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EMPIRICAL STUDY

Motivational Mechanisms Underlying Second Language Achievement: A Regulatory Focus Perspective

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Abstract: We tested a theoretical model that integrated regulatory focus, second language (L2) self-guides, anxiety and enjoyment, eager and vigilant L2 use, and L2 achievement. We collected data from 324 students learning English as a foreign language. Structural equation modeling results showed that (a) the promotion focus positively predicted ideal selves, whereas the prevention focus negatively predicted ought selves; (b) ideal self/own predicted enjoyment positively and anxiety negatively, ought self/other and ideal self/other predicted anxiety positively, and ought self/own positively predicted vigilant L2 use; (c) enjoyment predicted eager L2 use positively and vigilant L2 use negatively, whereas anxiety predicted vigilant L2 use positively; and finally (d) eager L2 use positively and vigilant L2 use negatively predicted achievement. The findings suggest that a promotion-oriented approach to language learning and teaching might lead to more adaptive motivational, emotional, and behavioral patterns, which in turn contribute to language learning success. Theoretical and educational implications are discussed.

Keywords motivation; emotions; self-guides; regulatory focus; achievement

Introduction

Over a decade ago, Dörnyei (2005, 2009) proposed the second language motivational self system (L2MSS) as a model for understanding motivation in

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the new globalized world, and a new path for the study of motivation in the 21st century. Motivation researchers around the world have welcomed and utilized the L2MSS, and have found its components to contribute to second-language (L2) motivation (e.g., Taguchi, Magid, & Papi, 2009), achievement (e.g., Dörnyei & Chan, 2013; for a meta-analysis see Al-Hoorie, 2018), proficiency (e.g., Lamb, 2012; Papi & Teimouri, 2014), the use of writing strategies (Jang & Lee, 2019), and the mechanisms underlying emotions such as L2 anxiety (e.g., Papi, 2010), shame, guilt, enjoyment (Teimouri, 2017), and willingness to communicate in the L2 (e.g., Khajavy & Ghonsooly, 2017). The model includes three components: an Ideal L2 Self, representing the L2 attributes the learner would ideally like to possess; an Ought-to L2 Self, representing the L2 attributes the learner believes they would have to possess to meet expectations; and the L2 Learning Experience, which constitutes learners' attitudes and perceptions toward their past and current L2 classes, teachers, materials, and the like.

Due to some measurement and conceptual issues, however, the L2MSS has recently been expanded and refined by Papi, Bondarenko, Mansouri, Feng, and Jiang (2019), based on the results of a study in the context of English as a second language (ESL) in the USA (see also Teimouri, 2017). Papi et al. drew on regulatory focus (Higgins, 1997) and self-discrepancy theory (Higgins, 1987) to propose the 2 × 2 model of future self-guides, which applies regulatory distinctions in the conceptualization of the self-guides and bifurcates Ideal L2 Self and Ought-to L2 Self by two standpoints (i.e., viewpoints), Own and Other. These bifurcations result in two ideal L2 selves from own and other standpoints (i.e., Ideal L2 Self/Own and Ideal L2 Self/Other), and two ought L2 selves from own and other standpoints (Ought L2 Self/Own and Ought L2 Self/Other). Based on questionnaire data collected from international university students in the ESL context of the USA, Papi et al. found that Ought L2 Self/Own, which has traditionally been perceived as a weak predictor of motivation (e.g., Papi & Teimouri, 2012, 2014; Teimouri, 2017; You & Dörnyei, 2014), emerged as the strongest predictor of L2 motivated behavior. In addition, different self-guides were found to predict qualitatively different motivated behaviors. That is, Ideal L2 Self/Own positively predicted eager L2 use strategies, concerned with the maximal use of the L2 (e.g., "I take advantage of every chance I get to use English in my classes"), whereas Ought L2 Self/Own was a positive predictor of vigilant L2 use strategies, concerned with the minimal use of the target language to avoid making mistakes (e.g., "I use English only when I am sure it is correct").

