Investigating the link between the L2 motivational self system and learning strategy use

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ABSTRACT

The purpose of this paper is to explore the relationship between motivation, learning strategy use, and English proficiency level in the context of learning English as a foreign language in primary and secondary education in Greece. The L2 Motivational Self System (L2MSS) and the Strategy Inventory for Language Learning (SILL) provided the theoretical frameworks for the study to investigate links between the components of each model. The sample comprised 380 primary and 482 lower secondary learners in Greek state schools who were selected by the proportionate stratified random sampling method in two stages. Quantitative data was collected by means of a motivation and learning strategy questionnaire survey and the Quick Placement Test to measure learners' English proficiency. The results revealed higher motivation and learning strategy scores for primary school learners. At the same time, English proficiency level correlated highly with motivation components for both levels of education, while strong correlations were reported between particular motivation and learning strategy components for primary as well as secondary school learners. In the light of the findings, the advancement of positive learning environments where learners are engaged in practical learning outcomes calls for policy implementation that should be promoted by curriculum designers and educators.

Keywords: *English proficiency level, Ideal L2 self, Learning strategies, Motivation, Primary learners, Secondary learners.*

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Highlights of this paper

- The purpose of the study is to explore the relation between motivation components of the L2MSS and learning strategy categories of the SILL at different levels of education and examine the effect of the L2MSS and the SILL on learners' English proficiency level.
- Primary school learners showed higher scores on motivation components than secondary school learners, and younger learners reported higher learning strategy scores for all learning strategy categories except for compensation strategies.
- English proficiency level correlated significantly with motivation and learning strategy components for secondary learners, whereas English proficiency only correlated significantly with learning strategy categories for primary learners.

1. INTRODUCTION

Teachers of English can easily identify motivated learners who are prepared to expend time and effort to achieve the objective of learning English. These learners possess a genuine enthusiasm for learning the English language and select the most appropriate learning strategies in order to be successful in the learning process (Oxford et al., 2014; Rubin, 1975). Integrative motivation appears to provide longstanding support to L2 language achievement (Gardner, 2012). Even though motivation and learning strategies constitute two factors that significantly affect the learning process, teachers are the ones who can reinforce motivation and shape strategy use to create an effective learning environment (Cohen & Henry, 2020).

Considering that not much attention has been given to the investigation of motivation through the prism of the L2 Motivational Self System (L2MSS) (Dörnyei, 2005) in the Greek educational setting, the current study explores the correlation between the components of the L2MSS and the Strategy Inventory for Language Learning (SILL) (Oxford, 1990) a self-evaluation instrument tailored to measure the frequency of learning strategies utilized by foreign and second language learners. In addition, the relation is examined with regard to English language proficiency and level of education. Therefore, the dearth of studies on learning strategy with the L2MSS in young adolescents has spurred the present study, which aspires to elucidate this relationship and its effect on primary and secondary learners' English language proficiency.

The purpose of this study is to unravel the nature of motivation as delineated in the L2MSS and learning strategy deployment as defined in the SILL at different levels of education. Moreover, the study intends to investigate the effect of the L2MSS and the SILL on the English proficiency level of primary and lower secondary school learners of English in Greece. Additionally, the study explores the extent to which the relation between motivation and learning strategy use is affected by learners' English language proficiency and level of education. The results are expected to enrich educators' expertise and sustain learners' engagement in the L2 learning process.

This paper presents results based on data collected from a large-scale study in primary and lower secondary state schools in the district of Thessaloniki (Batsari, 2022). Particularly, the study aims to investigate the following research questions:

1. Does the level of education affect learners' motivation and learning strategy use, and to what extent?

2. Do learners' motivation and learning strategy use affect learners' English language proficiency for each level of education, and to what extent?

3. Does learners' level of education affect the correlation between motivation and learning strategy use for the total sample, and if so, to what extent?

2. THEORETICAL BACKGROUND OF THE STUDY

The idea that lies behind learning strategy research is to reveal particular clusters and the learning strategy choice that good language learners employ in order to facilitate the use of strategies that have proven to be effective

in the L2 learning process (Griffiths, 2022). Studies have also attempted to determine factors that affect the type and frequency of learners' learning strategy use, such as L2 proficiency level (Lan & Oxford, 2003; Magogwe & Oliver, 2007; Psaltou-Joycey & Kantaridou, 2009; Yang, 2007), level of education (Mitits, Psaltou-Joycey, & Sougari, 2016; Psaltou-Joycey, Sougari, Agathopoulou, & Alexiou, 2014; Psaltou-Joycey & Sougari, 2010) and motivation (Agathopoulou, 2016; Rahimi, Riazi, & Saif, 2008; Vrettou, 2009, 2015; Wharton, 2000). Research on motivation and learning strategies has highlighted that more motivated learners employ learning strategies widely and more frequently; subsequently, this leads to successful L2 attainment (Agathopoulou, 2016; Lan & Oxford, 2003; Vrettou, 2015).

2.1. Language Learning Strategies

The qualities of a "good language learner" have been under persistent and extensive research since 1975, when Joan Rubin first introduced the insightful term of the good language learner. Rubin (1975) pinpointed several learning strategies that good language learners appear to utilize while trying to master a language. Thereafter, the field of a good learner's strategies has become the focus of investigation regarding the definitions of learning strategies, their categorization, and the formulation of questionnaires to explore learning strategy use as an asset for success in L2 acquisition (O'Malley & Chamot, 1990; Oxford, 1990).

Stemming from her recent work and integrating in-depth analyses, Oxford (2017) defined learning strategies in relation to establishing goals, shaping actions to achieve objectives, and recruiting resources for carrying out these actions. Strategies are deliberate, purposeful, can be deployed in a creative manner, and can be combined to meet learning needs (Oxford, 2011). Therefore, learning strategies are intricate, with thoughts and actions that are singled out by learners with a certain extent of consciousness in particular contexts to complete language tasks and enhance language proficiency (Oxford, 2017). Practically, learning strategies constitute all "the processes and actions deployed by language learners to learn or use a language more effectively" (Rose, 2015). A remarkable attribute of learning strategies is that they can be transferred to new tasks and situations (Oxford, 1990), and this entails encouragement and support for poor learners who can also succeed in L2 language learning.

Language learning strategies have been categorized into taxonomies, and two of the most widely adopted categorizations in learning strategy research are those suggested by O'Malley and Chamot (1990) and Oxford (1990). O'Malley and Chamot (1990) organized strategies into cognitive, metacognitive, and social-affective, whereas (Oxford, 1990) based on her empirical work, classified learning strategies into six categories: cognitive, memory, compensatory, metacognitive, affective, and social. To be more specific:

1) Cognitive strategies relate to the processing and arrangement of linguistic information, such as analyzing or summarizing it.

2) Memory strategies refer to the recollection of information by means of associations between linguistic forms, such as organizing them or employing mental imagery.

3) Compensation strategies involve trying to fill linguistic gaps, such as guessing, paraphrasing, or using gestures.

4) Metacognitive strategies concern the management of the learning process and the administration of learning tasks, for instance, planning, classifying, or identifying the means via which learning becomes more effective.

5) Affective strategies determine one's attributes in relation to emotion and affect and how these influence the learning process, such as managing anxiety or receiving encouragement.

6) Social strategies involve learning from others, cooperating with peers, or asking for help.

Oxford's SILL has been validated as the most comprehensive taxonomy of learning strategies and a standardized instrument for language learners; this instrument has been extensively adopted to collect data across a multitude of contexts and samples (Amerstorfer, 2018; Griffiths, 2022).

A considerable number of studies have examined the selection and frequency of particular learning strategy types and the different levels of proficiency of learners who apply learning strategies. Research in academic contexts worldwide has confirmed the correlation between learning strategies and learners' L2 proficiency level in a linear manner as the more proficient learners who employ more frequent and wider learning strategies (Chang & Liu, 2013; Psaltou-Joycey & Kantaridou, 2009; Sukying, 2021). In secondary education, relevant research has produced corresponding results to the positive correlations between learning strategies and English proficiency (Magogwe & Oliver, 2007; Vrettou, 2009; Yang, 2007). Additionally, elementary learners in Greece showed a linear relationship between English proficiency and learning strategy utilization (Vrettou, 2015).

