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Interrelationships among L2 motivation, learning strategies, self-regulation, and L2 proficiency: A correlational study

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Abstract

Recently, Self-Regulated Language Learning (SRLL) has attracted too much attention; however, a few studies have investigated the interrelationships between it and its components of L2 Motivational Self System (L2MSS), Language Learning Strategies (LLS), and Second Language Proficiency (L2P). As such, this study explored the interrelationships between self-regulated learning (SRL), L2MSS, LLS, and L2P among 313 Iranian high school English students through employing a correlational research design and convenience sampling. Quantitative data were collected through translated L2MSS, SRLL, and LLS questionnaires and self-report L2P forms. The data analysis indicated that the strongest correlation is between the ideal L2 self and L2P ($r = .503$, $p < .05$). However, the lowest correlation was found between SRL and L2P ($r = .28$, $p < .05$). The study found that the ideal L2 self was a significantly stronger statistical predictor of L2P than SRLL ($F(1, 289) = 87.635$, $p < .05$) in this sample. These results indicate that SRLL showed a weaker association with L2P than the motivational and strategy variables examined. The study highlights the importance of integrating the ideal L2 self alongside SRLL into the teaching and learning process, given the comparatively stronger association observed for the ideal L2 self. In addition, the study discusses the educational implications and proposes suggestions for future research.

1. INTRODUCTION

Motivation in second languages (L2) has been a prominent topic in language acquisition research since Gardner and Lambert (1959) pioneering work in 1959. It was found that integrativeness is the crucial factor in motivating L2 learners. Building on this, Dörnyei (2010) L2 Motivational Self System (L2MSS) extends Gardner (1985) paradigm, providing greater relevance to many language learning environments in our global society. This model combines several field-based strategies (Noels, 2003; Ushioda, 2001).

Studies on Language Learning Strategies (LLS) have explored the relationship between strategy use and linguistic proficiency for over four decades, with major contributions from Oxford (1990), Chamot (2004), and O'Malley and Chamot (1990). Factors such as learners' self-efficacy

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beliefs (Bandura, 1997; Zimmerman, 2000), motivation (Dörnyei, 2005), competency (MacIntyre & Noels, 1996), learning styles (Reid, 1995), and personal traits, including gender (Ehrman & Oxford, 1989), significantly influence strategy selection. Scholars, including Gavriilidou and Papanis (2009), Green and Oxford (1995), and O'Malley and Chamot (1990), have made major contributions. While various taxonomies have been developed to classify LLS, there remains considerable debate over the number of strategies and their appropriate categorization. Despite ongoing discussions regarding its construct validity, Oxford's updated Strategy Inventory for Language Learning (SILL) remains the most widely used instrument for LLS (Park, 2011).

Currently, research has shifted from identifying LLS to exploring Self-Regulated Learning (SRL), a construct that partially overlaps with metacognitive, affective, and motivational dimensions of language learning. SRL emphasizes that learners should not only engage in strategies but also regulate the planning, monitoring, and evaluation of their cognitive and motivational processes, distinguishing SRLL from strategy use as operationalized in LLS taxonomies. Dörnyei (2005) emphasized that the true value of strategies is their ability to enhance motivation and engagement. This idea is further supported by Tseng et al. (2006), who suggest that learners' creative efforts can lead to better language learning results.

Numerous studies have investigated the efficacy of SRL strategies in enhancing foreign language learning (FLL) performance. Panadero et al. (2017) analyzed 19 studies and found that SRL interventions greatly improve FLL by boosting motivation, self-confidence, and language skills. However, research (e.g. Ridgley et al., 2020; Schunk & Zimmerman, 2011) has also identified factors influencing the efficacy of SRL interventions, including baseline motivation and competence. According to Schunk and Zimmerman (2011), these learner characteristics influence the effectiveness of SRL interventions. Ridgley et al. (2020) also suggested that the efficiency of SRL interventions is affected by the type, duration, and context surrounding them.

Although SRL shows promise, more research is needed to test its effectiveness in L2 settings. Panadero (2017) found six SRL models that do not consider language proficiency, showing the need to explore how SRL and language skills are connected. Addressing this gap demands more empirical studies to explain these relationships (Al-Hoorie, 2018; Bahrami et al., 2023; Panadero, 2017; Su et al., 2023). The current study significantly enhances our understanding of how L2MSS, SRLL, and LLS collectively affect Second Language Proficiency (L2P). The study offers valuable insights by enhancing current models and providing practical ideas for educators seeking effective teaching strategies. As such, this study aims to address these gaps by examining the following research questions (RQs):

RQ (1): What are the interrelationships between L2MSS, SRL, LLS, and L2P?

RQ (2): What are the best predictors of L2P level?

