JSLTE

Journal of Studies in Learning and Teaching English

Online ISSN: 2476-7727, Print ISSN: 2251-8541

https://jslte.shiraz.iau.ir/

14(2), 2025, pp. 1-17

https://doi.org/10.82531/202502201200041

Research Article

Identifying the Relationship between Fixed vs. Growth Language Mindsets and Learner Autonomy in Language Learning among Iranian EFL Learners

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ARTICLE INFO

Submission History

Received: 2025-02-25
Accepted: 2025-05-06

Keywords

EFL learners
Fixed language mindset
Growth language mindset
Learner autonomy

ABSTRACT

Learner autonomy and language mindsets play pivotal psychological roles in second language acquisition. Guided by theories of mindset and learner autonomy, this study explores associations between participants' beliefs about language aptitude and self-directed learning activities. Using a quantitative design, 100 intermediate Iranian EFL learners from a private language institute completed the Language Mindset Inventory and Learner Autonomy Questionnaire. Spearman's correlation analysis revealed significant positive relationships between both fixed (r = .850) and growth (r = .862) mindsets with autonomy, with a marginally stronger association for growth mindsets. Notably, fixed-mindset learners also exhibited autonomy, potentially due to external pressures rather than intrinsic motivation, which may contradict traditional beliefs. These results highlight the importance of considering cultural and educational context influences surrounding independent learning behaviors. The findings highlight the need for embedding mindset interventions and autonomy-supportive instructional approaches into foreign language education to promote more adaptive and self-determined language learning.

Introduction

The association between psychological dispositions and pedagogical practices has received considerable academic interest in the evolving landscape of SLA. In recent decades, the field moved from teacher-centered paradigms towards concepts that give both teachers and learners agency, acknowledging that learners' personal beliefs, motivation, and self-regulatory strategies have a significant impact on their outcomes (Benson, 2013; Oxford & Burry-Stock, 1995).

Language mindsets and learner autonomy have turned out to be two pivotal constructs among these as they affect language learners' cognitive, emotional, and behavioral engagement in their learning process. This paper explores the nature of the relationship between these two constructs, namely language mindsets, based on Dweck's (2006) theory of mindsets, and learner autonomy, one of the main components of modern pedagogy concerning Iranian EFL learners. This investigation aims to shed light on alternative strategies to improve language education in a context governed by traditional pedagogical practices by understanding how language learners' beliefs about linguistic efficacy intersect with their ability to learn independently.

Holec (1981) refers to learner autonomy as goal-setting, strategy choice, and self-assessment. This is consistent with self-regulated learning (Zimmerman, 2002) and metacognitive awareness (Wenden, 1991), which in turn nurtures intrinsic motivation and longer persistence (Yang, 2007). Benson (2013) also develops this idea into three types of autonomy — resource-based autonomy, technology-based autonomy, and curriculum-based autonomy — as he argues for pedagogical models that de-center teacher authority. These new approaches to language teaching, such as content-based instruction and task-based language teaching, provide examples of the shift to prioritizing communicative competence through active tasks centered on the learners themselves (Nunan, 2004; Richards & Rodgers, 2001). This highlights the duration of generative learning (Fiorella & Mayer, 2015) in these frameworks with the use of methods such as self-assessment or reflective practice to internalize what has been learned in different environments. Despite the necessity for independence, this is difficult to achieve in teacher-centered contexts, as is pervasive in Iran (Sedighi & Tamjid, 2016; Zarrinabadi et al., 2021).

Alongside autonomy, the mental models that learners have about language, called language mindsets, are crucial determinants in the way educational pathways are pursued. Rooted in Dweck's (2006) mindset framework, people are said to have fixed or growth mindsets. Those with a fixed mindset regard language ability as something internal and predetermined that will not change, and they tend to avoid challenges and have lower resilience after failure (Mercer & Ryan, 2010; Robins & Pals, 2002). On the other hand, learners with a growth mindset see ability as malleable, approach challenges as opportunities for improvement (Dweck et al., 1995; Lou & Noels, 2017). These theories have real-world consequences. As demonstrated by empirical research, growth mindsets promote adaptive strategies such as seeking feedback and persisting through difficulty, while fixed mindsets are associated with anxiety and disengagement (Claro et al., 2016; Yeager et al., 2013). In language acquisition, students who are growth-oriented are also more likely to try out new words and engage in independent practice, while those with a fixed mindset may become stuck after begrudging evidence of their failures (Khajavy, 2021; Lou & Noels, 2019).

Iran's EFL environment is an interesting context in which to investigate these constructs. In Iranian classrooms, previous to this, teacher-centeredness, rote learning, and passive learning have been dominant traditions (Sedighi & Hadidi, 2016). It is not uncommon for students to come to view teachers as the exclusive authority, resulting in dependency and passive learning (Little, 1995). At the same time, broader societal narratives often construct language ability as something inherent to individual talent, promoting a fixed conception of ability (Zarrinabadi et al., 2021). This situation leads to a paradox. The discourse around autonomy and growth mindset has reached Iranian

learners due to prevailing trends in global pedagogy, but on the other hand, they have neither the institutions that would support these approaches nor the psychological constructs to apply them on their own. This misalignment posed essential questions regarding the interaction of learners' beliefs with their ability to self-direct in contexts unsuited for educational reform.