Across various academic contexts, metacognitive strategies seem to be the most frequently used (Alrashidi, 2022; Martínez, Pérez, & Navarrete, 2016; Radwan, 2011). Similar results were reported in studies conducted in the Greek education context (Agathopoulou, 2016; Vrettou, 2009). In this respect, it appears that learners are capable of personally orchestrating their use of learning strategies in a productive manner and complete learning tasks (Oxford, 2017; Teng, 2023).

Research on learning strategy use in relation to level of education in Greece has made it apparent that, during the L2 learning process, primary learners tend to utilize a wider variety and a higher frequency of learning strategies, as secondary and more proficient learners adhered to a certain and time-tested set of strategies (Platsidou & Sipitanou, 2015; Psaltou-Joycey & Sougari, 2010). However, a decline in the frequency of learning strategy deployment was reported as learners grew older. Metacognitive strategies were the most preferred, and a higher proficiency level was associated with a higher frequency rate. Similar results but different strategic preferences were found in a study of primary and lower secondary learners, where the former mostly opted for metacognitive strategies and the latter favored affective strategies (Mitits et al., 2016).

It is important to note that proficiency level positively affects strategy employment, and more proficient learners appear to make use of their personal set of learning strategies, which can be less wide and greater in frequency. Moreover, learners' level of education determines their strategy selection, as explored in primary and secondary education. In the next section, motivation is another factor to be considered in terms of its effect on learning strategy use.

2.2. Motivation in Language Learning

Motivation is principally defined as group of incentives and reasons which navigate and dictate a person's conduct (Nevid, 2013). Motivation concerns the effect of internal or external factors on a learner's behavior, which is directed toward English language attainment. Sustaining motivation within the English language classroom depends on an aggregation of components that act as pillars to reinforce learners' drive to persist in achieving competency in English. Gardner's socio-educational model of second language acquisition (Gardner, 1985, 2012) provided the theoretical footing for the launch of the L2MMS. The key component of integrativeness provided the stimulus for the reinterpretation of the target language that people in a specific community speak. The idea of integrating and interacting with speakers of the target language has served as a steppingstone to conduct further research in the field of motivation. By virtue of the complex and multifaceted construct of motivation, the concept combines integrative and instrumental incentives that tend to fluctuate occasionally (Dörnyei, 2005, 2020).

The L2MSS (Dörnyei, 2005; Dörnyei & Ryan, 2015) emerged as a comprehensive paradigm that followed and developed previous research in the field of motivation. Dörnyei introduced the L2MSS in a venture to interpret individual differences and accommodate theories in language learning motivation (Al-Hoorie, 2018). After gathering data from learners of English as a foreign language in Hungary (Dörnyei, Csizér, & Németh, 2006), the variable of integrativeness felt weak when these learners had no direct contact whatsoever with the target language that they were in the process of learning. Accordingly, bringing the concept of possible selves (Markus & Nurius, 1986) and self-discrepancy (Higgins, 1998) into play, Dörnyei (2005) predicated the L2MSS that comprised the "ideal L2 self," the "ought-to L2 self," and "the L2 learning experience."

The ideal L2 self presents the image of an optimal identity whose features a person wishes to assimilate in the future in order to fulfill aspirations, such as achieving positive outcomes in L2 learning. On the contrary, the ought-to L2 self is specified as an identity that represents all fabricated but necessary assets of a person who is expected to meet obligations imposed by one's social milieu while avoiding negative learning outcomes in L2 attainment. In line with the self-discrepancy theory, an individual tends to reconcile one's existing self with one's ideal or ought-to identities (Higgins, 1998; Martinović, 2018). Last, the L2 learning experience is the present-oriented component of the L2MSS, as it refers to the facets of immediate learning conditions, such as course books, the teacher, teaching approaches, or group dynamics (Dornyei, 2019). Dörnyei (2005) suggested that instrumentality promotion and instrumentality prevention complement the ideal L2 self and the ought-to L2 self. Correspondingly, learners' motivated behavior is regulated by a promotion focus that relates to the ideal L2 self and regulates desired future goals, while a prevention orientation relates to the ought-to L2 self and associates with the avoidance of adverse learning outcomes (Higgins, 1998).

Empirical evidence appears to support the interplay between the ideal and the ought-to L2 selves and its effect on learners' motivation in different settings of foreign language learning. Research conducted in academic contexts attempted to test whether the L2MSS provides a good fit for the interpretation of learners' motivation (Islam, Lamb, & Chambers, 2013; Taguchi, Magid, & Papi, 2009; You & Dörnyei, 2016). Studies have also investigated motivation within the L2MSS framework in relation to adolescents and reported correlations with motivated learning behavior (Csizér & Lukács, 2010; Taguchi et al., 2009). The ideal L2 self and the ought-to L2 self have shown correlations with school grades in adolescents studying foreign languages (Dörnyei & Chan, 2013), and self-reported English proficiency correlated with the ideal L2 self of adolescents in Iran (Papi, 2010). Additionally, English proficiency level correlated with the ideal L2 self in Indonesian adolescents (Lamb, 2012). University students in Spain reported higher scores on the ideal L2 self compared to the other components of the L2MSS, and the ideal L2 self robustly predicted English proficiency (Bobkina, Gómez-Ortiz, Núñez del Río, & Sastre-Merino, 2021). Surprisingly, in a study conducted in the Japanese high school context, the ideal L2 self revealed an unforeseen negative correlation with learners' perceptions of their English proficiency (Yamagami, 2023).

Similar research across educational contexts in Greece following Gardner's paradigm demonstrated that integrative and instrumental motivation influenced learners' English language achievement in upper secondary school students (Nikolaou, 2010). Moreover, Greek and Armenian primary school learners of English displayed higher scores on instrumental motivation, whereas lower secondary learners showed higher scores on integrative motivation and motivation correlated with English proficiency (Sougari & Hovhannisyan, 2013). In the same vein, primary learners showed higher loadings on motivation variables than lower secondary learners, and the self-perceived English proficiency level was positively related to learners' motivation (Psaltou-Joycey, Vrettou, & Penderi, 2017). Notwithstanding, a recent study that adopted the L2MSS in adolescents revealed high scores on the

ideal L2 self and instrumentality promotion (Kantaridou & Xekalou, 2021). In addition, learners' self-reported level of competence showed increased scores on the ideal L2 self and instrumentality promotion.

Given the scarcity of research on motivation in relation to the L2MSS in the Greek educational setting, the present study aspires to contribute to the bulk of L2MSS research worldwide by applying Dörnyei's framework of motivation to primary and secondary learners of English in the Greek educational setting. Furthermore, the current study is designed to investigate the relation between the components of the L2MSS and the SILL with regard to English language proficiency and level of education.

2.3. Exploring Learning Strategy use in Relation to Motivation

Bearing in mind the interplay between learning strategy use and motivation, valuable insight comes forth concerning the mediating performance of this interplay in relation to L2 proficiency. Previous studies have suggested that motivation has an impact on learning strategy employment and that L2 proficiency affects learning strategy employment as far as elementary learners are concerned (Lan & Oxford, 2003). Strong correlations between proficiency level and learning strategy use have been reported in the case of post-secondary students; at the same time, motivation predicted learning strategy deployment (Rahimi et al., 2008). It has become apparent that learning strategy selection can be explained by the interaction between proficiency level and motivation. Similar findings have been reported in academic contexts where frequent use of learning strategies correlated with motivation (Chang & Liu, 2013; Martínez et al., 2016). A positive correlation was also reported between intrinsic motivation and English as a foreign language (EFL) proficiency in a tertiary setting, and all six categories of the SILL correlated with EFL proficiency (Zhang & Xiao, 2006). It is evident that motivation is a strong predictor of learning strategy use, and higher means in the frequency of strategy use relate to higher levels of L2 achievement. Cognitive, metacognitive, and social strategies appear to be the most popular among language learners in relevant research.

Studies conducted in the Greek educational context have drawn similar conclusions, i.e., learning strategy use correlated significantly with integrative and instrumental orientations in primary and secondary education (Agathopoulou, 2016; Vrettou, 2009, 2015). At this point, it is worth noting that in a sample of primary and secondary learners of English in Greece, strong and statistically significant correlations were reported between most of the L2MSS components and the SILL components (Batsari & Sougari, 2022). Moreover, the results have highlighted the effect of both motivation and learning strategy use on English language achievement. Regarding preference for learning strategy use, learners opted for cognitive and metacognitive strategies.