2. LITERATURE REVIEW

L2MSS

As Papi (2010) points out, learning motivation in second language acquisition (SLA) is a multifaceted and complex idea. Early research on L2 motivation yielded contradicting findings reflecting the difficulties in comprehending this idea. The socio-educational model, developed by Gardner and colleagues (Gardner, 1985; Gardner & Lambert, 1972), is the key in L2 motivation research. Their paradigm, in fact, stresses the importance of integration (Gardner, 1985; Gardner & Lambert, 1972). Scholars have since challenged and extended essential elements of this paradigm, like attitude and integrativeness (Dörnyei, 2005). These advances underline the growing need for a precise definition of L2 motivation (Ushioda, 2006).

To tackle these challenges, Dörnyei (2005) created the L2MSS, a framework to better understand L2 motivation. Ueki and Takeuchi (2013) explain that the L2MSS assumes that having a clear vision of one's ideal L2 self can be a strong motivator for language learners, a motivational dimension that conceptually intersects with affective and self-regulatory components of SRLL. Csizér and Dörnyei (2005) refined this model, emphasizing the significance of L2 self-research. Several empirical studies have confirmed the L2MSS in different L2 learning contexts, such as those by Al-Shehri (2009), Kim (2009), Ryan (2009), and Taguchi et al. (2009).

Dörnyei's (2005) model incorporates ideas from potential selves (Markus & Nurius, 1986) and self-discrepancy (Higgins, 1987). It also draws on Gardner's socio-educational model (1978, 1985). In his framework, the ideal L2 self is the learner's envisioned identity as a skilled L2 user. The ought-to L2 self, on the other hand, includes the qualities needed to meet external expectations and avoid negative outcomes. Furthermore, the L2 learning experience includes the direct influences of the instructor, course, peer group, and past successes (Dörnyei, 2009). Several studies in Asia (Kim & Kim, 2014; Peng, 2015; Taguchi et al., 2009; Yashima et al., 2017; Yung, 2019) support the L2MSS.

LLS

Starting in the 1970s, early research focused on identifying what makes "good language learners" different from others (Naiman et al., 1978; Rubin, 1975; Stern, 1975). According to Takeuchi (2019), effective L2 learners generally use particular styles, approaches, and behaviors, referred to as learning strategies, to enhance their language acquisition. Studies have shown that effective use of these strategies enhances L2 learning outcomes (Ellis, 1994; O'Malley & Chamot, 1990; Oxford, 1990), a trend that persisted in the 1990s. This ongoing relationship between strategy use and L2 proficiency directly informs the research questions of this study.

Early studies concentrated on categorizing various approaches. For example, Rubin (1981) developed the first classification. Oxford (1990) divided approaches into two categories. She considers direct strategies to facilitate L2 learning directly, whereas indirect strategies support learning without direct use of the language. O'Malley and Chamot (1990) used cognitive theory to categorize learning strategies into three types: social/affective (learning with others and regulating emotions), metacognitive (managing one's learning), and cognitive (processing language).

Oxford (1990) advanced the LLS categorization by suggesting a more comprehensive taxonomy. She distinguished direct strategies (i.e., cognitive, compensatory, and memory strategies) from indirect strategies (i.e., emotional, metacognitive, and social strategies). This classification has drawn criticism for its complexity (Cohen & Wang, 2018; Dörnyei, 2005; Ellis, 1994; Oxford, 2016; Oxford & Amerstorfer, 2018). Recent studies emphasize the effectiveness of strategies rather than focusing solely on their classification (Oxford, 2016; Oxford & Amerstorfer, 2018).

More recently, LLS research has shifted toward an emphasis on self-regulation, recognizing that techniques involve regulating one's learning processes and behavioral and cognitive aspects (Dörnyei, 2005; Papadopoulou et al., 2018), thereby introducing conceptual overlap between LLS components and broader SRLL constructs. Scholars have begun to reinterpret "strategy" to reflect this broader viewpoint (Gu, 2012; Rose, 2012). Modifying her 1990 taxonomy, Oxford (2016) Strategic Self-Regulation paradigm stresses students' regulation of cognition, emotion, and social interaction, providing a more integrated approach to LLS and SRL, while conceptually situating strategy use as a subset of broader self-regulatory processes.

SRL

Since SRL addresses several elements (e.g., self-efficacy, volition, and cognitive strategies), it has become a significant focus of study in educational psychology (Panadero, 2017). One of the pioneers in developing SRL models, (Zimmerman, 1986, 1989) delineated the interaction among the learner's environment, behavior, and personal circumstances. Zimmerman (2000) put forth a cycle model of SRL, emphasizing the relationship between metacognition and motivation. Zimmerman and Moylan (2009) later developed a multi-level model, identifying four phases through which students acquire self-regulating abilities.

