.08 indicated an acceptable fit (Browne & Cudeck, 1993). Additionally, the standardized root mean square residual (SRMR) was considered acceptable if  $\leq 0.08$  (Kline, 2015). The chi-square/degree of freedom ratio was maintained between 1 and 3, and the comparative fit index (CFI) was expected to be above 0.95 (Bentler, 1990). Other criteria encompassed a goodness-of-fit index (GFI) greater than 0.90 and a Tucker-Lewis index (TLI) exceeding 0.90 (Hu & Bentler, 1999).

## Results

### *Measurement Model*

Confirmatory factor analysis (CFA) using AMOS software (version 26.0) was conducted to assess the hypothesized measurement model's validity. The resulting fit indices indicated a good overall model fit:  $\chi^2 = 800.3$ ,  $\chi^2/df = 2.12$ ,  $p < .001$ ; RMSEA = .048; SRMR = .027; CFI = .942; TLI = .918. It is important to acknowledge that a significant chi-square statistic can sometimes occur in studies with large sample sizes. Therefore, we primarily focused on other fit indices to determine the overall model fit (Hu & Bentler, 1999). The remaining fit indices provided strong evidence for a good model fit.

Table 1

*Descriptive Statistics and Correlations among Constructs*

Construct	M (SD)	-0.42	0.18	1	2	3
1. Teacher Support	3.82 (0.74)	-0.34	-0.02	-	.42	.38
2. Self-Regulation	4.15 (0.68)	-0.51	0.24		-	.25
3. Psychological Well-being	3.58 (0.81)	-0.42	0.18			-

Table 1 provides the descriptive statistics, skewness, kurtosis, and correlations among the study constructs. The mean scores (M) and standard deviations (SD) for perceived teacher support, self-regulation, and psychological well-being are 3.82 (SD = 0.74), 4.15 (SD = 0.68), and 3.58 (SD = 0.81), respectively. These results indicate that students generally reported moderate levels of teacher support and self-regulation, with slightly lower levels of psychological well-being.

Perceived teacher support showed positive correlations with both self-regulation ( $r = .42$ ) and psychological well-being ( $r = .38$ ), indicating that higher levels of perceived teacher support are associated with stronger self-regulation skills and greater psychological well-being. Additionally, the correlation between self-regulation and psychological well-being was also positive ( $r = .25$ ), suggesting a potential link between these constructs.

The skewness and kurtosis values for all constructs indicate that the data are approximately normally distributed.

Table 2  
*Reliability and Convergent Validity*

Construct	AVE	MSV	ASV	Cronbach's $\alpha$ / CR
1. Teacher Support	0.68	0.58	0.10	0.87 / 0.82
2. Self-Regulation	0.72	0.62	0.10	0.89 / 0.84
3. Psychological Well-being	0.54	0.47	0.07	0.82 / 0.78

Table 2 presents the reliability and convergent validity estimates for the hypothesized measurement model. Internal consistency and reliability were assessed using Cronbach's alpha ( $\alpha$ ) and Composite Reliability (CR). All constructs exhibited alpha values exceeding .80 (teacher support = .87, self-regulation = .89, psychological well-being = .82) and CR values exceeding .80 (teacher support = .82, self-regulation = .84, psychological well-being = .78), surpassing the recommended thresholds of .70 for alpha and .80 for CR (Hair et al., 2010). This indicates strong internal consistency and reliability within each scale.

Convergent validity, reflecting the degree to which indicators within a construct measure the same underlying latent variable, was also supported. Average variance extracted (AVE) for all three constructs exceeded .50 (teacher support = .68, self-regulation = .72, psychological well-being = .54), suggesting that most variance in the items reflects the intended latent constructs. Additionally, all CR values were higher than their corresponding AVE values, further supporting convergent validity (Hair et al., 2010).

Discriminant validity, the extent to which constructs are distinct from each other, was assessed by comparing maximum shared variance (MSV) and average shared variance (ASV) with AVE values. If ASV and MSV values are lower than their respective AVE values, discriminant validity is supported. As shown in Table 2, all MSV and ASV values are lower than their corresponding AVE values, indicating that the variance shared between indicators within each construct is less than the variance they share with their underlying latent construct. For example, the AVE for teacher support is .68, while the MSV is .10, suggesting that measures of teacher support share more variance with the latent construct of teacher support itself than with other constructs (self-regulation and psychological well-being).