Even though Papi et al. (2019) outlined specific characteristics for their model and how different selves lead to qualitatively different motivated learning behaviors (e.g., eager L2 use vs. vigilant L2 use), many of their arguments were at the level of speculation with little empirical support. More specifically, their study did not investigate (a) how the new model would be related to learners' chronic regulatory focus (Higgins, 1997), (b) how different selves result in different emotional reactions (e.g., anxiety vs. enjoyment), (c) how such emotional reactions can lead to different motivated behaviors, or (d) how different motivated behaviors contribute to L2 achievement. In the present study, we will bridge these gaps in the study of L2 motivation by testing a more comprehensive theoretical model that conceptualizes L2 motivation as a conglomerate of motives (Dörnyei & Ushioda, 2011) at five different levels: chronic regulatory dispositions (Higgins, 1997), future L2 self-guides (Papi et al., 2019), emotional reactions, strategic distinctions, and finally L2 achievement. In other words, rather than examining the operation of self-guides in isolation, as is common in most L2 motivation studies, we will look at the constellation of personality characteristics, emotions, behaviors, and learning outcomes that are associated with L2 self-guides. By doing so, we aim to further the understanding of motivation not as a limited set of motives in isolation but as motivational conglomerates and a phenomenon that permeates various levels of human psychology and behavior.

Background Literature

Regulatory Focus

Regulatory focus theory (Higgins, 1997) posits that there are two motivational systems regulating human goal-directed behavior, a *promotion system* and a *prevention system*. A promotion system is sensitive to the presence or absence of positive outcomes. Individuals with a strong promotion focus are concerned with the higher order needs for advancement, growth, and accomplishments, and are motivated by ideal selves. They are more likely to take risks (Scholer, Zou, Fujita, Stroessner, & Higgins, 2010), and use eager strategies in their goal pursuit (Crowe & Higgins, 1997). Individuals with a strong prevention focus, on the other hand, are concerned with duties, obligations, and responsibilities, and are motivated by ought selves. They are relatively more risk-averse (Scholer et al., 2010) and follow vigilant strategies to minimize the possibility of losses in their goal pursuits (Crowe & Higgins, 1997). Regulatory focus theory has been employed in the field of L2 acquisition as well. In an experimental study, Papi (2016, 2018) examined how matching and mismatching task instructions (gain vs. loss) to the dominant chronic regulatory focus of

ESL learners affected their engagement and incidental vocabulary learning in an integrated reading and writing task. The results of the study showed that prevention-focused learners learned more vocabulary words when the task was presented in terms of avoiding losses than when it was presented in terms of approaching gains. On the other hand, promotion-focused learners were generally more engaged and learned more vocabulary items than prevention-focused learners, a finding that the author attributed to the promotion-focused nature of the task of argumentative writing. To the best of our knowledge, there has been no other direct application of regulatory focus theory in our field.

The theory, nonetheless, has been indirectly examined in the field in the studies that have employed future L2 self-guides. As mentioned above, it has been suggested that ideal self, the self one would ideally like to become, has a promotion focus, and ought-to self, the self one has to become to avoid negative consequences, has a prevention focus (Dörnyei, 2009; Papi et al., 2019; Taguchi et al., 2009; Teimouri, 2017). Studies have also shown that Ideal L2 Self has been associated with promotion-related variables, including willingness to communicate (Khajavy & Ghonsooly, 2017), enjoyment (Teimouri, 2017), and eager use of the target language (Papi et al., 2019); on the other hand, the Ought L2 Selves have been associated with prevention-related constructs, such as L2 anxiety (Papi, 2010), low classroom participation (Papi & Abdollahzadeh, 2012), and vigilance in using the target language (Papi et al., 2019).