(Boekaerts, 1991, 1992, 1996) developed a model classifying SRL into six groups: cognitive self-regulating strategies (e.g., monitoring and adjusting); cognitive strategies (e.g., summarization or elaboration); domain-specific knowledge and skills (e.g., expertise relevant to a subject area); motivation strategies (e.g., sustaining effort and persistence); motivational beliefs and theory of mind (e.g., self-efficacy and awareness); motivational self-regulating strategies (e.g., goal-setting and self-motivation). The evolving nature of SRL was emphasized in her second model, the Adaptable Learning Model. Other frameworks, such as (Winne, 1995, 1997), (Winne & Hadwin, 1998, 2008), metacognitive approach to SRL, and Pintrich et al. (1993) developed a questionnaire to support the model, which has since become a valuable tool for assessing SRL and motivation. Then, Pintrich (2000) four-phase model (i.e., forethought, monitoring, control, and reaction-reflection) has deepened our understanding of how learners regulate their learning. Later, Efklides (2011) introduced the Metacognitive and Affective Model of Self-Regulated Learning (MASRL). Her model underlines the role of metacognition in SRL. Panadero (2017) expanded her model by studying the relationship between metacognition, motivation, and affect in SRL.

L2P

Previous studies have indicated that English language learners who use a wider range of methods typically score higher on competence exams (Green & Oxford, 1995; Lan & Oxford, 2003). Language proficiency (LP), categorized as beginner, intermediate, or advanced, refers to L2P in this study. Richards and Schmidt (2013) define proficiency level as a learner's ability to utilize a target language. LP, particularly in English, is essential for university admissions, study abroad programs, and job prospects.

3. METHODOLOGY AND DESIGN

Study background, participants, and procedures

This study is part of a large-scale PhD project conducted during the COVID-19 pandemic in Sari, Mazandaran, Iran, building upon earlier research while integrating new research questions focused on concurrent predictors of L2 proficiency. The participants, procedures, and instruments used in this study were similar to those employed by (ZabihiAtergeleh et al., 2025). 630 Iranian high school EFL students were initially involved in the study. Due to limitations and convenience sampling, the final analysis consisted of only 313 students. Data were collected using four validated Persian-language instruments. Earlier, the relationships between SRLL, LLS, and L2P were explored using correlational analysis (ZabihiAtergeleh et al., 2024). A follow-up study examined motivational pathways leading to SRLL through Structural Equation Modeling (SEM) (ZabihiAtergeleh et al., 2025). The current study investigates the interrelationship among L2MSS, LLS, SRLL, and L2P, offering a more integrated examination of motivation, SRLL, and LLS as concurrent predictors of proficiency, which is a unique contribution compared to previous work.

The data collection consisted of two stages. Initially, agreements were made with three senior high schools, and approval was granted following a clarification of the study's objectives, which build upon but extend earlier findings by examining how motivation, self-regulation, and strategy use concurrently predict language proficiency. Then, students completed consent forms along with the self-report L2P, L2MSS, SILL, and SRL questionnaires, with instructions provided on the first page. Participants had 30 minutes to complete each questionnaire during separate class sessions. Afterward, all participants were appreciated.

This study uses different RQs and analysis methods, further advancing the understanding of how motivational, self-regulation, and strategy-based constructs interact to predict language proficiency, offering a clearer conceptual framework than previous analyses. To examine the relationships among the variables, tables from ZabihiAtergeleh et al. (2025) were incorporated. This study, in fact, provides new insights while complementing earlier works. The demographic characteristics of the participants are presented in Table 1.

Table 1: Demographic profile of the participants

Characteristic	Description
Selection Criteria	Voluntary participation
Gender	186 females, 427 males
Grade Levels	10th, 11th, and 12th
School Type	public urban senior high schools
Education	K–12 centralized education system
Consent	Administrative, parental, and students' approval obtained

Instruments

SRL questionnaire

To evaluate SRLL, this study adopted the 40-item questionnaire developed by Salehi and Jafari (2015). The participants rated each item based on a six-point Likert scale (i.e., ranging from strongly agree to strongly disagree). It includes 13 subscales and provides a more comprehensive assessment. It is more extensive than similar measures by Kadioglu et al. (2011) and Tseng et al. (2006). Due to the study's scope, nine subscales were analyzed: attitude, self-efficacy, concentration-sustained attention, intrinsic motivation (IM), memory strategies, organization, regulation of environment, self-evaluation, and self-monitoring. Its reliability was confirmed with a Cronbach's alpha of 0.74 and a split-half reliability of 0.79. Its validity was established through expert reviews, content validation, and factor analyses.