In conclusion, the results from the CFA, along with the analysis of internal consistency (alpha and CR), convergent validity (AVE and CR), and discriminant validity (MSV and ASV), provide strong evidence for the reliability and validity of the measurement model. The measures demonstrate internal consistency, the indicators within each construct converge and capture the intended latent variable, and the constructs themselves are distinct from each other. These findings establish a robust foundation for further analyses examining the relationships among the study variables.

### ***Common Method Bias***

Common method bias (CMB) is a potential concern in self-report studies where all measures are collected from the same source (i.e., the students in this case). CMB can arise if respondents use a common response style (e.g., always agreeing or disagreeing) that inflates the correlations between constructs. To assess potential CMB, Harman's one-factor test (Podsakoff & Organ, 1986) was conducted. This exploratory factor analysis procedure involves extracting a single unrotated factor from all the measures in the study. In this study, Harman's one-factor test revealed that the first unrotated factor explained 36.31% of the total variance in the measures. This value is well below the 50% threshold that suggests potential CMB concerns. The low percentage of variance explained by the first factor in Harman's one-factor test provides evidence that common method bias is not a significant threat to the validity of the results in this study. The measures appear to

capture unique variance associated with their underlying constructs, and respondent social desirability bias is unlikely to be a major influence.

### **SEM Analysis**

SEM was conducted using AMOS software to assess the hypothesized relationships among the study variables. The hypothesized model depicted perceived teacher support as the independent variable, student self-regulation as the mediating variable, and psychological well-being as the dependent variable. The overall model fit indices suggested an acceptable fit:  $\chi^2 = 723.1$ ,  $df = 322$ ,  $\chi^2/df = 2.24$ ,  $p < .001$ ; RMSEA = .052; SRMR = .034; CFI = .957; TLI = .924. While the chi-square statistic remained significant ( $p < .001$ ) due to the larger sample size, the other fit indices provided stronger evidence for a good model fit. The RMSEA of .052 indicated a close fit between the model and the data. The SRMR of .034 suggested a good average discrepancy between the observed and model-predicted covariances. Furthermore, the CFI of .957 and TLI of .924 exceeded the recommended thresholds of .90 for satisfactory model fit (Hu & Bentler, 1999). The path coefficients for the hypothesized relationships are depicted in Figure 1.

Table 3  
*Path Coefficients and Standardized Estimates*

Path	$\beta$	S.E.	Estimate (95% CI)
Direct Effects			
Teacher Support $\rightarrow$ Well-being	.28	.07	.14, .42
Self-Regulation $\rightarrow$ Well-being	.35	.08	.19, .51
Teacher Support $\rightarrow$ Self-Regulation	.41	.06	.30, .52
Indirect Effect			
Teacher Support $\rightarrow$ Self-Regulation $\rightarrow$ Well-being	.14	.04	.07, .21

Table 3 presents the standardized path coefficients and their associated estimates for the hypothesized relationships in the structural equation model. The path coefficients represent the strength and direction of the relationships between the constructs. The significance of each path coefficient was assessed using bootstrapping procedures with 5,000 resamples. The results revealed a significant direct effect of perceived teacher support on psychological well-being ( $\beta = .28$ , S.E. = .07,  $p < .001$ , 95% CI: .14, .42). This indicates that students who reported higher levels of perceived teacher support also tended to report greater psychological well-being, even after controlling for the effects of self-regulation.