However, there have been no studies examining how the chronic promotion and prevention regulatory foci, as operationalized specifically by Higgins et al. (2001), are related to the ideal and ought L2 selves. Teimouri (2017) tried to examine this relationship using Lockwood, Jordan, and Kunda (2002) scales. However, those scales, according to Higgins and Cornwell (2016), represent a traditional approach-versus-avoidance dichotomy that does not match the promotion-versus-prevention distinction; this is because approaching positive end-states and avoiding negative end-states are concurrently inherent in both promotion and prevention systems (see also Summerville & Roese, 2008). That is, the promotion system includes approaching gains and avoiding non gains, and the prevention system includes avoiding losses and approaching non losses. Therefore, the approach–avoidance dichotomy has an orthogonal rather than a parallel relationship with the promotion–prevention dichotomy. Using Higgins et al. (2001) regulatory focus questionnaire, the present study is, thus, the first to examine how the promotion and prevention foci relate to the four L2 self-guides outlined in the 2×2 model.

The 2 × 2 Model of L2 Self-Guides

The Ideal L2 Self and the Ought-to L2 Self were the two self-guides that were proposed by Dörnyei (2005, 2009) in his L2MSS. The Ideal L2 Self represented the L2 attributes that the learner would ideally like to possess (e.g., speaking the language fluently and effectively). The Ought-to L2 Self, on the other hand, represented the L2 attributes that the learner had to possess in order to meet expectations, duties, and obligations (e.g., to meet the language requirements in school). The Ideal L2 Self is, therefore, a maximal goal, whereas the Ought-to L2 Self is a minimal goal. In other words, whereas it takes a long time for a learner to reach the Ideal L2 Self, approaching the Ought-to L2 Self can stop when external requirements and obligations are met. The temporal difference in the nature of ideal and ought selves has been documented in two studies. Feng and Papi (2020) found that even though both Ideal L2 Self/Own and Ought L2 Self/Own contributed to the intensity of L2 learners' motivation, only Ideal L2 Self/Own resulted in learners' long-term persistence in language learning. In another study, Lake (2013) found a similar connection between Ideal L2 Self and persistence. In addition, several studies found that Ideal L2 Self more strongly associated with L2 achievement (Dörnyei & Chan, 2013) or proficiency (e.g., Lamb, 2012; Papi & Teimouri, 2014) than Ought-to L2 Self, suggesting a greater role for the Ideal L2 Self in long-term success in language learning.

Dörnyei drew on possible selves theory (Markus & Nurius, 1986) and self-discrepancy theory (Higgins, 1987) in the conceptualization of these selves. Researchers have utilized Dörnyei's model in several contexts around the world (e.g., Kormos & Csizér, 2008, 2014; Papi & Teimouri, 2012, 2014; Ryan, 2009; Taguchi et al., 2009; You & Dörnyei, 2014), mostly using Taguchi et al. (2009) questionnaire scales that were developed under Dörnyei's supervision. The results of these studies consistently showed the strong predictive power of the Ideal L2 Self and L2 Learning Experience, and the weak predictive power of the Ought-to L2 Self (e.g., Papi, 2010; Papi & Teimouri, 2012, 2014; Ryan, 2009; Taguchi et al., 2009; Teimouri, 2017; You & Dörnyei, 2014) or even the lack of construct validity for the Ought-to L2 Self (e.g., Csizér & Lukács, 2010; Kormos & Csizér, 2008; Lamb, 2012; Ryan, 2009). However, the results related to the Ought-to L2 Self were, arguably, problematic for the theory of L2MSS because it was difficult to understand how a construct which "is considered one of the two major self-guides regulating human behavior" (Papi et al., 2019, p. 339) could consistently lack predictive power or construct validity. Inspired by these asymmetric findings, Papi et al. (2019; see also Teimouri, 2017; Thompson & Vásquez, 2015) drew on the theoretical

foundations of self-discrepancy theory (Higgins, 1987), as well as its upgraded and broadened version, regulatory focus theory (Higgins, 1997), to propose the inclusion of regulatory distinctions and standpoints in the reformulation of the self-guides. In the 2 × 2 model, the Ideal L2 Self and Ought-to L2 Self were bifurcated by two standpoints, Own and Other, which resulted in the generation of four self-guides. Ideal L2 Self/Own represents the L2 user that the learner ideally would like to be; Ideal L2 Self/Other is the ideal L2 user that the learner believes their significant others (e.g., parents) would like them to be; Ought L2 Self/Own concerns meeting certain self-selected L2 requirements to avoid potential negative consequences; and Ought L2 Self/Other represents L2 attributes that the learner believes others expect or require them to possess.