However, due to the lack of attention given to the relationship between learning strategies and the L2MSS, this study aims to understand the relationship between the components of the L2MSS and the SILL and its effect on English language proficiency. Additionally, the correlation is investigated in the context of different levels of education, which are primary and lower secondary school learners of English in Greece. The findings of this study are expected to provide additional information on understanding the aspects of motivation that guide learners' selection of strategies while learning English, as well as bear implications for syllabus and curriculum designers to promote learners' engagement in L2 learning.

3. THE STUDY AND RESEARCH METHODOLOGY

The purpose of the present study is to investigate the effect of the L2MSS on learning strategy deployment as defined in the SILL in Greek primary and lower secondary school learners of English and to explore the extent to which the relation between motivation and learning strategy use is affected by learners' English language

proficiency and level of education. The results are expected to expand teachers' expertise and learners' engagement in the learning process.

3.1. Research Design

The current study is a cross-sectional survey which followed the explanatory method of research. It is a quantitative study based on a questionnaire survey on motivation and learning strategy use and the quick placement test (QPT). The study was conducted from February to May 2018 in the 6th grade of primary schools and in the 3rd grade of lower secondary schools in the municipality of Thessaloniki, Greece.

3.2. Research Population

The current study investigates two levels of education, the 6th grade of primary school and the 3rd grade of lower secondary school, as both levels of education mark a transfer from primary to lower secondary education and then to higher secondary education. Information on the number of primary and lower secondary school students in Thessaloniki was collected from administrative bodies after official permission from the Ministry of Education was granted.

Proportionate stratified random sampling for the two stages was implemented (Lohr, 1999). The population was divided into two strata because of the eastern and western districts of Thessaloniki (first stage), and schools from each administrative district were divided into the two strata of primary and lower secondary education (second stage). Schools were selected randomly so that the ratio of the sample size in each stratum was approximately equal to the ratio of the stratum size of the total sample. Seven primary schools were selected from the western district and five schools were selected from the eastern district of Thessaloniki. Four lower secondary schools were selected from the western district and six were selected from the eastern district of Thessaloniki. A total of 862 learners (380 in the 6th grade of primary school and 482 in the 3rd grade of lower secondary school) completed the questionnaire and the QPT in school classrooms. The questionnaire and the QPT were administered on the same day in two consecutive teaching hours. The headmasters and teachers at the participating schools were notified beforehand and gave their consent. Parental consent was mandatory for all participants of the study.

3.3. Instrumentation

A questionnaire survey with three sections (motivation, learning strategy use, and demographic information) was designed for the collection of data regarding the scope of the present study (see Appendix). The motivation scale comprised 25 items to investigate the components of the tripartite L2MMS along with the two aspects of instrumentality promotion and instrumentality prevention. Considering the importance accredited to English language proficiency certificates in Greek state schools and private tuition, it was considered necessary to examine the two instrumentality types along with the L2MSS. The learning strategy scale consisted of 26 items that examined the six components of the SILL. The two scales captured motivation and learning strategy use through a 5-point Likert scale (1 = Strongly disagree and 5 = Strongly agree for the motivation scale, and 1 = Never true of me and 5 = Always true of me for the learning strategy scale). The third section of the questionnaire comprised 12 items in the form of closed, multiple-choice, and open-ended questions. The QPT by Oxford University Press and the University of Cambridge Local Examination Syndicate (UCLES) 2001 for learners' proficiency level was administered to measure English proficiency.

The motivation scale included items drawn from similar studies in diverse contexts (Taguchi et al., 2009; You & Dörnyei, 2016). The learning strategy scale was modified based on the SILL and questionnaires from related

studies (Gavriilidou & Mitits, 2016; Mitits et al., 2016). The items in both the motivation scale and the learning strategy scale were translated into Greek.

3.4. Validity and Reliability Tests

Confirmatory factor analysis (CFA) was used to test and modify the two scales according to the corresponding theoretical frameworks. CFA was performed and the motivation and learning strategy scales were subsequently modified (Hair, Black, Babin, & Anderson, 2010). The goodness of fit indices (GFI) for the two modified scales were almost adequate. The GFI value of 0.938 and the RMSE value of 0.052 for the motivation scale, and the GFI value of 0.943 and the RMSE value of 0.046 for the learning strategy scale indicated a good fit. Cronbach's alpha reliability indices were used to establish the reliability and internal consistency of the motivation and learning strategy scales. The total value of the motivation factors (Cronbach's alpha = 0.83) and the total value of the learning strategy factors (Cronbach's alpha = 0.84) were considered acceptable.

3.5. Data Analysis

The data was summarized by computing relative and absolute frequency percentages, measures of central tendency (mean and median values), standard deviations and standard errors of means (SE), reliability indices (Cronbach's a), correlation coefficients (Pearson's r), and T-tests to compare scores between the two levels of education. The mean value of the corresponding discrimination indices was used to test the homogeneity of the scales and their components. Comparisons were performed between the two levels of education in relation to the central tendency (mean values) of learners' scores on the motivation and learning strategy scales, either by the T-test or by the analysis of variance (ANOVA). IBM Statistical Package for the Social Sciences (SPSS) version 24 statistical software was used for the main statistical analyses, and IBM Analysis of Moment Structures (AMOS) version 19 statistical software was used for the implementation of the CFA. The significance level was set at $a = 0.05$ ($p \leq 0.05$).

4. RESULTS

All motivation correlations were positive and statistically significant for primary and lower secondary learners, as shown in Table 1, except for the non-significant correlation between the ideal L2 self (M1) and the ought-to L2 self (M2).

Table 1. Correlations between the factors of the motivation scale for primary and secondary school learners.

	Primary				Secondary			
Motivation factors	**M2**	**M3**	**M4**	**M5**	**M2**	**M3**	**M4**	**M5**
M1	r = 0.024 p = 0.635	r = 0.541 p < 0.001	r = 0.148 p = 0.004	r = 0.392 p < 0.001	r = 0.003 p = 0.945	r = 0.537 p < 0.001	r = 0.134 p = 0.003	r = 0.410 p < 0.001
M2		r = 0.143 p < 0.001	r = 0.496 p < 0.001	r = 0.217 p < 0.001		r = 0.141 p < 0.001	r = 0.427 p < 0.001	r = 0.103 p = 0.024
M3			r = 0.258 p < 0.001	r = 0.341 p < 0.001			r = 0.323 p < 0.001	r = 0.389 p < 0.001
M4				r = 0.134 p = 0.009				r = 0.217 p < 0.001

Note: M1: Ideal L2 self, M2: Ought-to L2 self, M3: Instrumentality promotion, M4: Instrumentality prevention, M5: L2 learning experience.

The motivation scores of primary learners showed a strong correlation between M1 and instrumentality promotion (M3) ($r = 0.541$, $p < 0.001$) and moderate correlations between M1 and L2 learning experience (M5) and

between M3 and M5. As expected, the correlation between M2 and instrumentality prevention (M4) was strong ($r = 0.496$, $p < 0.001$), whereas the correlation between M2 and M5 was moderate. Secondary learners reported similar results with slight variations compared to younger learners of English.

It is evident that the ideal L2 self and instrumentality promotion showed stronger correlations with the L2 learning experience than the ought-to L2 self and instrumentality prevention for both levels of education. The T-test indices from the comparison of the two levels of education revealed that there is a statistically significant difference between primary and secondary learners' motivation scores in the case of the ideal L2 self, ($t(860) = 2.275$, $p < 0.05$), the ought-to L2 self, ($t(772) = 7.753$, $p < 0.001$), instrumentality prevention ($t(750) = 5.951$, $p < 0.001$), and the L2 learning experience ($t(736) = 4.496$, $p < 0.001$), with primary learners scoring higher than secondary learners. However, instrumentality promotion ($t(860) = 0.302$, $p = 0.762$) yielded no statistically significant difference.

Regarding learning strategy use among primary learners, strong correlations emerged between each learning strategy and the other strategy categories (see Table 2).

Table 2. Correlations between the factors of learning strategies for primary school learners.