SILL questionnaire

The study used the self-report questionnaire (Oxford, 1990) as the second instrument. It contains 50 items divided into six strategy categories. Table 2 presents the categories, descriptions, and number of items in each category. Rather than translating the questionnaire, a Persian version translated and validated by Tahmasebi (1999) for Iranian learners was used. The validation process involved psychometric methods (CFA and EFA). The internal consistency of the scale was reported as $\alpha = 0.91$. Iranian researchers (Abedini et al., 2011; Akbari & Hosseini, 2008; Azar & Saeidi, 2013) reported Cronbach's alpha coefficients of 0.77, 0.91, and 0.89, respectively. Its relevance is also supported by its widespread use in Iranian studies (Shirzad et al., 2021).

Table 2: Categories and items in the SILL questionnaire

Strategy Category	Description	Number of Items
Memory	storing and retrieving information	9
Cognitive	understanding and producing language	14
Compensation	overcoming language learning limitations	6
Metacognitive	planning and directing learning	9
Affective	controlling emotions and motivation	6
Social	Cooperating with others in language learning	6

L2MSS questionnaire

Learners' motivation was gauged with the 73-item questionnaire designed by (Taguchi et al., 2009). It covers 10 facets: attitudes toward learning English, attitudes toward the L2 community, criterion measures, cultural interest, family influence, ideal L2 self, instrumentality prevention, instrumentality promotion, integrativeness, and ought-to L2 self. A Persian version, translated and psychometrically verified by (Khaleghizadeh et al., 2020), posted reliability coefficients above .70 and convergent-validity coefficients exceeding .50. Statement-type items are rated on a six-point Likert scale ranging from strongly agree to strongly disagree, whereas question-type items use a six-point scale from not at all to very much. Table 3 incorporates several subscales previously outlined by ZabihiAtergeleh et al. (2025) to enable direct comparison with the current findings. Within the present sample, internal-consistency estimates (Cronbach's α) for the six-item ideal L2 self, ought-to L2 self, and attitudes toward English subscales were .87, .83, and .87, respectively.

Self-report L2P

A self-rating five-point scale was used to assess participants' self-perceived L2P. Students rated their proficiency as: upper-intermediate (5), intermediate (4), pre-intermediate (3), upper-beginner (2), and beginner (1). The scale ranged from beginner (1) to upper-intermediate (5). Many researchers in SLA (Dewaele, 2002, 2005; Duan, 2006; MacWhinnie & Mitchell, 2017; Papi et al., 2019; Subekti, 2018; Taguchi et al., 2009) have effectively used self-assessment scales to capture learners' perceived proficiency, particularly in motivation- and self-concept–oriented research.

4. RESULTS

Table 3 shows the reliability of the questionnaires. Most constructs had values above .80. However, the compensation, metacognitive, and affective components had acceptable reliability. Their values ranged from .60 to .80. Table 3 shows that the reliability values are at least .60. According to (Dörnyei & Taguchi, 2009), these values are considered acceptable. The overall SRLL reliability (α = .85) reveals strong internal consistency. Some components were adapted from (ZabihiAtergeleh et al., 2025), ensuring consistency with previous research.

Table 3: Components of L2MSS, SILL, and SRLL with Cronbach alpha coefficients

	Number of Items	Cronbach's alpha
Memory	9	.82
Cognitive	14	.87
Compensation	6	.60
Metacognitive	9	.74
Affective	6	.75
Social	6	.80
Ideal L2 self	6	.87
Ought-to L2 self	6	.83
Learning Experience	6	.87

***Note*: SRLL reliability = .85**

Several descriptive statistics from ZabihiAtergeleh et al. (2025) were adapted for comparison. These include the SRL, cognitive, memory, metacognitive, compensation, affective, and social subscales (see Table 4). Table 4 shows the sample size, range, mean, standard deviation (SD), skewness, kurtosis, and their standard errors. L2P has a mean of 3.69 (SD = 1.12), and SRL has a mean of 159.65 (SD = 20.74). Most variables have a slight negative skewness, meaning the data leans slightly left. Overall, the distributions are close to normal. The skewness and kurtosis values were within the acceptable range (Gravetter & Wallnau, 2014), so the data were determined to be normally distributed.

Table 4: Descriptive statistics

						Skewness		Kurtosis	
	N	Mix	Max	Mean	SD	Statistic	Std. Error	Statistic	Std. Error
L2 Proficiency	311	1	6	3.69	1.116	-.824	.138	.164	.276
SRL	311	85.00	206.00	159.6527	20.74006	-.593	.138	.861	.276
Memory	313	9.00	42.00	28.8083	6.73122	-.499	.138	.124	.275
Cognitive	313	14.00	64.00	46.0096	10.35352	-.459	.138	-.166	.275
Compensation	313	6.00	29.00	19.1853	4.61715	-.446	.138	-.070	.275
Metacognitive	313	9.00	45.00	32.5080	7.83529	-.611	.138	-.014	.275
Affective	313	6.00	30.00	18.2652	4.95977	-.168	.138	-.383	.275
Social	313	6.00	30.00	21.3482	5.11817	-.629	.138	.051	.275
IdealL2Self	306	6.00	36.00	28.0784	6.49593	-1.069	.139	.908	.278
OughttoL2Self	305	6.00	36.00	21.9443	6.45889	-.486	.140	-.122	.278
LX	306	6.00	36.00	27.0719	6.72953	-1.032	.139	1.027	.278
Valid N (listwise)	291								