Self-regulation also emerged as a significant predictor of psychological well-being ( $\beta = .35$ , S.E. = .08,  $p < .001$ , 95% CI: .19, .51). Students who exhibited stronger self-regulation skills reported higher levels of psychological well-being. Furthermore, the analysis revealed a significant indirect effect of perceived teacher support on psychological well-being mediated by self-regulation ( $\beta = .14$ , S.E. = .04, 95% CI: .07, .21). Our analysis sheds light on the mechanisms underlying the link between teacher support and student well-being. The findings reveal that self-regulation plays a partial mediator role. This suggests that some of the positive influence teacher support has on psychological well-being can be attributed to the development of self-regulation skills. In simpler terms, students who experience more support from their teachers tend to develop stronger abilities to manage their thoughts, emotions, and behaviors. These enhanced self-regulation skills then contribute to a greater sense of overall well-being. These findings provide support for the hypothesized model, suggesting that perceived teacher support has a positive direct effect on psychological well-being and also influences well-being indirectly by fostering the development of self-regulation skills.

Table 4  
Results of Measurement Invariance Across Genders

Model	$\chi^2$ (df)	CFI	TLI	RMSEA	SRMR	$\Delta\chi^2$ ( $\Delta$ df)	p	$\Delta$ CFI
Configural Invariance	214.78 (180)	0.931	0.914	0.062	0.038	-	-	-
Metric Invariance	238.12 (186)	0.925	0.908	0.068	0.042	23.34 (6)	0.001	0.006
Scalar Invariance	252.47 (192)	0.918	0.899	0.072	0.045	14.35 (6)	0.024	0.007

### Measurement Invariance

Following the establishment of the hypothesized model's structural relationships, measurement invariance analyses were conducted to ensure the equivalence of the measurement model across gender (females vs. males).

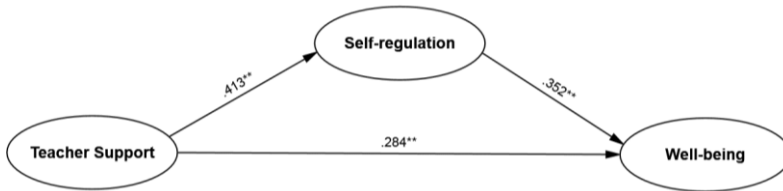


Figure 1. The Final Mediation Model

Four increasingly restrictive models were tested: configural invariance, metric invariance, scalar invariance, and strict invariance (not reported here). Configural invariance assesses whether the overall structure of the model is equivalent across groups. Metric invariance establishes that the factor loadings (relationships between the indicators and the latent constructs) are equivalent. Scalar invariance ensures that not only the factor loadings but also the intercepts of the measures are equivalent across groups. Strict invariance, the most restrictive test, was not conducted in this study as it is rarely achieved in social science research.

Table 4 summarizes the fit indices for each model. The configural invariance model demonstrated a good fit ( $\chi^2 = 214.78$ ,  $df = 180$ ,  $CFI = 0.931$ ,  $TLI = 0.914$ ,  $RMSEA = 0.062$ ,  $SRMR = 0.038$ ). This suggests that the overall structure of the model with the same latent constructs and relationships holds for both males and females. Metric invariance was also supported by the fit indices ( $\chi^2 = 238.12$ ,  $df = 186$ ,  $CFI = 0.925$ ,  $TLI = 0.908$ ,  $RMSEA = 0.068$ ,  $SRMR = 0.042$ ). Although the chi-square statistic increased significantly ( $\Delta\chi^2 = 23.34$ ,  $\Delta df = 6$ ,  $p = 0.001$ ) compared to the configural model, this is likely due to the increased stringency of the metric invariance test. The other fit indices (CFI, TLI, RMSEA, and SRMR) remained acceptable, suggesting that the factor loadings of the measurement model were equivalent across genders.

Partial support was obtained for scalar invariance. The fit indices for the scalar invariance model ( $\chi^2 = 252.47$ ,  $df = 192$ ,  $CFI = 0.918$ ,  $TLI = 0.899$ ,  $RMSEA = 0.072$ ,  $SRMR = 0.045$ ) showed a slight decline in CFI and TLI compared to the metric invariance model ( $\Delta CFI = 0.007$ ,  $\Delta TLI = 0.009$ ). Additionally, the chi-square difference between the metric and scalar invariance models was significant ( $\Delta\chi^2 = 14.35$ ,  $\Delta df = 6$ ,  $p = 0.024$ ). While these results suggest a potential violation of strict scalar invariance, the overall fit indices remained acceptable. Therefore, we can cautiously

interpret the results based on the assumption that the meaning of the measures is largely equivalent for males and females.