Strategy factors	S2	S3	S4	S5	S6
S1	r = 0.451 p < 0.001	r = 0.321 p < 0.001	r = 0.599 p < 0.001	r = 0.504 p < 0.001	r = 0.505 p < 0.001
S2		r = 0.274 p < 0.001	r = 0.437 p < 0.001	r = 0.420 p < 0.001	r = 0.415 p < 0.001
S3			r = 0.280 p < 0.001	r = 0.315 p < 0.001	r = 0.319 p < 0.001
S4				r = 0.509 p < 0.001	r = 0.609 p < 0.001
S5					r = 0.569 p < 0.001

Note: S1: Memory strategies, S2: Cognitive strategies, S3: Compensation strategies, S4: Metacognitive strategies, S5: Affective strategies, S6: Social strategies.

In particular, metacognitive ($r > 0.437$) and social strategies ($r > 0.415$) provided the strongest correlations with most of the strategy types. However, compensation strategies were the only strategy type that correlated at a moderate degree with all strategy types.

From the results in Table 3, it is apparent that the correlations among all strategy types for secondary learners slightly varied compared to the results reported for primary learners.

Table 3. Correlations between the factors of learning strategies for secondary school learners.

Strategy factors	S2	S3	S4	S5	S6
S1	r = 0.432 p < 0.001	r = 0.297 p < 0.001	r = 0.563 p < 0.001	r = 0.449 p < 0.001	r = 0.463 p < 0.001
S2		r = 0.303 p < 0.001	r = 0.357 p < 0.001	r = 0.309 p < 0.001	r = 0.261 p < 0.001
S3			r = 0.150 p < 0.001	r = 0.171 p < 0.001	r = 0.131 p < 0.001
S4				r = 0.502 p < 0.001	r = 0.442 p < 0.001
S5					r = 0.424 p < 0.001

Note: S1: Memory strategies, S2: Cognitive strategies, S3: Compensation strategies, S4: Metacognitive strategies, S5: Affective strategies, S6: Social strategies.

Specifically, the correlations between almost all strategies showed lower correlation coefficients with most of the strategy categories. For instance, the correlation coefficients between compensation strategies and

metacognitive, affective, and social strategies were $r < 0.171$ for secondary learners, whereas they were $r > 0.280$ for younger learners.

The T-test indices of the two levels of education yielded a statistically significant difference between primary and secondary learners' learning strategy scores for memory strategies, ($t(779) = 4.735$, $p < 0.001$), metacognitive strategies ($t(860) = 5.458$, $p < 0.001$), affective strategies ($t(860) = 3.562$, $p < 0.001$), and social strategies ($t(773) = 3.018$, $p < 0.001$), with primary learners receiving higher scores on strategy use than secondary learners. Compensation strategies were favored more by secondary learners ($t(860) = 4.536$, $p < 0.001$). However, no difference emerged between the two levels for cognitive strategy use ($t(860) = 0.836$, $p = 0.403$).

English proficiency level was found to be affected by motivation and learning strategy use for both levels of education. Table 4 presents the correlations between the total scores of the motivation factors and the learning strategy factors for primary school learners ($r = 0.623$, $p < 0.001$) and secondary school learners ($r = 0.602$, $p < 0.001$). Proficiency level correlated significantly with the total of motivation and learning strategy factors for secondary learners, but only the correlation with learning strategy factors was significant for primary learners.

Table 4. Correlations between the total scores of the factors of the motivation scale and the learning strategy scale with the QPT scores for primary and secondary school learners.

	Primary		Secondary	
Motivation and strategy factors	**Total S**	**QPT**	**Total S**	**QPT**
Total M	r = 0.623 p < 0.001	r = 0.094 p = 0.069	r = 0.602 p < 0.001	r = 0.280 p < 0.001
Total S		r = 0.102 p < 0.05		r = 0.330 p < 0.001

Note: M: Motivation factors, S: Learning strategy factors.

The correlation between the QPT scores and learning strategy factors for primary learners was statistically significant, but its magnitude is negligible ($r = 0.102$, $p < 0.05$), and the correlation between the QPT scores and motivation factors was statistically non-significant. In contrast, the correlations between the QPT scores and the learning strategy factors and between the QPT scores and the motivation factors were statistically significant for secondary learners.

Furthermore, the ideal L2 self of primary learners showed statistically significant correlations with all learning strategy types, as presented in Table 5, except for the non-significant correlation between the ideal L2 self and compensation strategies.

Instrumentality promotion presented statistically significant correlations with all learning strategy types. Still, the correlations between the ought-to L2 self and all strategy categories for primary learners were also statistically significant except for the non-significant correlation between the ought-to L2 self and cognitive strategies. Instrumentality prevention yielded statistically significant correlations with learning strategies except for cognitive and compensation strategies.

Last, the L2 learning experience showed statistically significant correlations with all strategy categories except for compensation strategies.

Table 5. Correlations between the factors of the motivation scale and the factors of the learning strategy scale for primary school learners.

	Strategy factors					
Motivation factors	**S1**	**S2**	**S3**	**S4**	**S5**	**S6**
M1	r = 0.390 p < 0.001	r = 0.337 p < 0.001	r = 0.130 p = 0.011	r = 0.428 p < 0.001	r = 0.360 p < 0.001	r = 0.327 p < 0.001
M2	r = 0.204 p < 0.001	r = 0.028 p = 0.584	r = 0.176 p < 0.001	r = 0.215 p < 0.001	r = 0.245 p < 0.001	r = 0.247 p < 0.001
M3	r = 0.468 p < 0.001	r = 0.382 p < 0.001	r = 0.212 p < 0.001	r = 0.433 p < 0.001	r = 0.378 p < 0.001	r = 0.379 p < 0.001
M4	r = 0.183 p < 0.001	r = 0.103 p = 0.045	r = 0.110 p = 0.033	r = 0.275 p < 0.001	r = 0.195 p < 0.001	r = 0.201 p < 0.001
M5	r = 0.438 p < 0.001	r = 0.385 p < 0.001	r = 0.083 p = 0.106	r = 0.550 p < 0.001	r = 0.400 p < 0.001	r = 0.446 p < 0.001

Note: S1: Memory strategies, S2: Cognitive strategies, S3: Compensation strategies.
S4: Metacognitive strategies, S5: Affective strategies, S6: Social strategies.
M1: Ideal L2 self, M2: Ought-to L2 self, M3: Instrumentality promotion.
M4: Instrumentality prevention, M5: L2 learning experience.

It is apparent that all motivation components of the L2MSS significantly correlated with almost all learning strategy categories of the SILL for primary learners. For the secondary school learners, several correlations between motivation components and learning strategy types emerged (see Table 6).

Table 6. Correlations between the factors of the motivation scale and the factors of the learning strategy scale for secondary school learners.

	Strategy factors					
Motivation factors	**S1**	**S2**	**S3**	**S4**	**S5**	**S6**
M1	r = 0.389 p < 0.001	r = 0.524 p < 0.001	r = 0.264 p < 0.001	r = 0.331 p < 0.001	r = 0.278 p < 0.001	r = 0.219 p < 0.001
M2	r = 0.122 p = 0.007	r = 0.025 p = 0.582	r = 0.046 p = 0.311	r = 0.099 p = 0.029	r = 0.033 p = 0.475	r = 0.069 p = 0.130
M3	r = 0.428 p < 0.001	r = 0.451 p < 0.001	r = 0.237 p < 0.001	r = 0.404 p < 0.001	r = 0.274 p < 0.001	r = 0.299 p < 0.001
M4	r = 0.277 p < 0.001	r = 0.120 p = 0.008	r = 0.033 p = 0.470	r = 0.248 p < 0.001	r = 0.080 p = 0.078	r = 0.158 p < 0.001
M5	r = 0.510 p < 0.001	r = 0.385 p < 0.001	r = 0.102 p = 0.025	r = 0.531 p < 0.001	r = 0.333 p < 0.001	r = 0.368 p < 0.001

Note: S1: Memory strategies, S2: Cognitive strategies, S3: Compensation strategies,
S4: Metacognitive strategies, S5: Affective strategies, S6: Social strategies.
M1: Ideal L2 self, M2: Ought-to L2 self, M3: Instrumentality-promotion,
M4: Instrumentality-prevention, M5: L2 learning experience.

It is evident that the ideal L2 self and instrumentality promotion showed statistically significant correlations with all types of learning strategy contrary to the ought-to L2 self. Next, instrumentality prevention showed statistically significant correlations with memory, cognitive, metacognitive, and social strategies. Last, the L2 learning experience yielded statistically significant correlations with all strategy types except for compensation strategies.