While previous literature has explored autonomy and mindsets deeply, both concepts have barely been studied together and even less so outside a Western context. Constructs such as these have long been studied independently with findings, for example, from Lou et al. (2022) and Balçikanli (2010), while Khajavy (2021) and Zarrinabadi et al. (2021) have looked at mindset concerning grit and grammar strategies, respectively, among Iranians. However, the synergistic link between beliefs regarding linguistic capacity and self-directed learning habits is not yet clear. According to Mercer and Ryan (2010), theoretical intersections imply that learners motivated by growth, believing that their effort can enact transformative change, could go out of their way to find resources or set personal goals and thus reaffirm their perception of autonomy. In contrast, autonomous learners, with their iterative success at self-regulation, can lead them to hold stronger growth beliefs. This reciprocal so emergent needs further empirical work to expose how interdependent target variables co-influence motivation and hence achievement in constrained educational settings.

The previous findings have both theoretical and practical implications. By connecting autonomy studies to mindset theory, this research indicates how mindsets of self-regulation can be shaped by psychological factors. In practice, contemporary research offers guidance for interventions addressing the educational problems in Iran. If growth mindsets strongly correlate with autonomy, teacher training programs might include mindset coaching focused on praising effort and incremental progress (Yeager et al., 2013). Curricula could introduce metacognitive strategies like reflective journaling or peer teaching (Fiorella & Mayer, 2015) to promote both adaptive beliefs and self-regulated behaviors. Policymakers might push for blended learning models that merge technology-based autonomy (Benson, 2013) with mindset-building activities in an effort to decentralize traditional instruction.

In a nutshell, although most of the research has explored mindsets and autonomy separately, their interaction is an under-explored area of inquiry (Bai & Wang, 2023; Lou & Noels, 2022), especially in non-Western contexts such as Iran. The current study addresses this gap by exploring the relation between language mindsets (fixed vs. growth) and self-regulated learning in formal educational contexts. By investigating these constructs among Iranian EFL learners, the study offers an integrative perspective on individual differences in SLA, highlighting the interplay of cognitive and metacognitive factors in environments with traditional pedagogical models.

Literature Review

There has been great attention drawn within SLA research to the interplay between learners' psychological dispositions and their ability to self-directed learning. Despite the extensive research done on these constructs separately, less emphasis has been placed on their interaction, particularly in non-Western contexts such as Iran. This part critically analyzes the theory behind language mindsets and learner autonomy, highlighting their potential associations rather than causative interactions, given the correlational nature of the current study. A conceptual model is proposed to illustrate these relationships, with the caveat that

causal inferences cannot be drawn from the present analysis.

Language mindsets are related to learners' beliefs about the malleability of language ability and are based on Dweck's (2006) Implicit Theories of Intelligence. These beliefs influence motivation, resilience, and self-regulation strategies (Lou & Noels, 2017; Mercer & Ryan, 2010) in learners. Dweck's model is based on the idea of fixed and growth mindsets. While prior research suggests that growth mindsets may foster autonomy, the current study focuses on exploring their relationship without implying causation. The fixed language mindset is based on the assumption that language ability is determined by a genetic factor and that it is practically impossible to modify with hard work (Ryan & Mercer, 2012). This leads learners who avoid challenges, fear failure, and rely on external validation (Robins & Pals, 2002; Lou & Noels, 2019). In contrast, a growth language mindset refers to the notion that language ability is cultivated through practice, persistence, and effort (Lou & Noels, 2017; Zarrinabadi et al., 2021). Growth-oriented learners welcome difficulty, solicit feedback, and keep going when the going gets tough (Claro et al., 2016; Yeager et al., 2013).

Previous studies have indicated that growth mindsets are associated with higher engagement and persistence in language learning (Bai & Wang, 2023; Lou et al., 2022), yet the role of fixed mindsets concerning learner autonomy is less clear. According to traditional SLA theories, having a fixed mindset can prevent self-directed learning and result in learners who are passive and dependent. Subsequent findings, however, suggest that learners with fixed mindsets can also and do develop self-regulated learning behaviors, particularly within exam-driven educational policies in which autonomy is requisite for academic survival (Khajavy et al., 2021). This raises an important question: Can autonomy emerge from extrinsically motivated learning, or must it always be linked to intrinsic motivation?

One of the core constructs underpinning self-regulated learning is learner autonomy, which Holec (1981) originally described as the ability to "take charge of one's learning" (p. 3). It consists of components such as goal-setting (e.g., making a study plan), strategy selection (e.g., noticing vocabulary-learning strategies), and self-evaluation (e.g., judging learning without external help) (Benson, 2013; Zimmerman, 2002). Critically, as Benson (2013) emphasizes, autonomy in this pedagogical and cultural context is not an inherent quality but a learned behavior.