Based on the new conceptualization, Papi et al. (2019) developed a questionnaire, which they administered to 257 international university students who were using English as a L2 in the United States. The results of confirmatory factor analysis showed that the new four-factor model's fitness to the data was superior to that of alternative models with only two self-guides, including a unitary Ideal L2 Self and a unitary Ought-to L2 Self (Dörnyei, 2009), or three self-guides, including a unitary Ideal L2 Self with Own and Other standpoints combined, an Ought-to L2 Self/Own, and an Ought-to L2 Self/Other (Teimouri, 2017). In terms of predicting motivated behavior, the study (i.e., Papi et al., 2019) found that Ought L2 Self/Own was the strongest predictor, followed by Ideal L2 Self/Own, Ought L2 Self/Other, and Ideal L2 Self/Other. In addition, whereas Ideal L2 Self/Own significantly predicted an Eager L2 Use strategic tendency concerned with taking advantage of every opportunity to use the L2, Ought L2 Self/Own predicted a Vigilant L2 Use strategic tendency concerned with minimal use of the language to avoid making mistakes.

In addition to the study conducted by Papi et al. (2019), there have been three other recent studies that have employed the 2 × 2 model. Kermad (2018) examined the model in relation to L2 pronunciation performance among ESL learners in a summer program. The results of the study showed that Ideal L2 Self/Own and Ought L2 Self/Other predicted fewer segmental deviations, and Ideal L2 Self/Own predicted higher pronunciation fluency. In another study, Zhou (2019) examined the future self-guides in relation to attitudes toward the importance of L2 pronunciation and learners' desire to pronounce the L2 like a native speaker. The study found that whereas Ideal L2 Self/Own and Ought L2 Self/Own strongly and positively correlated with the target variables, Ought L2 Self/Other showed a negative correlation. In other words, learners' own ideals and oughts were associated with greater importance attached to the acquisition of L2 pronunciation, whereas the obligations imposed by

others had an inverse relationship with attitudes toward L2 pronunciation. In the third study, Feng and Papi (2020) examined the model in relation to L2 motivational intensity and L2 persistence among learners of Chinese as a foreign language in the United States. The results of the study showed that both Ideal L2 Self/Own and Ought L2 Self/Own contributed to L2 motivational intensity. However, whereas the Ideal L2 Selves (Own and Other) positively predicted L2 persistence, Ought L2 Self/Other was a negative predictor of persistence. The authors attributed these results to the maximal and long-term nature of ideal selves. These early studies show that the 2 × 2 model has the potential to shed light on differential success in L2 learning.

However, previous studies on future L2 self-guides have often examined these constructs as isolated motives, even though developing a self-guide could have origins not only in the individual's socio-educational background but also in their personality. That was the core reason for Higgins to transition from self-discrepancy theory (1987), which focuses on selves, to regulatory focus theory (1997), which focuses on chronic concerns for different types of human needs (i.e., safety, security and calmness vs. growth, advancement and accomplishment), which in turn lead to the pursuit of future selves, among other desirable end-states. In addition, the selves are rather distal motives that result in motivated behavior through respective emotional reactions. According to self-discrepancy theory (Higgins, 1987), discrepancies between a person's actual and future selves create emotional states, which in turn result in qualitatively different motivated behaviors. In the present study, therefore, we test the future selves outlined in the 2 × 2 model in relation to the emotional consequences of pursuing different self-guides, and the strategic behaviors that follow the emotional reactions and eventually lead to language learning outcomes. In sum, in this study, we investigate an integrated model that includes learners' chronic motivational dispositions, the future L2 selves, emotions, strategic inclinations, and L2 achievement.