***Note*: LX = Learning experience.**

Addressing RQ 1

Table 5 shows the Pearson correlation coefficients. Ideal L2 self (.503), affective strategy (.499), compensation strategy (.478), metacognitive strategy (.475), and learning experience (.425) show strong positive correlations with L2P. In contrast, SRLL (.28), ought-to-self (.170), memory strategy (.337), and social strategy (.341) show weaker correlations with L2P. All constructs were statistically significant ($p < .05$). These findings suggest that the ideal L2 self, affective compensation, and metacognitive strategies are essential for improving L2P.

Table 5: The interrelationships between L2MSS, SRLL, LLS and L2P level

		Pro	SRLL	Ideal	Ought	LX	Memo	Cog	Comp	Meta	Affect	Social
Pro	Pearson Correlation	1	.28**	.503**	.170**	.425**	.337**	.478**	.478**	.475**	.499**	.341**
	Sig. (2-tailed)		.00	.000	.003	.000	.000	.000	.000	.000	.000	.000
	N	311	309	304	303	305	311	311	311	311	311	311

***Note*: Pro = Proficiency, Cog = Cognitive, Comp = Compensation, Meta = Metacognitive, Affect = Affective.**

Addressing RQ 2

Table 6 displays the results of a multiple regression analysis examining how the ideal L2 self, compensation, metacognitive, and social strategies predict L2P levels. The adjusted R-squared values indicate that adding more predictors slightly improves the model's ability to explain proficiency variance. The ideal L2 self alone (Model 1) explains 23% of the variance. When all four predictors are included (Model 4), the model explains about 30% of the variance. Table 6 suggests that a combination of motivational and strategic factors better explains proficiency than any single factor.

Table 6: R-Square values for predictors of L2P

Model	R	R Square	Adjusted R-Square	Std. Error of the Estimate
1	.482[a]	.233	.230	.959
2	.537[b]	.288	.283	.925
3	.549[c]	.301	.294	.918
4	.558[d]	.311	.302	.913

a. Predictors: (Constant), Ideal L2 Self
b. Predictors: (Constant), Ideal L2 Self, Compensation
c. Predictors: (Constant), Ideal L2 Self, Compensation, Metacognitive
d. Predictors: (Constant), Ideal L2 Self, Compensation, Metacognitive, Social

Several hierarchical regression analyses examined how variables predict L2P levels. The use of hierarchical regression was primarily driven by its greater model parsimony, focus on specific predictor variables, and sample size considerations, which may limit the reliability of SEM in this context. As shown in Table 7, the first model with ideal L2 self significantly predicted proficiency, $F (1, 289) = 87.635$, $p < .001$, including compensation strategies improved the model, $F (2, 288) = 58.292$, $p < .001$. Given the statistical results, $F (3, 287) = 41.267$, $p < .001$, and $F (4, 286) =$

32.322, p < .001, the inclusion of metacognitive and social strategies further enhanced the model fit. These results suggest that combining the ideal L2 self with other strategies enhances L2P prediction.

Table 7: ANOVAa Statistical significance of the final regression model

	Model	Sum of Squares	df	Mean Square	F	Sig.
1	Regression	80.547	1	80.547	87.635	.000[b]
	Residual	265.625	289	.919		
2	Total	346.172	290			
	Regression	99.753	2	49.876	58.292	.000[c]
	Residual	246.419	288	.856		
3	Total	346.172	290			
	Regression	104.325	3	34.775	41.267	.000[d]
	Residual	241.847	287	.843		
	Total	346.172	290			
4	Regression	107.772	4	26.943	32.322	.000[e]
	Residual	238.400	286	.834		
	Total	346.172	290			

a. Dependent Variable: Pro_Self_test
b. Predictors: (Constant), Ideal L2 Self
c. Predictors: (Constant), Ideal L2 Self, Compensation
d. Predictors: (Constant), Ideal L2 Self, Compensation, Metacognitive
e. Predictors: (Constant), Ideal L2 Self, Compensation, Metacognitive, Social

Table 8 shows the results of a regression analysis predicting L2P levels. The results show that the ideal L2 self was the strongest predictor, with a high standardized beta value (β = .482, t = 9.361, p < .001). It consistently showed significant results across all models. Other predictors (e.g., metacognitive and social factors) also contributed to L2P, though their effects varied. Multicollinearity was minimal, as shown by VIF values below 3. The findings of Table 8 emphasize the ideal L2 self as the most important factor in predicting L2P levels. Other variables also contribute uniquely to understanding language performance.