Benson (2013) proposes a broader perspective on autonomy. Benson argues that while self-regulation is a key construct, there are three other critical dimensions of autonomy: resource-based autonomy (actively seeking our materials outside of class environments, i.e., books and digital resources), technology-enhanced autonomy (making use of e-learning platforms or studying as part of online communities), and curriculum-based autonomy (making choices within what is provided to you via more continued forms of education). Nevertheless, nurturing autonomy in an educational system like Iran's has been extremely teacher-centered seems difficult (Ghorbandordinejad, 2014; Sedighi & Hadidi, 2016). Iranian students are used to teacher-centered teaching, memorization, and exams, which prevent self-directed learning (Little, 1995; Swatevacharkul & Boonma, 2021). Nevertheless, recent research indicates that even in these highly restrictive contexts, learners can cultivate autonomy based on necessity rather than on genuine desire (Khajavy, 2021; Zarrinabadi et al., 2021).

While there is a large amount of research on learner autonomy and language mindsets, there is less work focusing on their interactions (Lou & Noels, 2022). It is a flawed presupposition that self-

directed students are inherently oriented to growth since self-determination can be driven by external and internal motivation. In this sense, learners with growth mindsets embrace challenges, which reinforces autonomous behaviors such as goal-setting and strategy experimentation (Dweck, 2012; Lou & Noels, 2016). Zarrinabadi et al. (2021) found that the autonomy-supportive learning environment was able to spark a growth mindset, leading to increased communicative competence and willingness to communicate. Growth-minded learners ascribe failure to factors they can control (e.g., effort), leading to proactive modifications (Hong et al., 1999). This supports Dickinson (1995), who suggests that independent learners track their learning and accommodate different contexts.

In contrast, fixed mindsets are associated with helplessness and the need for external direction. Students with a fixed mindset dodge challenges to save their ego; they tend to want to be told which papers to read (Dweck & Molden, 2013). In Iran, institutional practices prioritizing teacher control may result in increased passivity stemming from fixed mindsets. Khajavy et al. (2021) noticed that fixed mindsets predicted lower perseverance and avoidance of feedback, thereby stifling autonomy.

Recent studies spotlight the relationship between mindset and autonomy. Lou et al. (2022) identified that L2 learners typically fall into three categories of mindsets: fixed, growth, and mixed. Participants with growth mindset learning orientation were more engaged and achieved more, due to mastery goals and resilience. Similarly, Zarrinabadi et al. (2021) showed that growth mindsets predicted adaptive grammar learning strategies, a distinct marker of autonomy. A recent study (Paradowski & Jelińska, 2024), which proposes a new construct based on grit, namely L2 grit (the degree of perseverance in long-term language learning), investigates predictors in online foreign language learning contexts. Paradowski and Jelińska (2024) identify language mindsets and autonomy as fundamental psychological variables, along with curiosity and readiness for online learning, that orient learners' sustained effort. Paradowski and Jelińska found that L2 grit had stronger direct associations than autonomy with how learners felt ready for online learning and with language mindsets, and that autonomy had a weaker direct association with grit. As such, autonomy may operate indirectly or interactively with other variables, like mindsets or environment, to promote persistence. Qualitative data from their study provide further context for these relationships, revealing how learners who were grounded in a growth-oriented language mindset employed autonomy to tailor their learning experiences, even when in highly prescribed online settings. Yet the weaker quantitative association between autonomy and grit raises questions as to whether there could be some cultural or contextual moderators at play, a gap particularly salient to the Iranian EFL context, in terms of which sociocultural norms and forms of educational structures may shape how learners express (or do not express) autonomy.

Using self-regulated learning as a product of motivation and cognition, Bai and Wang (2023) explored the participatory roles of growth mindset, self-efficacy, and intrinsic value on self-regulated learning processes and their effects on English language successes. Their results point to a growth mindset, the conviction that language abilities can be cultivated, as the best predictor of the use of self-regulated learning strategies, ahead of self-efficacy and intrinsic value. In particular, the student's growth mindset played an influential role in predicting students' engagement in monitoring (tracking progress) combined with effort regulation (persevering when faced with difficulty), which significantly predicted students' English learning

outcomes. Interestingly, goal setting and planning, which are part of self-regulated learning, were not associated with achievement, indicating that not all self-regulatory behaviors are equally predictive of success in younger learners. The findings of Bai and Wang's study identify a growth mindset as one of the key precursors of adaptive learning behaviors and highlight its potential to activate metacognitive strategies such as regulatory effort and monitoring. The lesser role of goal setting and planning begs questions about either developmental or contextual factors; younger learners within the context of structured primary school environments may have neither the autonomy nor the scaffolding to be able to effectively convert intended goals to measurable outcomes. The study of Bai and Wang also highlights the need for socio-cultural context as a potential moderator—an important finding for EFL contexts where educational systems and cultural values e.g., collectivist views or teacher-centered instructions may influence the links between motivational beliefs and self-regulated learning practices. The study suggests that encouraging the development of a growth mindset could facilitate learner-level self-monitoring and persistence, even in contexts where overt advice for learner independence is limited. Yet the mismatch between setting and pursuing goals implies that autonomy over goal setting needs scaffolding in the form of instruction on how to plan the steps to a long-term goal, an issue for educators who wish to foster not just autonomy but learner autonomy in a holistic sense.

In the Iranian context, Ghorbandordinejad (2014) reported a positive relationship between learner autonomy and motivation, which was mediated by proactive strategy use. Sedighi and Hadidi (2016) claimed that more vocabulary strategies were used by independent learners, which implies that autonomy and adaptive mindsets are mutually enhancing. These results support the idea that growth mindsets promote mastery-oriented behaviors, which are essential to becoming self-regulated learners. The Iranian educational system is frequently identical as it has centralized curricula and teacher-oriented instruction, which does not take psychological factors, including mindsets, into consideration so much (Khaki, 2013). As a result, students may internalize a fixed mindset, framing difficulty as a built-in, enduring failure rather than an effort, and effort can create success.