To conclude, the ideal L2 self, instrumentality promotion, and the L2 learning experience demonstrated strong correlations with most strategy types for both levels of education.

5. DISCUSSION

The findings of this study are discussed in this section in relation to each of the research questions (see Introduction).

5.1. The Effect of Different Levels of Education on Learners' Motivation and Learning Strategy use

With reference to the first question, the participants showed high scores for most of the motivation components. Irrespective of level of education, the correlation coefficients for the ideal L2 self were strong, showing robust images of an ideal L2 self that speaks English fluently. Additionally, instrumental motives of a promotional disposition, such as travelling or living abroad, appear to have been internalized. Similar findings have been reported in different contexts (Dörnyei et al., 2006; Taguchi et al., 2009). Furthermore, the ideal L2 self was found to correlate with the L2 learning experience, and the coefficients for both levels of education were quite high. Hence, ideal learners, who envision themselves to become competent speakers of English, are greatly influenced by their L2 learning environment. Instrumentality promotion also correlated moderately with the L2 learning experience for both levels of education, reflecting utilitarian motives supported by the L2 learning experience. Previous research has produced similar results (Islam et al., 2013; Papi & Teimouri, 2014; You & Dörnyei, 2016). Learners seem to hold future images of competent English speakers; these images are fortified by instrumental incentives for communicative, educational, or professional purposes.

Conversely, the ought-to L2 self produced high correlations with instrumental motives with a preventive focus. So, learners driven by extraneous sources to learn English tend to maintain non-internalized instrumental motives that stem from societal requirements. Additionally, low correlations were found between the ought-to L2 self and L2 learning experience, and between instrumentality prevention and L2 learning experience. Matching findings have been reported in similar studies (Islam et al., 2013; Papi & Teimouri, 2014; You & Dörnyei, 2016). It appears that learners' engagement in their L2 learning environment is weak when an innermost desire to achieve competency in English is not present. Learning English solely for the sake of fulfilling obligations imposed by others is not expected to lead to positive learning outcomes because learners lack enthusiasm and view English language learning as a chore instead of a rewarding activity. Consequently, learners who are driven by an intrinsic desire to achieve proficiency are more likely to be engaged, persistent, and effective in their learning efforts because they experience a positive emotional connection to the learning process.

The T-test results yielded higher scores for the ideal L2 self, the ought-to L2 self, instrumentality prevention, and the L2 learning experience for younger learners than secondary learners. These findings are in agreement with results from relevant studies (Hovhannisyan, 2014; Psaltou-Joycey et al., 2017; Williams, Burden, & Lanvers, 2002). A possible explanation could be that English learning is complete in the 3rd grade of lower secondary school in Greece as learners tend to obtain a long-wished-for certificate in English around that time (Papaefthymiou-Lytra, 2012).

As far as learning strategy use is concerned, primary and secondary learners showed an average score for all factors, and the correlations between learning strategies were statistically significant. Coefficients for primary and secondary learners ranged from moderate to high. Metacognitive strategies presented the highest scores and the strongest correlations, whereas compensation strategies showed moderate correlation coefficients. Similar findings in the Greek educational setting have brought to light learners' main preference for metacognitive strategies (Agathopoulou, 2016; Mitits et al., 2016; Psaltou-Joycey et al., 2014; Psaltou-Joycey & Sougari, 2010). Still, the present results are not in consensus with certain previous findings in Greek contexts, as compensation strategies were reported to be quite dominant among university students (Psaltou-Joycey & Kantaridou, 2009), and memory strategies were not highly favored among 15-year-old students (Vrettou, 2009).

At this point, it should be mentioned that the T-test results between the two levels of education showed that the younger learners scored higher on memory, metacognitive, affective, and social strategies; however, it seems that the frequency of learning strategy use wanes as learners grow older. These findings are in agreement with

results from similar studies (Psaltou-Joycey & Sougari, 2010; Vrettou, 2015). The higher mean scores for primary learners can be explained by the inquisitive nature of younger learners and their uncertainty of what works best; thus, their extensive experimentation with the learning strategy repertoire is a sign of their search for the most suitable strategies for them.

5.2. The Effect of Motivation and Learning Strategy Use on Learners' English Language Proficiency

Regarding the second research question, the results confirmed previous findings regarding secondary learners, as motivation seems to have a positive impact on English proficiency (Lamb, 2012; Yousefi & Mahmoodi, 2022). Similarly, research conducted among adolescents in relation to the effect of motivation has also indicated a correlation between motivation and L2 proficiency level (Agathopoulou, 2016; Gardner, 2012; Hovhannisyan, 2014; Psaltou-Joycey et al., 2017; Williams et al., 2002).

Additionally, as reported in the findings of similar studies which have targeted adolescents (Magogwe & Oliver, 2007; Platsidou & Sipitanou, 2015), it is evident that a higher frequency of learning strategy use leads to a higher level of English proficiency. Nevertheless, in the case of primary learners, motivation did not correlate with English proficiency. This can be attributed to the fact that at a younger age motivation may not be expected to bring palpable learning outcomes that contribute to language proficiency; however, the effect can be discernible at a subsequent point during the lengthy L2 learning process (Sougari & Hovhannisyan, 2013).

5.3. The Effect of Learners' Level of Education on the Correlation between Motivation and Learning Strategy

For the third research question, all five motivation factors of the L2MSS showed statistically significant correlations with the six SILL learning strategy factors. Relevant studies have also reported a strong correlation between motivation and learning strategy use (Agathopoulou, 2016; Vrettou, 2009, 2015).

The ideal L2 displayed high to low correlation coefficients with memory, cognitive, metacognitive, affective, and social strategies for primary and secondary learners. Considering the effect of motivation and strategy use on English proficiency, it appears that learners' optimal identity regarding L2 learning outcomes points to an adept learner with a strong vision in mind and effective tools in hand to achieve the L2 learning goal. However, compensation strategies exhibited a non-significant correlation with the ideal L2 self for younger learners but a significant correlation for secondary learners (Psaltou-Joycey et al., 2014; Vrettou, 2015). This can be explained by a lack of language confidence for younger learners who are not prepared to follow alternative paths to make up for possible linguistic deficiencies. On the contrary, the ought-to L2 self presented low correlations with memory, compensation, metacognitive, affective, and social strategies for primary learners, and a statistically non-significant correlation with cognitive strategies. Furthermore, the ought-to L2 self produced statistically non-significant correlations with all strategy types for secondary learners. It seems that the younger the learners, the more obligations or parental expectations there are to fulfill regarding English language learning.

Instrumentality promotion displayed significant and strong to moderate correlations with all learning strategies for both levels of education. Notably, the higher correlations between instrumentality promotion and strategy use compared to the correlations between the ideal L2 self and strategy use highlight the practical value that learners in Greece attribute to the English language in terms of personal, educational, or professional goals. Greek learners have been instilled with the pragmatic quality of English from the early grades of primary education (Alexiou & Mattheoudakis, 2013). The good news is that these incentives along with a focus on promotion have been internalized and are interrelated with the ideal L2 self (Dörnyei, 2005; Martinović, 2018). On the other hand, instrumentality prevention revealed significant correlations for most of the strategies except for cognitive and

compensation strategies regarding primary learners, whereas secondary learners showed non-significant correlations between instrumentality prevention and cognitive, compensation, and affective strategies. It is apparent that secondary learners tend to grow out of societal and parental duties or fear unfavorable learning outcomes as they grow up and move to secondary education. Last, the L2 learning experience revealed high to moderate correlations with almost all strategies except for compensation strategies that showed a non-significant correlation for both levels of education. It is evident that primary and secondary learners attribute considerable value to, and depend on, their English learning environment. Learners seem to be excited and show their eagerness to participate in class when they encounter new input at different levels in peer talk, in collaboration with peers, or during teacher talk.

Metacognitive, cognitive, and social strategies have also been reported to correlate with motivation components in previous studies (Agathopoulou, 2016; Vrettou, 2009). Consequently, learners who give prominence to the ideal L2 self, instrumentality promotion, and the L2 learning experience make the most of learning strategy use in the Greek setting, where learning strategy use in an orchestrated pattern associates with English language attainment. Higher scores on these components generate higher learning strategy deployment. Nonetheless, the lower correlations for the ought-to L2 self and instrumentality prevention pertain to lower frequency rates of learning strategy use, as they include non-internalized motives or obligations imposed by societal factors that do not promote L2 mastery.