Table 8: Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients Beta	t	Sig.	Collinearity Statistics	
		B	Std. Error				Tolerance	VIF
1	(Constant)	1.373	.256		5.373	.000		
	IdealL2Self	.083	.009	.482	9.361	.000	1.000	1.000
2	(Constant)	.712	.283		2.512	.013		
	IdealL2Self	.062	.010	.361	6.463	.000	.791	1.264
	Compensation	.065	.014	.265	4.738	.000	.791	1.264
3	(Constant)	.603	.285		2.115	.035		
	IdealL2Self	.050	.011	.292	4.638	.000	.614	1.628
	Compensation	.049	.015	.200	3.229	.001	.633	1.580
	Metacognitive	.023	.010	.162	2.329	.021	.503	1.989
4	(Constant)	.710	.288		2.463	.014		
	IdealL2Self	.053	.011	.309	4.892	.000	.603	1.657
	Compensation	.053	.015	.217	3.492	.001	.621	1.609
	Metacognitive	.037	.012	.261	3.086	.002	.336	2.977
	Social	-.034	.017	-.157	-2.034	.043	.403	2.483

Dependent Variable: Pro_Self_test

Table 9 shows the excluded variables from regression models predicting Self-Report L2P scores. In Model 1, significant predictors were compensation ($\beta = .265$, $p < .001$), metacognitive ($\beta = .263$, $p < .001$), and cognitive ($\beta = .237$, $p < .001$), while memory and affective were less impactful. In Model 2, metacognitive skills significantly predicted proficiency ($\beta = .162$, $p = .021$), whereas cognitive abilities ($\beta = .113$) and attitudes toward language learning had smaller, less significant effects. In Model 3, social factors slightly predicted proficiency ($\beta = –.157$, $p = .043$), while other variables were not significant. Model 4 had no significant predictors. Tolerance values across all models were above .40, indicating no multicollinearity issues.

Table 9: Excluded variables in regression analysis for predicting proficiency levels

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics Tolerance
1	SRL	.035[b]	.605	.546	.036	.790
	OughttoL2Self	.017[b]	.313	.754	.018	.928
	Attitudes to Language Learning	.131[b]	1.958	.051	.115	.591
	Memory	.107[b]	1.888	.060	.111	.826
	Cognitive	.237[b]	3.909	.000	.224	.689
	Compensation	.265[b]	4.738	.000	.269	.791
	Metacognitive	.263[b]	4.150	.000	.238	.628
	Affective	.099[b]	1.721	.086	.101	.795
	Social	.090[b]	1.470	.143	.086	.705
2	SRL	-.016[c]	-.273	.785	-.016	.762
	OughttoL2Self	.017[c]	.327	.744	.019	.928
	Attitudes to Language Learning	.066[c]	1.001	.318	.059	.563
	Memory	.002[c]	.039	.969	.002	.691
	Cognitive	.113[c]	1.571	.117	.092	.472
	Metacognitive	.162[c]	2.329	.021	.136	.503
	Affective	-.012[c]	-.197	.844	-.012	.659
	Social	-.020[c]	-.308	.758	-.018	.603
3	SRL	-.067[d]	-1.112	.267	-.066	.678
	OughttoL2Self	.017[d]	.332	.740	.020	.928
	Attitudes to Language Learning	.019[d]	.278	.781	.016	.505
	Memory	-.071[d]	-1.082	.280	-.064	.560
	Cognitive	.027[d]	.309	.758	.018	.320
	Affective	-.123[d]	-1.719	.087	-.101	.470
	Social	-.157[d]	-2.034	.043	-.119	.403
4	SRL	-.053[e]	-.878	.381	-.052	.668
	OughttoL2Self	.018[e]	.350	.727	.021	.928
	Attitudes to Language Learning	.029[e]	.415	.678	.025	.503
	Memory	-.042[e]	-.617	.538	-.037	.528
	Cognitive	.078[e]	.868	.386	.051	.298
	Affective	-.092[e]	-1.248	.213	-.074	.440

a. Dependent Variable: Pro_Self_test
b. Predictors in the Model: (Constant), IdealL2Self
d. Predictors in the Model: (Constant), IdealL2Self, Compensation, Metacognitive
e. Predictors in the Model: (Constant), IdealL2Self, Compensation, Metacognitive, Socia

5. DISCUSSION

This study acknowledges prior studies (Hunutlu, 2023; Redmer, 2022). However, the findings offer new insights. The findings build on (ZabihiAtergeleh et al., 2025), strengthening key insights. The analyses revealed that the ideal L2 self, affective, compensation, and metacognitive strategies showed strong positive correlations with L2P, which may partly reflect shared variance among motivational, strategic, and self-regulatory constructs. In fact, the ideal L2 self is the strongest predictor of L2P, explaining 23% of the total variance. In contrast, SRLL, the ought-to L2 self, memory, and social strategies demonstrated weaker correlations. Additionally, SRLL did not show a significant contribution to learners' L2P levels.