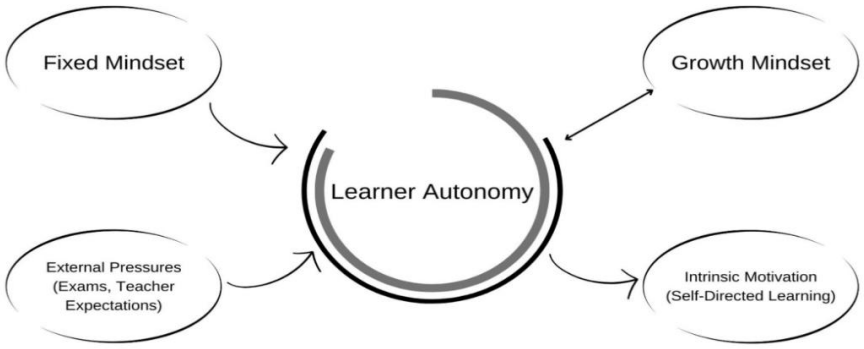
Kumaravadivelu (2003) in Beyond Methods, criticizes inflexible pedagogical procedures as overreaching strategies and champions learner autonomy as a pivotal component of successful language instruction. Traditional teacher-centered approaches limit learners' opportunities to self-direct the progression of their learning, he suggests, and proposes instead macro strategies. They include promoting critical reflection, encouraging exploratory engagement, and adapting instruction to the sociocultural realities of learners. Importantly, according to Kumaravadivelu, autonomy is not a fixed disposition; rather, it is a nurtured ability that teachers must purposefully cultivate by embracing perspectives that position learners as agents of their own learning and scaffolding self-directed behaviors. Kumaravadivelu's regime of teacher-driven empowerment is well aligned with findings from strategic research suggesting that leading-growth-oriented beliefs can build self-regulation strategies like monitoring and effort regulation. In contrast, his emphasis on sociocultural adaptability introduces an important nuance: we need to understand autonomy concerning the learners' educational contexts, including one that might be as traditional as that of Iran, where teacher-centered norms coupled with Western concepts of self-direction tend to clash. The book's takeaway that developing autonomy is a teacher mindset

echoes current research on language mindsets. For example, Kumaravadivelu's macro strategies might help articulate how teachers manifest growth-oriented beliefs (e.g., "framing mistakes as learning opportunities") to encourage autonomy in learners. Hence, this theoretical relationship welcomes empirical examination of whether adopting these strategies by Iranian EFL teachers mediates the relationship between learners' language mindsets and their autonomous behaviors.

The research questions the notion that autonomy is exclusive to growth-motivated learners. The newfound autonomy of fixated learners during crucial class hours points to the great role that external validation plays in these highly structured educational settings. In the Iranian context, this nuance is especially pertinent as the use of a curriculum driven by tests has crippled students' self-regulated learning despite the traditional pedagogy in which they receive educational instructions that aim to dissuade any sense of autonomy (Khajavy et al., 2021). To clarify the relationships between language mindsets and learner autonomy, the researcher presents a conceptual model outlining the bidirectional influences between these constructs in Figure 1. The model captures the idea that if you are a growth-oriented learner, autonomy emerges naturally; if you are a fixed-mindset learner, that autonomy may be externally pressured. The proposed model visualizes potential pathways between mindsets and autonomy, but it does not confirm directional influence. The conceptual model is presented as a theoretical framework, with explicit disclaimers about its non-causal interpretation in the current analysis.

Figure 1

Proposed Model of the Language Mindsets-Learner Autonomy Relationship



Note. This model shows:

- Growth Mindset → Autonomy: Growth-mindset learners develop autonomy intrinsically, viewing challenges as learning opportunities.
- Autonomy → Growth Mindset: Success in self-directed learning reinforces effort-based beliefs, strengthening a growth mindset.
- Fixed Mindset → Autonomy: In structured settings, fixed-mindset learners develop autonomy through extrinsic motivators such as grades and teacher expectations.
- External Pressures (e.g., exams, institutional demands) → Autonomy: These factors force learners to self-direct their learning, regardless of their mindset.
- Autonomy → Intrinsic Motivation: Even when initially driven by external pressures, autonomy may lead to greater self-motivation over time.

Research on Iranian EFL learners has revealed mixed outcomes. While Khajavy et al. (2021) reported weak prediction of L2 achievement by growth mindsets, Zarrinabadi et al. (2021) underscored the importance of autonomy-supportive contexts in fostering growth beliefs. Such contradictions call for context-specific interventions. For instance, Yasmin and Sohail (2018) illuminate autonomy scales excellence when it aligns personal goals with learning, and such scaling is inhibited by fixed mindsets in systems that favor rigidity. This review also shows that despite expectations from SLA research that a growth mindset is the main driver of learner autonomy, the relationship is much more complex. Therefore, it could be assumed that even learners with fixed mindsets can self-direct when the environmental conditions call for self-regulation. In a teacher-centered country like Iran, autonomy may not always be rooted in intrinsic motivation but can rather be a way to manage students' learning to fulfill academic standards. Further research is needed that utilizes longitudinal designs to capture the evolution of mindset-autonomy dynamics over time. Mixed-methods approaches could unearth cultural subtleties, such as how Iranian learners navigate autonomy, with the restrictions of family or institution. Mindset interventions tested using experimental paradigms might also translate intuitively into pedagogical practice.