In conclusion, the measurement invariance analyses provided evidence for configural and metric invariance across genders. This suggests that the overall structure of the model and the factor loadings of the measures are equivalent for males and females. Partial support was found for scalar invariance, indicating a possible slight difference in the interpretation of the intercepts of the measures across genders. However, given the acceptable overall fit indices, we can proceed with cautiously interpreting the hypothesized relationships between the constructs in the male and female subgroups in future analyses.

## Discussion

The results of this study offer valuable insights into the relationships between perceived teacher support, self-regulation, and psychological well-being among Iranian EFL students. By examining these interconnected constructs within a distinct cultural and academic context, the findings underscore the essential role of supportive teacher-student relationships and self-regulation in promoting student well-being. These conclusions are particularly significant in EFL environments, where learners face specific linguistic and cultural challenges.

The findings validate a direct positive association between perceived teacher support and students' psychological well-being, echoing prior research (Hamre & Pianta, 2001; Lin et al., 2022; Tao et al., 2022). Supportive teachers foster classroom environments built on trust, security, and a sense of belonging (Hamre & Pianta, 2001). These environments help alleviate anxiety, encourage positive emotions, and boost students' confidence and motivation (Guo et al., 2020; Suldo et al., 2009). This aligns with Social Support Theory (Cohen & Wills, 1985), which emphasizes that positive social interactions fulfill critical psychological needs for belonging, esteem, and control. Addressing these needs strengthens students' overall well-being and academic success. Teacher support in educational settings often encompasses emotional, instrumental, and informational forms, each contributing uniquely to students' academic and psychological development. Emotional support, marked by warmth, empathy, and encouragement, cultivates a secure and nurturing learning environment that promotes emotional resilience. Instrumental support, such as providing resources and practical assistance, addresses immediate academic challenges and equips students to navigate difficulties effectively. Informational support, including constructive feedback and targeted guidance, enhances understanding and mastery of learning material, fostering self-efficacy and competence (Liu & Li, 2023; Mercer et al., 2011). Together, these dimensions establish a robust framework for enabling students to thrive both academically and emotionally.

In EFL contexts, teacher support takes on heightened importance due to the unique challenges inherent in language acquisition and cultural adaptation. These challenges include mastering complex linguistic structures, communicating effectively in a non-native language, and navigating the cultural nuances embedded in language use. Studies (e.g., Sadoughi & Hejazi, 2021; Liu & Li, 2023) emphasize that teacher support in such settings not only enhances academic engagement but also promotes positive academic emotions, which are crucial for psychological well-being. For example, Sadoughi and Hejazi (2021) found that EFL learners' perceptions of teacher support positively influenced their engagement by fostering emotions such as enjoyment and pride. These findings highlight the dual academic and emotional benefits of supportive teacher-student relationships, particularly in demanding language learning environments.

As revealed by our findings, the relationship between teacher support and well-being, however, is not purely linear but involves complex interactions mediated by psychological mechanisms like self-regulation. Self-regulation, defined as the ability to manage thoughts, emotions, and behaviors to achieve specific goals (Zimmerman, 2000), serves as a key mediator in this process. Research (e.g., Chularut & DeBacker, 2004; Seker, 2016) demonstrates that self-regulation strategies, including goal-setting, self-monitoring, and reflective practices, significantly improve EFL students' academic performance and self-efficacy. These strategies are particularly effective for addressing the cognitive and emotional demands of language acquisition, enabling students to manage both academic tasks and emotional challenges more effectively. The findings of this study are consistent with Self-Determination Theory (Deci & Ryan, 2000), which identifies autonomy, competence, and relatedness as fundamental psychological needs essential for well-being. Teachers fulfill these needs through supportive behaviors that encourage student autonomy, provide opportunities for skill development, and foster a sense of connectedness within the classroom. For instance, co-regulation strategies like scaffolding, constructive feedback, and collaborative problem-solving (McCaslin et al., 2014; Shahmohammadi, 2014) not only enhance students' ability to regulate their learning processes but also contribute to their psychological well-being by reinforcing competence and a sense of agency.