6. PEDAGOGIC IMPLICATIONS

Taking into account that the L2 learning experience refers to motives that are situation-oriented, significant results are brought to light regarding learners' attitudes and engagement in the immediate English learning environment. Learners' future selves, pragmatic incentives, and English learning experience relate to a high frequency of learning strategy use, and the correlations between these components can guide curriculum and language teaching experts to include stimulating content to sustain learners' motivation. Considering the reciprocal and strong correlation between motivation and learning strategy use, language researchers and syllabi designers should consider implementing classroom materials that promote explicit instruction of strategies which can enhance learning strategy use (Psaltou-Joycey, 2019). Whether learning strategies are introduced into daily classroom practice depends on teachers and teacher educators (Cohen et al., 2023). In addition, collaborative learning fosters communication so that learners achieve common learning goals and gain a deeper understanding of the language. Group work reinforces motivational dispositions and student engagement through mutual support and sharing ideas. Hence, teachers should take this into consideration when implementing their educational approach.

7. LIMITATIONS

There are some limitations in this study that could be addressed in future research. More primary and lower secondary schools could participate to offer a more representative sample of the target population. Accordingly, the study sample could provide a broader representation of the learner population by including primary and secondary schools from other municipalities.

In addition, the questionnaire survey instrument is expected to raise issues of social desirability, when learners are likely to respond to items for the sake of being socially desirable (Krosnick & Presser, 2010). Learners tend to make favorable claims for themselves when responding to questions, or learners may do so when they do not fully

comprehend what is being asked of them. This condition could be overcome by cross-checking learners' responses to the same survey administered at a later point in the same school year.

Furthermore, future studies could also include upper secondary learners to collect data from the last level of school education. This would allow a more comprehensive and representative sample of all levels of education in schools in Greece in terms of motivation and learning strategy use.

8. CONCLUSION

The purpose of the current study was to examine the L2MSS as a novel framework to interpret language learning motivation and learning strategy use as presented in the SILL in learners of English in Greece. The study investigated the relationship between motivation and learning strategies as self-reported by primary and lower secondary learners and the effect of motivation and learning strategy use on learners' English proficiency. The results confirmed the capacity of the L2MSS to portray learner identities of competent speakers of English, equipped with pragmatic incentives in the Greek educational context. Moreover, the findings showed that learners reported a medium to high strategy use overall, with metacognitive strategies receiving the highest preference from primary and secondary learners. The ideal L2 self, instrumentality promotion, and the L2 learning experience displayed strong associations overall, with learners' learning strategy repertoire. Regarding English proficiency, the findings demonstrated a strong interaction between motivation and learning strategy use for both levels of education and a dynamic bond between motivation and English proficiency for secondary learners.

This study contributes to the attestation of the L2MSS in Greece and provides a fresh interpretation of motivation in EFL through the lens of future selves. The results of the study also corroborate the strong affiliation between motivation and learning strategy use and the unequivocal links between certain components of the L2MSS and learning strategies. It is evident that externally imposed obligations or duties on learners to achieve English proficiency are not related to strategy deployment and L2 mastery. Proficiency level is mainly related to strategy use and motivation for secondary learners compared to primary learners. It is evident that primary learners' higher motivation and learning strategy use do not necessarily manifest English proficiency. Secondary learners tend to limit their strategy use as they proceed in L2 achievement.

Future studies could build on these results and examine the theoretical framework in new contexts to expand our knowledge on learners' patterns of learning strategy selection and motivational profiles.

REFERENCES

Agathopoulou, E. (2016). Factors affecting language learning strategy use by learners of English at Greek secondary schools: Proficiency and motivation. In Z. Gavriilidou & K. Petrogiannis (Eds.), Language learning strategies in the Greek context. In (pp. 59-75). Kavala: Saita Publications.

Al-Hoorie, A. H. (2018). The L2 motivational self system: A meta-analysis. *Studies in Second Language Learning and Teaching, 8*(4), 721-754.

Alexiou, T., & Mattheoudakis, M. (2013). Introducing a foreign language at primary level: Benefits or lost opportunities? The case of Greece. *Research Papers in Language Teaching and Learning, 4*, 99-119.

Alrashidi, O. (2022). Assessing language learning strategies employed by university English major students in Saudi Arabia. *Cogent Education, 9*(1), 2074935. https://doi.org/10.1080/2331186x.2022.2074935

Amerstorfer, C. M. (2018). Past its expiry date? The SILL in modern mixed-methods strategy research. *Studies in Second Language Learning and Teaching, 8*(2), 497-523. https://doi.org/10.14746/ssllt.2018.8.2.14

Batsari, S. (2022). *The effect of motivational constructs on the implementation of learning strategies in foreign language learning.* Unpublished Ph.D. Thesis, Department of Theoretical and Applied Linguistics, School of English, Aristotle University of Thessaloniki.

Batsari, S., & Sougari, A.-M. (2022). Unravelling the relation between motivation and the implementation of learning strategies in foreign language learning. In A.-M. Sougari, & V. Bartzokas, (Eds), Selected papers of the 24thinternational symposium on theoretical and applied linguistics. In (pp. 108-124). Thessaloniki: School of English Language and Literature, Aristotle University of Thessaloniki.

Bobkina, J., Gómez-Ortiz, M.-J., Núñez del Río, M. C., & Sastre-Merino, S. (2021). Why am I learning English? Spanish EFL sports science university students motivational orientations through the prism of the L2 motivational self system. *Studies in Second Language Learning and Teaching, 11*(4), 543-578. https://doi.org/10.14746/ssllt.2021.11.4.4

Chang, C., & Liu, H. (2013). Language learning strategy use and language learning motivation of Taiwanese EFL university students. *Electronic Journal of Foreign Language Teaching, 10*(2), 196–209.

Cohen, A. D., Gu, P. Y., Nyikos, M., Plonsky, L., Harris, V., Gunning, P., & Gao, X. A. (2023). Tangible insights on the strategizing of language learners and users. *Language Teaching, 56*(3), 313-332. https://doi.org/10.1017/s0261444823000046

Cohen, A. D., & Henry, A. (2020). Focus on the language learner: Styles, strategies and motivation. In N. Schmitt & M. P.H. Rodgers (Eds.), An introduction to applied linguistics. In (3rd ed., pp. 165-189). New York: Routledge.

Csizér, K., & Lukács, G. (2010). The comparative analysis of motivation, attitudes and selves: The case of English and German in Hungary. *System, 38*(1), 1-13.

Dornyei, Z. (2019). Towards a better understanding of the L2 learning experience, the Cinderella of the L2 motivational self system. *Studies in Second Language Learning and Teaching, 9*(1), 19-30. https://doi.org/10.14746/ssllt.2019.9.1.2

Dörnyei, Z. (2005). *The psychology of the language learner: Individual differences in second language acquisition.* Mahwah, NJ: Lawrence Erlbaum.

Dörnyei, Z. (2020). *Innovations and challenges in language learning motivation.* Abingdon: Routledge.

Dörnyei, Z., & Chan, L. (2013). Motivation and vision: An analysis of future L2 self images, sensory styles, and imagery capacity across two target languages. *Language Learning, 63*(3), 437-462. https://doi.org/10.1111/lang.12005

Dörnyei, Z., Csizér, K., & Németh, N. (2006). *Motivation, language attitudes and globalization: A Hungarian perspective.* Clevedon: Multilingual Matters.

Dörnyei, Z., & Ryan, S. (2015). *The psychology of the language learner revisited.* New York: Routledge.

Gardner, R. C. (1985). *Social psychology and second language learning: The role of attitudes and motivation.* London: Edward Arnold.

Gardner, R. C. (2012). Integrative motivation and global language (English) acquisition in Poland. *Studies in Second Language Learning and Teaching, 2*(2), 215-226. https://doi.org/10.14746/ssllt.2012.2.2.5

Gavriilidou, Z., & Mitits, L. (2016). Adaptation of the strategy inventory for language learning (SILL) for students aged 12-15 into Greek: Developing an adaptation protocol. In M. Mattheoudakis & K. Nicolaidis (Eds.). Selected Papers of the 21st International Symposium on Theoretical and Applied Linguistics (ISTAL 21). In (pp. 588-601). Thessaloniki: School of English Language and Literature, Aristotle University of Thessaloniki.