Language mindsets and learner autonomy are essential features of SLA, though one that is often overlooked. Growth mindsets promote the independence that leads to learning, and learning leads to independence, whereas fixed mindsets promote either passive, dependent learning in the mundane sense or no learning at all. It incentivizes reforms that empower learners psychologically and pedagogically; in Iran, institutional barriers exacerbate these dynamics. Connecting biologically based autonomy both internationally and internally will help providers build students into independent learners who are motivation in their language process. In this regard, this study aims to fill the gaps by investigating the relationships between language mindsets (fixed vs. growth) and learner autonomy among Iranian EFL learners by posing the following two research questions:

1. Is there a significant relationship between learners' fixed language mindset and their level of learner autonomy?
2. Is there a significant relationship between learners' growth language mindset and their level of learner autonomy?

Method

Participants

Methodologically, this research utilizes a quantitative method of investigation using validated survey instruments for the measurement of language mindset orientations and the assessment of learner autonomy. The sample includes intermediate Iranian EFL learners, who are making the shift from formal and grammar-focused secondary education to more self-directed, flexible college learning. One hundred EFL learners were selected as participants of this study out of 350 learners in the Pardisan Language Institute, Tabriz, Iran, 2024–2025 academic year. The participants were Azari speakers aged from 17 to 25, who had at least 2 years of English language learning experience at the language institutes. The participants were selected using a convenience sampling method for similar access to the target population. The sample consisted of 59 female and 41 male participants.

Instruments

Two research tools were utilized to provide the data needed to answer the quantitative research questions of the current study. The first instrument used in the present study is the 18-item Language Mindset Inventory (LMI; Lou & Noels, 2017),

which was designed based on the Implicit Theory of Intelligence Scale (Dweck, 2006), to measure language mindsets. Using a 5-point Likert scale ranging from 1 = strongly disagree to 5= strongly agree, participants answered nine fixed language mindset items, for example, "It is difficult to change how good you are at learning foreign languages" and nine growth language mindset items, for example, "People can always substantially change their language intelligence". Participants had 30 minutes to complete this questionnaire. The scores for this twofold scale could range from 9 to 45, and higher scores indicated a stronger endorsement of both sets of learning strategies that are part of the language learning process with fixed and growth mindsets, respectively. In order to confirm the reliability, the internal consistency of the questionnaire was examined using Cronbach's Alpha and attained 0.84, showing a high reliability coefficient. Moreover, the original questionnaire was translated into Persian by the researcher to ensure context adaptation and facilitate response.

The second instrument was the 52-item Learner Autonomy Questionnaire (LAQ) used to assess participants' autonomy developed by Spratt et al. (2002) based on Holec's (1981) conceptualization of autonomy. This questionnaire contains four sections which are learner responsibility (13 items) which is used to measure learners' perception of their responsibilities in the learning process, decision-making ability (11 items) which is used to assess students' judgment on whether they can make the right decision or not, motivation level (1 item) which is used to assess participant's motivation, and engagement in activities (27 items) which is used to measure how often participants are engaged in extracurricular and in-class activities. Participants were given 50 minutes to complete the questionnaire; this consisted of responses on a Likert. The overall possible score on the measure ranged from 52 to 260, with higher scores reflecting higher autonomy. To guarantee full understanding, instead of the original questionnaire, the Iranian version conducted by Fahim and Behdani (2011) was used because it was specified for English native speakers. The validation process involved collaboration with professors at Islamic Azad University and data analysis using established procedures. The reliability of the original questionnaire was reported as 0.82 using Cronbach's alpha coefficient (Fahim & Behdani, 2011), while in the present study, the reliability was found to be 0.92, indicating a high level of internal consistency.

Data Collection Procedure

This research employed a systematic process for data collection in a manner that ensured both reliability and validity. Ethical approval was obtained from the Institutional Review Board (IRB) of the Pardisan Language Institute before the data collection. Participants were fully informed regarding the purpose of the study, that their participation was voluntary, and that their responses would be kept confidential. All respondents provided written informed consent and were informed of their right to withdraw from the study at any stage without any penalty and any academic or institutional consequences. Through convenience sampling, a total of 100 intermediate EFL learners, including 59 females and 41 males from a population of 350 students who registered at the Pardisan Language Institute in Tabriz, Iran, were selected.

Prior to the main data collection, a pilot study was done to improve the clarity and reliability of the research instruments used. 20 learners who matched the proficiency level of the main sample completed both the LMI and the LAQ. This pilot study was conducted to detect ambiguities in the questionnaire items, assess the time needed to complete the questionnaire items, and validate the Persian version of both tools. The pilot study

showed both instruments to have high reliability for internal consistency, with Cronbach's alpha coefficients of 0.79 for the LMI and 0.86 for the LAQ, supporting their use in the main study.