These co-regulation strategies are especially effective in helping students navigate academic and social challenges. By fostering self-awareness and promoting self-directed learning, teachers empower students to develop essential skills for managing stress, adapting to setbacks, and maintaining emotional stability (Eisenberg & Spinrad, 2004; Cleary & Chen, 2009). This improved self-regulation is linked to greater resilience, enhanced academic motivation, and a more positive emotional state, all of which contribute to overall well-being (Fan & Cui, 2024; Wang et al., 2022).

While prior research has established the benefits of teacher support and self-regulation for student well-being, this study extends the literature by elucidating the mechanisms underlying these relationships within an Iranian EFL context. Identifying self-regulation as a mediator provides a deeper understanding of how teacher support affects well-being, particularly in contexts marked by linguistic and cultural challenges. Unlike earlier studies that focused primarily on direct associations (e.g., Aldrup et al., 2022; Roorda et al., 2011), this research highlights the mediating role of self-regulation, underscoring its critical importance in EFL classrooms. Moreover, the study emphasizes the cultural and contextual dimensions of teacher support in Iranian universities. It highlights the need for strategies tailored to the unique challenges faced by EFL learners, such as linguistic barriers and the demands of cultural adaptation. By integrating teacher support with the development of self-regulation skills, educators can adopt a holistic approach to fostering student well-being and academic success. This integration is particularly vital for addressing the diverse needs of EFL learners, ensuring that interventions are context-sensitive and effectively promote both academic and emotional growth.

## Conclusion

This study examined the relationships between perceived teacher support, self-regulation, and psychological well-being among Iranian EFL students. The findings emphasize the critical role of teacher support in promoting academic achievement and psychological well-being. By identifying the direct influence of teacher support on student well-being and the mediating role of self-regulation, the study advances understanding of key factors shaping positive educational outcomes for EFL learners. Supportive teacher-student relationships play a central role in enhancing psychological well-being. These relationships create a classroom environment characterized by trust, security, and belonging, which reduces anxiety, fosters positive emotions, and strengthens students' confidence and motivation. This supportive climate contributes to

improved academic performance and resilience. The findings also highlight self-regulation as a crucial mechanism linking teacher support to student well-being. Self-regulation helps students manage emotions, set and achieve goals, and address academic and social challenges effectively. Encouraging the development of self-regulation through supportive teacher behaviors is essential for promoting student well-being. These results underscore the importance of integrating supportive teaching practices and self-regulation development into educational strategies to enhance student outcomes.

## Implications

This study contributes to the theoretical understanding of how perceived teacher support relates to self-regulation and psychological well-being among EFL students in Iran, a context that has been underrepresented in the literature. While previous research has established these relationships in other educational settings, our findings provide new evidence of how these constructs interact within the specific cultural and academic environment of Iranian universities. By demonstrating that self-regulation mediates the relationship between teacher support and psychological well-being, this study offers novel insights into the mechanisms underlying student well-being in the EFL context. This mediating role of self-regulation highlights the importance of not only providing teacher support but also fostering students' self-regulatory skills to enhance their psychological well-being.

Furthermore, the findings extend Social Support Theory (Cohen & Wills, 1985) by showing that in the EFL context, teacher support specifically contributes to students' psychological well-being through the enhancement of self-regulation. This suggests that the fulfillment of students' needs for belongingness, esteem, and control may operate differently in language learning environments, where self-regulation plays a crucial role in managing the unique challenges of language acquisition. Similarly, the study enriches Self-Determination Theory (Deci & Ryan, 2000) by providing evidence that supportive teachers in EFL settings promote autonomy, competence, and relatedness, which in turn foster self-regulation and well-being. The cultural context of Iran offers a unique perspective on how these fundamental psychological needs are met in educational environments outside of Western contexts. By integrating concepts from the social cognitive model of self-regulation (Zimmerman, 2000) and the concept of co-regulation (McCaslin et al., 2014), our research provides a nuanced understanding of how teacher behaviors specifically contribute to the development of self-regulation skills among EFL students. This understanding is critical for designing interventions and educational practices that support students' psychological well-being through targeted development of self-regulation capacities.