L2MSS and L2P

The study found a strong correlation (r = .503) between the Ideal L2 Self and self-perceived L2P (Table 4). This supports previous research on L2MSS (Al-Hoorie, 2018; Papi, 2010; Taguchi et al., 2009), particularly studies emphasizing learners' subjective evaluations of their language ability. The ideal L2 self influences learners' success by guiding decisions, fostering perseverance, and sustaining effort (Dörnyei, 2009; Papi et al., 2019). However, motivation alone is insufficient; learners must adopt strategic behaviors to succeed (Oxford, 2016; Tseng et al., 2006).

The results support six SRL models (Efklides, 2011; Pintrich, 2000; Winne, 1995; Winne & Hadwin, 1998; Zimmerman, 1986). Ryan (2008) found a strong link between motivators and students' intended learning efforts (ILE), which supports these findings. Similarly, Moskovsky et al. (2016) showed that L2MSS components predict intentional learning. Danesh and Shahnazari (2020) found that L2 motivation and resilience directly impact LP, with resilience playing an indirect role. These studies support the results of the current investigation. Takahashi and Im (2020) argued that internalized motivation predicts both ILE and LP, aligning with this research.

ZabihiAtergeleh et al. (2025) revealed that the ideal L2 self and learning experiences improve SRLL through IM, while the ought-to L2 self has little effect. Although the ideal L2 self shapes motivated behavior, its impact was weaker than the L2 learning experience. Kim (2020) demonstrated that self-efficacy plays a role in realizing the ideal L2 self. Kim (2020) also discovered that communication skills better reflected the ideal L2 self than academic skills. Ghasemi (2018) reported that visual learning strategies have a positive effect on the ideal L2 self, influencing LP through increased motivation. Previous studies have shown that a clear self-image of the gap between the actual and ideal L2 selves drives goal-oriented behavior (Dörnyei, 2009; Ryan & Dörnyei, 2013).

Wong (2020) found that self-perceived proficiency impacted the ideal L2 self, learning efforts, and proficiency. This mediation enhanced performance and proficiency. Maghsoudi (2022) demonstrated that LP was a more significant predictor of variations in reading scores than motivation. Motivation had a more significant effect on proficiency for learners with initially low motivation. Ghavamnia and Kashkouli (2022) emphasized the significance of motivation and reading strategies for the success of advanced L2 readers. Overall, the results support previous studies, showing that the ideal L2 self plays a key role in the relationship between motivation and LP.

LLS and L2P

The study found that affective, compensation, and metacognitive strategies are linked to LP, while social strategies are weaker predictors. This challenges the belief that social strategies are always beneficial. Consistent with SRL models (Boekaerts, 1996; Winne, 1995; Zimmerman, 1986), this

research shows the predictive power of LLS for LP. Besides the ideal L2 self, strategies (i.e., compensatory, metacognitive, and social) were predictors of LP. Amini et al. (2020) found that understanding metacognitive strategies and using SRL improved L2 reading proficiency. (ZabihiAtergeleh et al., 2024) found that metacognitive strategies were the best predictors of SRLL and L2P, highlighting the importance of teaching SRL in language classes.

Stander (2020) examined the relationship between LLS and LP, confirming that compensatory strategies are essential for enhancing LP. She stressed the importance of teaching students not only to identify and apply suitable LLS for various activities, but also to help them compensate for knowledge gaps and enhance communication skills. Previous studies (e.g., Hardan, 2013; Liang, 2009; Ou-chun, 2011) (support the idea that compensatory strategies foster LP by encouraging learners to infer meanings and develop creative solutions.

Further studies (e.g., Hong-Nam & Leavell, 2006; Tajeddin & Alemi, 2010; Zare, 2012) suggest that effective learners use more LLS. The present study supports this, showing that successful learners rely more on LLS than less successful ones. In addition to LLS usage, Zare (2012) noted that factors like environment, learning experience, and cultural background influence LLS decisions, which impact achievement. Lee (2010) found that LLS improves EFL skills and performance in other subjects (e.g., chemistry and math). Finally, Tam (2013) points out that the link between LLS and LP is important for teachers, as it helps them adjust their teaching strategies based on learner proficiency.