Griffiths, C. (2022). Learning styles and strategies. In S. Li, P. Hiver & M. Papi (Eds.), The Routledge handbook of second language acquisition and individual differences. In (pp. 82–94). New York: Routledge.

Hair, J., J.F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). *Multivariate data analysis: A global perspective* (7th ed.). Upper Saddle River, NJ: Pearson Education.

Higgins, E. T. (1998). Promotion and prevention: Regulatory focus as a motivational principle. *Advances in Experimental Social Psychology, 30*, 1-46.

Hovhannisyan, I. (2014). *Learners' attitudes and motivation to learn English: English as a foreign or as an international language?* . Ph.D. Dissertation, Department of Theoretical and Applied Linguistics, School of English, Aristotle University of Thessaloniki.

Islam, M., Lamb, M., & Chambers, G. (2013). The L2 motivational self system and national interest: A Pakistani perspective. *System, 41*(2), 231-244. https://doi.org/10.1016/j.system.2013.01.025

Kantaridou, Z., & Xekalou, E. (2021). The L2 motivational self system profile of Greek adolescents. *Research Papers in Language Teaching & Learning, 11*(1), 268-283.

Krosnick, J. A., & Presser, S. (2010). Question and questionnaire design. In P. V. Marsden & J. D. Wright (Eds.), Handbook of survey research. In (2nd ed., pp. 263–314). Bingley, UK: Emerald Group.

Lamb, M. (2012). A self system perspective on young adolescents' motivation to learn English in urban and rural settings. *Language Learning, 62*(4), 997-1023. https://doi.org/10.1111/j.1467-9922.2012.00719.x

Lan, R., & Oxford, R. L. (2003). Language learning strategy profiles of elementary school students in Taiwan. *IRAL,, 41*(4), 339-379.

Lohr, S. (1999). *Sampling: Design and analysis.* Pacific Grove: Duxbury Press.

Magogwe, J. M., & Oliver, R. (2007). The relationship between language learning strategies, proficiency, age and self-efficacy beliefs: A study of language learners in Botswana. *System, 35*(3), 338-352. https://doi.org/10.1016/j.system.2007.01.003

Markus, H., & Nurius, P. (1986). Possible selves. *American Psychologist, 41*(9), 954-969.

Martínez, J. J. R., Pérez, M. L. V., & Navarrete, J. H. (2016). Language learning strategy use by Spanish EFL students: The effect of proficiency level, gender, and motivation. *Revista de Investigación Educativa, 34*(1), 133-149. https://doi.org/10.6018/rie.34.1.232981

Martinović, A. (2018). The L2 motivational self system. *Jezikoslovlje, 19*(1), 133-157.

Mitits, L., Psaltou-Joycey, A., & Sougari, A. M. (2016). Language learning strategy profiling of Greek primary/secondary school learners of English as a FL. In Z. Gavriilidou & K. Petrogiannis (Eds.), Language learning strategies in the Greek context: Research outcomes of a large-scale project. In (pp. 26-41). Kavala: Saita Publications.

Nevid, J. (2013). *Psychology: Concepts and applications* (4th ed.). Belmont, CA: Wadsworth.

Nikolaou, A. (2010). Attitudes and motivation of Greek secondary pupils toward learning English. In A. Psaltou-Joycey & M. Mattheoudakis (Eds.), Advances in research on language acquisition and teaching: Selected papers. In (pp. 349-361): Greek Applied Linguistics Association.

O'Malley, J. M., & Chamot, A. U. (1990). *Learning strategies in second language acquisition.* Cambridge: Cambridge University Press.

Oxford, R. L. (1990). *Language learning strategies: What every teacher should know.* Boston, MA: Heinle & Heinle Publishers.

Oxford, R. L. (2011). *Teaching and researching language learning strategies.* Harlow: Pearson Longman.

Oxford, R. L. (2017). *Teaching and researching language learning strategies: Self regulation in context.* New York: Routledge.

Oxford, R. L., Rubin, J., Chamot, A. U., Schramm, K., Lavine, R., Gunning, P., & Nel, C. (2014). The learning strategy prism: Perspectives of learning strategy experts. *System, 43*, 30-49. https://doi.org/10.1016/j.system.2014.02.004

Papaefthymiou-Lytra, S. (2012). Foreign language testing and assessment in Greece: An overview and appraisal. *Research Papers in Language Teaching and Learning, 3*(1), 22-32.

Papi, M. (2010). The L2 motivational self system, L2 anxiety, and motivated behavior: A structural equation modeling approach. *System, 38*(3), 467-479. https://doi.org/10.1016/j.system.2010.06.011

Papi, M., & Teimouri, Y. (2014). Language learner motivational types: A cluster analysis study. *Language Learning, 64*(3), 493-525. https://doi.org/10.1111/lang.12065

Platsidou, M., & Sipitanou, A. (2015). Exploring relationships with grade level, gender and language proficiency in the foreign language learning strategy use of children and early adolescents. *International Journal of Research Studies in Language Learning, 4*(1), 83-96. https://doi.org/10.5861/ijrsll.2014.778

Psaltou-Joycey, A. (2019). Designing materials and guidelines for language learning strategy instruction. In A. U. Chamot and V. Harris (Eds.), Learning strategies instruction in the language classroom: Issues and implementation. In (pp. 171-183). Bristol: Multilingual Matters.

Psaltou-Joycey, A., & Kantaridou, Z. (2009). Foreign language learning strategy profiles of university students in Greece. *Journal of Applied Linguistics, 25*(1), 107-127.

Psaltou-Joycey, A., Sougari, A.-M., Agathopoulou, A., & Alexiou, T. (2014). The role of age, gender and L1 strategies in the L2 strategies of primary school children in Greece. In G. Kotzoglou, K. Nikolou, E. Karatzola, A. Frantzi, I. Galantomos, M. Georgalidou, V. Kourti-Kazoulis, E. Papadopoulou, E. & E. Vlachou (Eds.). Selected Papers of the 11th International Conference on Greek Linguistics. In (pp. 1436-1448). Rhodes: University of the Aegean.

Psaltou-Joycey, A., & Sougari, A. M. (2010). Greek young learners' perceptions about foreign language learning and teaching. In A. Psaltou-Joycey & M. Mattheoudakis (Eds.), Advances in research on language acquisition and teaching: Selected papers. In (pp. 387-401). Thessaloniki: Greek Applied Linguistics Association.

Psaltou-Joycey, A., Vrettou, A., & Penderi, E. (2017). L2 motivation of Greek young learners and adolescents. In E. Agathopoulou, T. Danavassi & L. Efstathiadi (Eds.). Selected papers of the 22nd international symposium of theoretical and applied linguistics (ISTAL 22). In (pp. 416-431). Thessaloniki: School of English Language and Literature, Aristotle University of Thessaloniki.

Radwan, A. A. (2011). Effects of L2 proficiency and gender on choice of language learning strategies by university students majoring in English. *Asian EFL Journal, 13*(1), 114-162.

Rahimi, M., Riazi, A., & Saif, S. (2008). An investigation into the factors affecting the use of language learning strategies by Persian EFL learners. *Canadian Journal of Applied Linguistics, 11*(2), 31-60.

Rose, H. (2015). Researching language learner strategies. In B. Paltridge & A. Phakiti (Eds.), Research Methods in Applied Linguistics: A Practical Resource. In (pp. 421-438). New York: Bloomsbury.

Rubin, J. (1975). What the" good language learner" can teach us. *TESOL Quarterly, 9*(1), 41-51.

Sougari, A.-M., & Hovhannisyan, I. (2013). Delving into young learners' attitudes and motivation to learn English: Comparing the Armenian and the Greek classroom. *Research Papers in Language Teaching and Learning, 4*(1), 120.

Sukying, A. (2021). Choices of language learning strategies and English proficiency of EFL university learners. *LEARN Journal: Language Education and Acquisition Research Network, 14*(2), 59-87.

Taguchi, T., Magid, M., & Papi, M. (2009). The L2 motivational self system amongst Chinese, Japanese and Iranian learners of English: A comparative study. In Z. Dörnyei & E. Ushioda (Eds.), Motivation, language identity and the L2 self. In (pp. 66-97). Clevedon: Multilingual Matters.