All the data collection occurred in a controlled classroom environment during a single session. The researcher delivered a brief presentation about the study at the beginning of the session, assuring participants of response anonymity and urging them to answer as candidly as possible. They then had 30 minutes to complete the LMI, and then to take a short 5-minute break. The LAQ was then filled out for 50 minutes. The researcher was also present during the entire session to respond to any clarification, but did not influence responses. The questionnaires were collected immediately following completion, and all responses were anonymized prior to data entry.

After data collection, responses were checked for completeness and accuracy before being inserted into SPSS 27 for statistical analysis. A Spearman's rank-order correlation test was used to examine the relationship between fixed/growth language mindsets and learner autonomy scores, as the data violated the assumption of normality. This systematic approach helped to ensure that the study was methodologically rigorous and ethically sound and that the data collected were reliable, therefore reinforcing the strength of the research results.

Data Analysis

The obtained data were fed into SPSS 27 for statistical analysis. Statistical assumptions necessary for the analysis, including a normality test, were verified to test the null hypotheses and for the research questions. Given that the data were found not to be normal, a Spearman Rank-Order Correlation test was run as opposed to the Pearson Product-Moment Correlation test to see if there was a significant relationship between Iranian EFL learners' mindsets about language and their language-learning autonomy. Statistical significance was determined at the alpha level of 0.01.

Results

In order to answer the formulated research questions, the researcher carried out a series of relevant calculations and statistical routines, in addition to obtaining some results, which will be explored and explained in full detail in this section. To do this, descriptive statistics were extracted, and the assumption of linear correlation was evaluated; the results of which are presented below. Descriptive statistics for the study variables (learner autonomy, fixed mindset, and growth mindset) are shown in Table 1. The data covers min, max, mean, and SDs of the constructs across participants.

Table 1.
Descriptive Statistics of the LAQ and LMI

	N	Minimum	Maximum	Mean	Std. Deviation
Leaner Autonomy	100	54.00	236.00	116.0100	50.31426
Fixed Mindset	100	12.00	42.00	17.5600	4.44340
Growth Mindset	100	14.00	44.00	28.7400	8.21506
Valid N (listwise)	100				

As Table 1 illustrates, learner autonomy had a mean of 116.01 (SD = 50.31) and scores varying from 54 to 236. The mean score for fixed mindset was 17.56 (SD = 4.44), with scores of 12 to 42. The mean score of the growth mindset was 28.74 (SD = 8.21) and ranged from 14 to 44.

In addition, a Normality test was carried out to check the normality of the data. The results of the Kolmogorov-Smirnov (K-S) and Shapiro-Wilk (S-W) tests indicating the distribution of learners' autonomy and fixed and growth mindsets are shown in Table 2.

Table 2.
Tests of Normality for the LAQ and LMI

	K-S			S-W		
	Statistic	df	Sig.	Statistic	df	Sig.
Learner Autonomy	.222	100	.000	.876	100	.000
Fixed Mindset	.108	100	.006	.862	100	.000
Growth Mindset	.118	100	.002	.937	100	.000
a. Lilliefors Significance Correction						

Table 2 indicates that for learner autonomy, the K-S test statistic was 0.222 (p = .000), and the S-W test statistic was 0.876 (p = .000). Both tests indicate a substantial departure from normality and suggest that the learner autonomy scores are not normally distributed. For fixed mindset, the K-S test statistic was equal to 0.108 (p = .006), with an S-W test statistic of 0.862 (p = .000). Once again, the findings reflect a clear deviation from normality, which would suggest that fixed mindset scores are a non-normal distribution. Likewise, the K-S test statistic for the growth mindset was 0.118 (p = .002), and the S-W test statistic was equal to 0.937 (p = .000). These values indicate that growth mindset scores also deviate significantly from a normal distribution. As all of the p-values are <0.05, the assumption of normality is violated for all three variables. This indicates that non-parametric statistical tests (e.g., Spearman's rho) might be preferable for subsequent analyses with these constructs.

Results of the First Research Question

To answer the research question, Spearman's rank-order correlation analysis was conducted to investigate the association between learners' fixed language mindset and their reported level of learner autonomy. Data from 100 participants were included in the analysis, providing reasonable statistical power to detect meaningful associations. The results of this analysis are presented in Table 3.

Table 3.
Correlation between Learner Autonomy and Fixed Mindset

			Learner Autonomy	Fixed Mindset
Spearman's rho	Learner Autonomy	Correlation Coefficient	1.000	.850**
		Sig. (2-tailed)	.	.000
		N	100	100
	Fixed Mindset	Correlation Coefficient	.850**	1.000
		Sig. (2-tailed)	.000	.
		N	100	100

**. Correlation is significant at the 0.01 level (2-tailed).

As indicated by Table 3, Spearman's rank-order correlation analysis showed a statistically significant, strongly positive relationship between the fixed language mindset of the learners and their

autonomy (p< .001). The correlation coefficient of fixed mindset and learner autonomy was 0.850, which is a positive correlation. The p-value (Sig. = .000) confirms that we can consider this relationship statistically significant at the 0.01 level (2-tailed). This means that when a fixed language mindset of learners becomes high, their learner autonomy also becomes high. That is, these findings suggest that an increased fixed language mindset is related to increased learner autonomy in this investigation.