In light of the findings, several practical implications for educators, educational institutions, and policymakers emerge. For educators, it is vital to enhance teacher training programs to emphasize the importance of building supportive relationships with students. Training could include strategies for providing emotional, instrumental, and informational support, enabling educators to create classroom environments characterized by trust, security, and a sense of belonging. Educators might also benefit from training on implementing co-regulation strategies such as scaffolding, feedback, and collaborative problem-solving. These strategies have the potential to help students develop self-regulation skills, enabling them to manage emotions, set and pursue goals, and cope with academic and social challenges more effectively. Fostering a positive classroom climate through care, empathy, and encouragement appears equally important, as it can promote positive emotions, reduce anxiety, and foster feelings of acceptance and belonging among students.



Recognizing the diverse needs of students, particularly EFL learners, educators may find it helpful to adopt a personalized approach to support. This approach could involve being attuned to the unique challenges these students face and providing tailored assistance to help them navigate these difficulties. For educational institutions, it seems essential to establish robust support systems that facilitate the development of supportive teacher-student relationships. This might include providing resources and training for teachers and creating institutional policies that prioritize student well-being. Educational curricula may benefit from integrating activities and programs that promote self-regulation and psychological well-being, such as workshops on stress management, goal-setting, emotional regulation, and incorporating mindfulness and resilience-building exercises. Institutions are encouraged to ensure that students have access to mental health resources, including counseling services and support groups. Proactively providing information about these resources and encouraging their use could help address mental health challenges effectively. Regular feedback from students regarding their perceptions of teacher support and the classroom environment might help institutions identify areas for improvement and implement necessary changes.

Policymakers play a critical role in this ecosystem. They should develop educational policies that prioritize psychological well-being alongside academic achievement. Advocacy for the inclusion of teacher support and self-regulation development as key components of educational standards and guidelines is vital. Allocating funding for programs and initiatives that promote teacher support and student well-being, including teacher training and mental health resources, is essential. Policymakers should support ongoing research and evaluation of educational practices to ensure they effectively promote student well-being and academic success. This involves funding longitudinal studies and disseminating best practices based on empirical evidence. By adopting a comprehensive and integrated approach, educators, institutions, and policymakers can collectively foster an educational environment that supports both the academic and psychological well-being of students.

### **Limitations and Suggestions for Further Research**

This study provides valuable insights into the relationships between perceived teacher support, self-regulation, and psychological well-being among Iranian EFL students. However, several limitations should be acknowledged. First, the reliance on self-reported data may introduce biases, such as social desirability bias, potentially affecting the accuracy of the reported perceptions and behaviors. Future research could incorporate teacher assessments and observational methods to validate the findings. Second, the cross-sectional design precludes causal inferences about the relationships between the variables. Longitudinal studies are needed to explore the dynamic and reciprocal nature of these relationships, offering deeper insights into how teacher support and self-regulation evolve and influence psychological well-being over time. Third, the sample consisted of undergraduate English majors from several public universities in Iran, which may limit the generalizability of the findings to other contexts or populations. Future research should include more diverse samples, encompassing students from different academic disciplines, educational levels, and cultural backgrounds, to enhance the applicability of the results.

Additionally, while this study focused on the mediating role of self-regulation, other potential mediators or moderators, such as personality traits, cultural influences, or specific educational practices, were not examined. Exploring these variables in future research could provide a more comprehensive understanding of the factors shaping the relationship between teacher support and student well-being. Moreover, the study did not extensively consider the influence of demographic variables, such as socio-economic status, academic performance, or prior educational experiences, on the observed relationships. Including these factors in future studies

could yield nuanced insights into the contextual and individual differences affecting teacher support and self-regulation.

Finally, given the rapid changes in educational environments, particularly with the growing use of technology and online learning, future research should examine how these evolving contexts impact teacher support, self-regulation, and psychological well-being. Investigating these dynamics in both traditional and virtual settings will be essential for developing adaptable and effective support strategies.

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