Teng, F. M. (2023). Language learning strategies. In Z. Wen, R. Sparks, A. Biedron & F. Teng (Eds.), Cognitive individual differences in second language acquisition: Theories, assessment and pedagogy. In (pp. 147-173). Berlin: De Gruyter.

Vrettou, A. (2009). Language learning strategy employment of EFL Greek-speaking learners in junior high school. *Journal of Applied Linguistics, 25*, 85-106.

Vrettou, A. (2015). Strategic age-and motivation-related preferences in Greek state elementary and junior high schools. *Research Papers in Language Teaching & Learning, 6*(1), 35-54.

Wharton, G. (2000). Language learning strategy use of bilingual foreign language learners in Singapore. *Language Learning, 50*(2), 203-243. https://doi.org/10.1111/0023-8333.00117

Williams, M., Burden, R., & Lanvers, U. (2002). 'French is the language of love and stuff': Student perceptions of issues related to motivation in learning a foreign language. *British Educational Research Journal*, *28*(4), 503-528. https://doi.org/10.1080/0141192022000005805

Yamagami, T. (2023). The impact of L2 motivational self system and students' perceptions of english proficiency on attitudes toward translanguaging. *International Journal of TESOL & Education*, *3*(1), 154-170. https://doi.org/10.54855/ijte.233110

Yang, M.-N. (2007). Language learning strategies for junior college students in Taiwan: Investigating ethnicity and proficiency. *Asian EFL Journal*, *9*(2), 35-57.

You, C., & Dörnyei, Z. (2016). Language learning motivation in China: Results of a large-scale stratified survey. *Applied Linguistics*, *37*(4), 495-519. https://doi.org/10.1093/applin/amu046

Yousefi, M., & Mahmoodi, M. H. (2022). The L2 motivational self-system: A meta-analysis approach. *International Journal of Applied Linguistics*, *32*(2), 274-294. https://doi.org/10.1111/ijal.12416

Zhang, J. L., & Xiao, Y. (2006). Language learning strategies, motivation and EFL proficiency: A study of Chinese tertiary-level non-English majors. *Asian Englishes*, *9*(2), 20-47. https://doi.org/10.1080/13488678.2006.10801187

APPENDIX

Questionnaire on motivation and learning strategies

Exploring Motivation and Learning Strategies in Learning English as a Foreign Language

I am interested in finding out your reasons for learning English. Please read the following statements carefully and circle the number that is mostly true for you from the five numbers in the boxes. There are no right or wrong answers, just choose the answer that suits you. Thank you for your cooperation. All answers will be regarded as confidential.

SD = Strong disagree, D = Disagree, NA/ND = Neither agree nor disagree, A = Agree, SA = Strongly agree

Statement regarding motivation	SD	D	NA/ND	A	SA
1. I can imagine myself in the future speaking English with international friends.	1	2	3	4	5
2. The things I want to do in the future require me to use English.	1	2	3	4	5
3. I can imagine myself speaking English as if I were a native speaker of English.	1	2	3	4	5
4. I imagine myself as someone who is able to speak English.	1	2	3	4	5
5. I can imagine myself writing English emails fluently.	1	2	3	4	5
6. Studying English is important to me in order to gain the approval of my peers.	1	2	3	4	5
7. I have to study English, because if I do not, I think my parents will be disappointed with me.	1	2	3	4	5
8. Studying English is important to me in order to gain the approval of my teachers.	1	2	3	4	5
9. Studying English is important to me because an educated person is supposed to be able to speak English.	1	2	3	4	5
10. Studying English is important to me because other people will respect me more if I have knowledge of English.	1	2	3	4	5
11. Studying English is important to me because I would like to spend a longer period living abroad.	1	2	3	4	5

Statement regarding motivation	SD	D	NA/ND	A	SA
12. Studying English is important to me because I am planning to study abroad.	1	2	3	4	5
13. Studying English is important to me in order to achieve a certificate in English.	1	2	3	4	5
14. Studying English is important to me because with English I can work globally.	1	2	3	4	5
15. I study English in order to keep updated and informed of recent news around the world.	1	2	3	4	5
16. I have to study English because I don't want to get bad marks in it.	1	2	3	4	5
17. Studying English is necessary for me because I don't want to get a poor score or fail English proficiency tests (ECCE, FCE, TOEIC).	1	2	3	4	5
18. I have to learn English, because without passing the English course I cannot get my degree.	1	2	3	4	5
19. I have to study English, otherwise I may not be successful in my future career.	1	2	3	4	5
20. Studying English is important to me because if I don't have knowledge of English, I'll be considered a weak student.	1	2	3	4	5
21. I think time passes faster while studying English.	1	2	3	4	5
22. I find learning English really interesting.	1	2	3	4	5
23. I like the atmosphere of my English classes.	1	2	3	4	5
24. I always look forward to English classes.	1	2	3	4	5
25. I would like to have more English lessons at school.	1	2	3	4	5

In this part of the questionnaire, I am interested in finding out how you learn English. Please carefully read the following statements and circle the number that is mostly true of you from the five numbers in the boxes. There are no right or wrong answers, just choose the answer suited to you. Thank you for your cooperation. All answers will be regarded as confidential.

Statement regarding learning strategy use	Never true of me	Usually not true of me	Sometimes true of me	Usually true of me	Always true of me
1. I think of relationships between what I already know and new things I learn in English.	1	2	3	4	5
2. I use new English words in sentences so I can remember them.	1	2	3	4	5
3. I connect the sound of a new English word and an image or picture of the word to help remember the word.	1	2	3	4	5
4. I remember a new English word by creating a mental picture of a situation in which the word might be used.	1	2	3	4	5
5. I review English lessons often.	1	2	3	4	5
6. I say or write new English words several times.	1	2	3	4	5
7. I try to talk like native English speakers.	1	2	3	4	5
8. I start conversations in English.	1	2	3	4	5
9. I watch TV shows spoken in English or go to movies spoken in English.	1	2	3	4	5

Statement regarding learning strategy use	Never true of me	Usually not true of me	Sometimes true of me	Usually true of me	Always true of me
10. I read for pleasure in English.	1	2	3	4	5
11. I first skim an English passage (read the passage quickly) then go back and read it carefully.	1	2	3	4	5
12. I try not to translate word-for-word.	1	2	3	4	5
13. To understand unfamiliar English words, I make guesses.	1	2	3	4	5
14. I try to guess what the other person will say next in English.	1	2	3	4	5
15. If I can't think of an English word, I use a word or phrase that means the same thing.	1	2	3	4	5
16. I notice my English mistakes and use that information to help me do better.	1	2	3	4	5
17. I pay attention when someone is speaking English.	1	2	3	4	5
18. I try to find out how to be a better learner of English.	1	2	3	4	5
19. I plan my schedule so I will have enough time to study English.	1	2	3	4	5
20. I look for people I can talk to in English.	1	2	3	4	5
21. I try to relax whenever I feel afraid of using English.	1	2	3	4	5
22. I encourage myself to speak English, even when I am afraid of making a mistake.	1	2	3	4	5
23. I talk to someone else about how I feel when I am learning English.	1	2	3	4	5
24. If I do not understand something in English, I ask the other person to slow down or say it again.	1	2	3	4	5
25. I ask English speakers to correct me when I talk.	1	2	3	4	5
26. I try to learn about the culture of English speakers.	1	2	3	4	5

PERSONAL INFORMATION

Please answer the following questions, choosing the most suitable option or writing the answer in the space given. All of your answers are confidential.

1. Sex: Male □ Female □
2. Nationality: Greek □ Other nationality (please specify) ……..
3. Year of birth ……
4. At what age did you start learning English? ……
5. How many years have you been learning English? ……..
6. Have you ever had, or do you have, a native speaker as an English teacher?

   Yes □ No □
7. Where do you learn English?

   At an institute □ At school □ Private lessons □
8. Are you preparing to take an English exam this year?

   Yes □ No □
9. Does your father speak English?

   Very well □ Quite well □ A little □ Not at all □

10. Does your mother speak English?

Very well □ Quite well □ A little □ Not at all □

11. My father has completed:

Primary school □ Junior high school □ High school □ University/Higher studies □

12. My mother has completed:

Primary school □ Junior high school □ High school □ University/Higher studies □