Results of the Second Research Question

To explore whether there is a correlation between learners' growth language mindset and their self-reported learner autonomy, Spearman's rank-order correlation analysis was performed. Data from 100 participants was included in the analysis, reflecting the total of a previous analysis that looked at a fixed mindset. The results of this analysis are presented in Table 4.

Table 4.

Correlation between Learner Autonomy and Growth Mindset

			Learner Autonomy	Growth Mindset
Spearman's rho	Learner Autonomy	Correlation Coefficient	1.000	.862**
		Sig. (2-tailed)	.	.000
		N	100	100
	Growth Mindset	Correlation Coefficient	.862**	1.000
		Sig. (2-tailed)	.000	.
		N	100	100

**. Correlation is significant at the 0.01 level (2-tailed).

According to Table 4, the findings discovered a statistically significant, very strong positive relationship between the growth language mindset and learner autonomy. This shows that when learners endorsed more growth language mindsets, they also reported greater levels of learner autonomy. The correlation coefficient for growth mindset to learner autonomy was 0.862, showing a strong positive correlation. The p-value (Sig. = .000) indicates this relationship is significant at the 0.01 level (2-tailed). This indicates that the more learners have a growth mindset, the more autonomous they become.

Discussion

The objective of this study was to investigate the relationship between Iranian EFL learners' language mindsets (fixed vs. growth) and their learner autonomy. The results showed that both fixed and growth mindsets were positively correlated with learner autonomy, but the correlation seemed to be higher for the growth mindset. Results directly answer the research questions and provide insight into their implications.

The first research question examined the relationship between learners' fixed language mindsets and their level of learner autonomy. Surprisingly, the results revealed a strong positive correlation (r = .850, p < .01), indicating that learners with a fixed mindset also demonstrated higher levels of autonomy. This finding challenges theoretical expectations, as fixed mindsets are typically associated with passivity, avoidance of challenge, and a preference for external validation (Dweck & Molden, 2017; Khajavy et al., 2021). While previous research often aligns autonomy with a growth mindset, characterized by the belief

that abilities can be developed through effort (Dweck, 2006; Ryan & Mercer, 2012), these unexpected results suggest that, in certain educational contexts, fixed-minded learners may still exhibit autonomous behaviors. However, their autonomy may be driven more by performance-oriented motives than by a desire for mastery. These findings underscore the importance of considering contextual factors when exploring the complex interplay between mindset and autonomy in language learning.

This paradox can be attributed to the context of the Iranian EFL learners because of the teacher-centered teaching style and the high-stakes examinations. In the constrained contexts that prevail in many cases, autonomy among learners with a fixed mindset is viewed as a compensatory mechanism to satisfy external goals rather than a tool for interior growth (Zarrinabadi et al., 2021). They may seek out those activities, set goals to excel, and manage resources in such a way as to confirm their beliefs about having an inborn talent and innate ability, or to avoid failure, rather than in a way that reflects their belief in their ability to improve. In addition, cultural factors, like an emphasis on self-reliance and the format of evaluation approaches, could play a role in this result.

The second research question examined how the learners' growth language mindset was related to their learner autonomy. A very strong positive correlation (r = .862, p < .01) was identified, supporting a well-documented association between growth mindset beliefs and adaptive learning behaviors (Dweck, 2012; Lou & Noels, 2016). These results are consistent with previous studies, which have shown that learners who believe their abilities can improve through effort and persistence are more likely to take responsibility for their learning and engage in autonomous learning behaviors. Examples of proactive behavior among those with a growth mindset included goal-setting, self-monitoring, and seeking learning-related associations with resources which are indeed indicators of autonomous learning (Benson, 2013).

The results indicate that there is a high correlation between Iranian EFL learners' growth mindset and learner autonomy as two important aspects of developing learning identity. As prior research has shown, drawing upon a belief in the malleability of language ability encourages resilience, risk-taking, and strategic learning, which in turn leads to greater independence as a language learner (Claro et al., 2016; Yeager et al., 2016). Considering this correlative relationship, perhaps because a growth mindset leads to greater autonomy, educational interventions with a growth mindset focus could be beneficial for language learners in the areas of motivation, resilience, and efficiency (Dweck, 2012). Future research should investigate the factors that mediate how a growth mindset influences autonomous learning behaviors, as well as whether this relationship is affected by different learning environments.

Both mindsets were significant at the alpha level, indicating that as a learner's fixed mindset or growth mindset goes up, the learner goes up in autonomy. Nonetheless, the researcher notes a stronger correlation between a growth mindset and learner autonomy, which suggests that a belief system that embraces growth and development may be more closely associated with autonomy in learning behaviors. So, these gains shed light on the correlation between language mindsets and learner autonomy of Iranian EFL learners in such a way that they can be considered as an interesting piece of information. As previously explained, research has often led to the conclusion that a growth mindset helps foster autonomy through self-regulation, persistence, and motivation in learning (Dweck, 2006; Ryan & Mercer, 2012). The strong correlation in this study aligns with this perspective,

showing that when individuals have a growth mindset, they are more likely to take the reins of their learning. However, the strong correlation of a fixed mindset with learner autonomy runs counter to conventional wisdom. Typically, a fixed mindset can lead to passive learning and reliance on instructions and direction from others. However, the significant link found here indicates that even learners with fixed mindsets can show a high degree of autonomy. In the Iranian EFL context, where external factors such as exams and academic pressures are so dominant, students may experience autonomy as it could be a means for enhancing their academic identity rather than a self-motivated inner need.