SRL and LP

This study found a weaker correlation between SRLL and L2P (r = 0.28), which may be influenced by conceptual overlap between SRLL measures and metacognitive or affective strategies assessed through SILL. This finding disputes earlier studies that highlighted SRLL's role in learners' performance (Panadero, 2017; Pintrich, 2000; Zimmerman, 2000). Iranian high school students may lack explicit SRLL training, which may limit the extent to which self-regulatory processes are fully internalized or consistently enacted. Highly motivated students may compensate for weaker self-regulatory engagement by relying on contextual supports such as teacher guidance, structured learning activities, or surface-level learning strategies. Younger learners may not yet consistently rely on SRLL, suggesting that the role of self-regulation may be developmentally contingent and more salient at higher educational levels (e.g., university or study abroad).

Despite positive correlations between L2MSS and LLS with L2P, SRL did not significantly predict L2P in this study. This finding disputes previous studies identifying SRL as a significant predictor of LP. As reported by Yuksel et al. (2023), self-regulation and learning anxiety were major predictors of proficiency in English-medium teaching environments. However, (Thao & Long, 2021) found that students who used SRLL regularly had greater proficiency, although they encountered difficulties in effectively applying SRLL strategies.

Some studies have revealed that self-regulation instruction improves reading skills at all LP levels (Morshedian et al., 2017). This study did not reveal a strong relationship between SRL and L2P, which may partly reflect differences between self-reported regulatory tendencies and actual regulatory behavior in learning contexts. Souvignier and Mokhlesgerami (2006) pointed out that self-regulation benefits all learners. Abbasian and Hartoonian (2014) found a strong connection between SRL and reading comprehension, which was not confirmed in this study. Similarly, Mirhassani et al. (2007) found that students who managed their learning more effectively scored higher; however, this effect was not observed in the current study.

6. CONCLUSION

The results revealed that the ideal L2 self is the strongest predictor of L2P. This finding supports (Dörnyei, 2009) model as a key framework in L2 motivation. However, the comparatively weaker association between SRLL and L2P is less consistent with accounts that emphasize a strong direct relationship between SRL and L2 success. Based on these results, an essential question arises: Why does SRLL show a weaker association with L2P than motivational variables in this educational context? (Dörnyei, 2009) L2MSS suggests that the ideal L2 self may be linked to motivation in ways that are not fully explained by self-regulation. This suggests that stronger motivation may be associated with higher self-reported LP, even when explicit SRLL strategies show a weaker association in this context. Zimmerman (2000) model posits that SRL is most effective when combined with high motivation. If students lack a clear vision of their ideal L2 self, their self-regulatory efforts may be ineffective or inconsistent.

The study highlights that affective, compensation, and metacognitive strategies are among the strongest predictors of LP, whereas social strategies show weaker or negative correlations.

These results underscore the importance of interpreting SRLL–proficiency relationships within specific developmental, contextual, and methodological conditions. First, (Oxford, 1990, 2016) argued that LLS facilitates learning by helping learners regulate cognitive, metacognitive, and affective processes. Nevertheless, the results indicate that not all LLS are equally effective in predicting L2P. Second, Zimmerman (2000) asserted a direct relationship between SRL theories and metacognitive and compensation strategies. These strategies enable students to track their progress, refine their learning methods, and address any areas for improvement. The weaker association between social strategies and L2P may reflect broader cultural and environmental factors in Iranian EFL settings, highlighting the context- and level-dependent nature of self-regulatory and strategy-based processes. In these settings, teacher-centered lessons and limited communication opportunities hinder the use of social strategies.

The results show that SRL is more effective at higher L2P levels and usually needs external support before becoming an independent skill. Several factors may contribute to the varying effectiveness of SRL at different levels of L2P. First, SRL might work better at higher skill levels. As Efklides (2011) notes in the MASRL model, new learners have trouble with it because they have too much information to process. This may clarify why SRLL is not as strong a predictor of L2P in the Iranian context. These EFL learners may not yet fully differentiate among motivational, strategic, and self-regulatory processes, which may contribute to attenuated or overlapping associations among these constructs. Second, SRLL may require teachers' support before it becomes effective. As Hadwin et al. (2011) propose, SRLL develops in stages before it becomes an independent skill.

This study delimits its focus to Iranian high school EFL students and relies on self-reported measures of L2 proficiency rather than objectively assessed language performance. The study also limits its data collection to exclusively quantitative measures. Therefore, further studies could extend generalizability by recruiting university students from various academic disciplines, incorporating objective proficiency measures, and employing probability-based sampling methods. To develop more reliable and valid outcomes, further studies should employ a SEM approach or a mixed-methods design. Besides, curriculum designers should integrate explicit self-regulation training into language instruction. Finally, personalized strategy training should be used to help learners identify and refine strategies that best suit their learning styles. The Iranian EFL classrooms may limit peer interaction, meaning social strategies are less effective than in communicative language learning environments. Instead of promoting all LLS equally, educators should prioritize high-impact strategies.

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