Self-Discrepancies and Emotions

In the field of L2 acquisition, L2 anxiety is defined as "the feeling of tension and apprehension specifically associated with second language contexts, including speaking, listening, and learning" (MacIntyre & Gardner, 1994, p. 284), and L2 enjoyment refers to the positive feeling of joy that individuals experience while using and learning a L2 (Khajavy, MacIntyre, & Barabadi, 2018). The connection between selves and emotions such as anxiety and enjoyment has been established within the framework of the self-discrepancy theory (e.g., Higgins, Bond, Klein, & Strauman, 1986). According to Higgins (1987),

the discrepancy between the actual self and the ideal selves results in dejection-related emotions (e.g., sadness and disappointment), whereas moving toward the ideal selves results in elation-related emotions (e.g., joy and happiness). By contrast, the discrepancy between the actual self and the ought selves leads to agitation-related emotions (e.g., anxiety and fear), and approaching the ought selves creates quiescence-related emotions (e.g., calmness and safety). Regulatory focus theory (Higgins, 1997) extends this relationship to other promotion and prevention goals. Promotion goals can include any type of advancement, accomplishment, or gain. Prevention goals can include any responsibility, obligation, or loss. According to Klenk, Strauman, and Higgins (2011), the perception of progress toward any promotion goal can result in elation-related emotions, whereas the lack of progress toward promotion goals can lead to dejection-related emotions. On the other hand, progress toward prevention goals can lead to quiescence-related emotions, whereas the failure to avoid negative outcomes can lead to agitation-related feelings. Research into L2MSS has also supported similar connections. Papi (2010) found that Ideal L2 Self negatively but Ought-to L2 Self positively predicted anxiety. Teimouri (2017) found that Ideal L2 Self was associated with joy, whereas Ought-to Selves were associated with anxiety.

According to regulatory focus theory (Higgins, 1997), promotion individuals tend to focus on moving away from the status quo and approaching a more positive end-state; prevention individuals, on the other hand, tend to focus on maintaining the status quo and avoiding a more negative end-state. Therefore, it is expected that learners with a strong ideal self, which has a promotion focus, will be concerned with approaching a more desirable outcome and will experience the elation-related emotion of enjoyment, whereas those with a strong ought self, which has a prevention focus, will be concerned with avoiding a less desirable outcome and will experience the agitation-related emotion of anxiety during their goal pursuit. L2 research has documented the connection between enjoyment and anxiety, on the one hand, and motivation, on the other (e.g., Papi, 2010; Papi & Teimouri, 2014; Teimouri, 2017; Teimouri, Goetze, & Plonsky, 2019). In addition, the positive and negative emotional responses have been shown to lead to qualitative differences in learners' motivation. For instance, MacIntyre and Vincze (2017) found that positive emotions including interest and joy enhanced, whereas negative emotions including anxiety debilitated, the quality and quantity of intergroup contact with native speakers of the target language. Similarly, Horwitz, Horwitz, and Cope (1986) found that anxious students were cautious in their use of the L2. The connection has also been highlighted by MacIntyre and Gregersen (2012), who argued that

positive and negative emotions lead to qualitative differences in thought and action. For example, negative emotions like anger lead a person to destroy obstacles in goal pursuit, whereas positive emotions like enjoyment enhance exploration and creativity. Similarly, Khajavy et al. (2018) found that enjoyment improves, but anxiety hinders, willingness to communicate in English classes. Therefore, in the present study we speculate that due to their distinct regulatory sources, the enjoyment and anxiety that originate from the ideal and ought self-discrepancies can motivate learners to employ qualitatively different strategic inclinations, a topic to which we now turn.

Strategic Inclinations: Eager Versus Vigilant L2 Use

Emotions could be the result of the individual's concerns with approaching positive end-states versus avoiding negative end-states (Higgins, 1987). Due to their distinct regulatory foci, such emotional reactions to goal pursuits are likely to influence the specific strategies and behaviors that learners employ in their goal pursuits (e.g., Miller, 2019; Papi, 2010; Teimouri, 2017). Research has shown that promotion individuals, concerned with positive end-states, use eager strategies to improve their personal relationships, whereas those with a prevention focus employ vigilant strategies (see Klenk et al., 2011). In signal detection studies (e.g., Crowe & Higgins, 1997; Friedman & Förster, 2001), promotion individuals have been found to use eager strategies to avoid errors of omission (i.e., to avoid missing as many correct responses as possible), whereas those with a prevention focus employ vigilant strategies to avoid errors of commission (i.e., to make as few errors as possible).