Furthermore, the correlation of the growth mindset is somewhat significant, so language educators should promote growth-oriented beliefs as a very first step in the language learning classroom. For instance, practices that provide constructive feedback, emphasize learning from effort, and encourage resilience could improve learner autonomy (Kumaravadivelu, 2003). The strong positive correlation between fixed mindset and autonomy (r = .850) presents a theoretically intriguing finding that challenges conventional assumptions in the literature, suggesting that such learners may become autonomous primarily due to external motivators (e.g., institutional pressures) or structured learning opportunities rather than intrinsic self-regulation. It would be interesting in future research to know if external pressures versus discipline versus structure of the learning context contribute to autonomy for learners with fixed mindsets. Considering the strong associations detected within both mindsets, language teachers should employ differentiated instructional approaches. When fostering growth mindsets, they should also acknowledge the possibility of independent learners, even among those with a fixed mindset, and offer structured guidance that encourages autonomy. According to the findings, there is a statistically significant relationship between both fixed and growth language mindsets and learner autonomy, with a stronger association with the growth mindset. These findings challenge the traditional assumption that only growth-oriented learners can be autonomous, highlighting the need to explore how contextual and motivational factors influence autonomy among learners with different mindset orientations.

In comparison with the existing literature, a nuanced understanding emerges. Although previous research has shown that fixed mindsets are associated with dependence on outside assistance while growth mindsets are associated with self-regulation (Dweck & Molden, 2017; Lou & Noels, 2020), the findings of the current study imply that the manifestation of learner autonomy depends on the mindset orientation. Growth learners seek out autonomy in the service of their growth, whereas fixed learners may seek autonomy when external conditions are present. That difference highlights the need to think about what cultural and educational context looks like when interpreting relationships between mindsets and autonomy.

Conclusion

This study sheds light on an important aspect of SLA, the relationship between mindsets and learner autonomy among Iranian EFL Learners. The results further confirm that both fixed and growth mindsets positively correlate with learner autonomy, with a slightly stronger relationship observed in the case of growth mindsets. These findings indicate that fostering growth-oriented beliefs in language learners can strengthen their underlying capacity for self-directed learning, which in turn contributes to improved language proficiency and greater academic persistence (Dweck, 2006; Ryan & Mercer, 2012).

The results of this study have important implications for language teachers and policymakers. First, incorporating elements of mindset training in language classes helps students perceive language learning as a process based on effort and practice rather than as a fixed ability. Growth-oriented beliefs can be reinforced with process praise, goal-setting tasks, and metacognitive reflection (Yeager et al., 2013). Curriculum designers must also embed opportunities for autonomy in activities like project-based learning or peer collaboration, which nurture environments ripe for self-directed learning. Even fixed mindset learners showed autonomy in Iran, so autonomy should also be taken into account in proposed interventions, especially what type of motivation drives this autonomy. This should be mastery, not external validation.

This study has some limitations despite its contributions. First, the use of self-reported questionnaires may have led to response biases, for example, learners may have overstated or downplayed their levels of autonomy. Future research may supplement self-reported data with qualitative methods such as interviews and classroom observations to provide a fuller picture of learner autonomy. Second, the research was carried out in a single Iranian language institute, which raises generalizability issues to other academic contexts. The convenience sampling and single-institution design limit the generalizability of the study and the need for replication at larger scales. Most critically, this study employed a correlational design (Spearman's rank-order analysis), which precludes causal inferences about the relationship between language mindsets and learner autonomy. While the findings reveal significant associations, they do not establish whether mindsets drive autonomy or vice versa, or whether external factors (e.g., institutional pressures) influence both. Although strong correlations, longitudinal studies in the future must figure out a causal mechanism. Longitudinal studies in different learning environments would offer us a better understanding of how the mindset–autonomy relationship evolves. Finally, the study did not take into account potential mediators (e.g., motivational or self-efficacy variables) that may mediate the association observed. The impact of the relationship between freedom and trust on support for the establishment is yet another area that should be investigated in future research, and such factors can help provide theoretical precision.

Future research should build upon the current findings by investigating the bidirectional nature of the mindset-autonomy relationship. Longitudinal studies might help determine whether a shift in mindset orientation had an impact on autonomy over the long term. Moreover, experimental studies could evaluate the efficacy of mindset interventions in promoting learner autonomy in teacher-dominated educational settings such as Iran. The above-mentioned approaches could benefit from investigating how the dynamics of cultural and institutional factors shape these relationships for different educational settings to inform both content and context-specific intervention measures.

To sum up, the findings of this investigation demonstrate the crucial impact of language mindsets on learner autonomy of Iranian EFL learners. Hence, even though both fixed and growth mindsets showed a positive correlation with autonomy, promoting growth-oriented beliefs remains a major pedagogical goal. But they also highlight that understanding the growth mindset might be applied to interventions and teaching that emphasize autonomy support to maximize their potential to boost learner motivation, resilience, and long-term mastery.

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