In L2 research, Papi et al. (2019) also provided evidence that Ideal L2 Self/Own resulted in an eager strategic inclination concerned with maximizing opportunities for L2 use, whereas the ought L2 selves were associated with a vigilant strategic tendency in L2 use, concerned with minimizing the possibilities of making L2 mistakes. The study, however, did not provide any evidence to show (a) whether and how emotions such as enjoyment and anxiety mediate the relationship between self-guides and the use of these strategies, or (b) whether such qualitative differences in the learners' strategic inclinations influence learners' L2 outcomes, such as their L2 achievement. These gaps will be addressed in the present study.

L2 Achievement

Future L2 selves have been found to differentially lead to L2 achievement (see Al-Hoorie, 2018). The link between L2 selves and L2 achievement, however, cannot be direct. L2 selves result in emotional consequences, which in turn

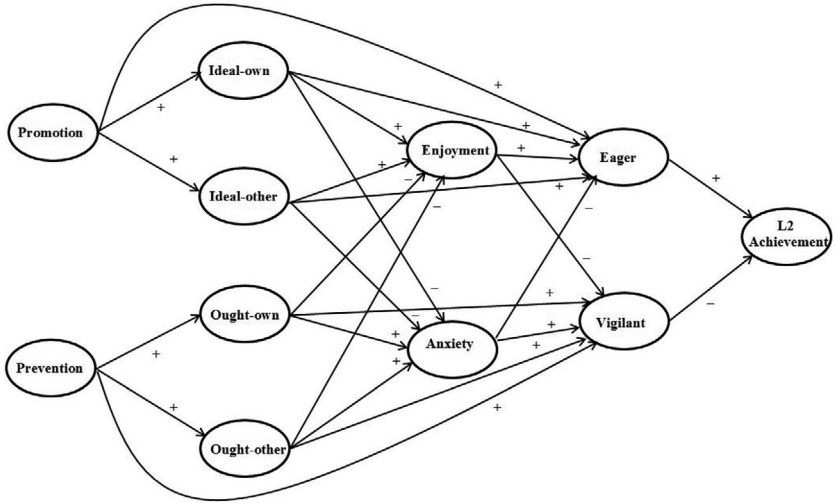

Figure 1 The proposed integrated model of motivation and achievement in language learning. L2 = second language; Eager = Eager L2 Use; Vigilant = Vigilant L2 Use.

motivate different behaviors that can eventually lead to L2 achievement. In the present study, therefore, it is anticipated that the ideal and ought selves will lead to L2 enjoyment versus anxiety, respectively, which are in turn expected to predict eager versus vigilant strategic inclinations in L2 use. L2 use is, in turn, also anticipated to result in L2 achievement.

The Hypothesized Model

Based on the literature and theoretical tenets reviewed above, in this study we use structural equation modeling to test a theoretical model that includes four layers of paths connecting chronic regulatory foci, future L2 self-guides, emotions, strategic inclinations, and L2 achievement. As illustrated in Figure 1, we hypothesize that (a) the promotion focus will positively predict the ideal selves, but the prevention focus will positively predict the ought selves; (b) the ideal selves will predict L2 enjoyment positively and L2 anxiety negatively, whereas the ought selves will predict L2 anxiety positively and L2 enjoyment negatively; (c) L2 enjoyment will predict eager strategies positively and vigilant strategies negatively, whereas L2 anxiety will predict vigilant strategies positively and eager strategies negatively; and (d) eager strategies will positively, and vigilant strategies negatively, predict L2 achievement.

Even though in this study the premise was that the relationships between different layers were mediated by intermediary layers, we also tested the direct paths from regulatory orientations and self-guides to strategic inclinations, based on the findings of previous studies. Following Crowe and Higgins (1997) and Klenk et al. (2011), we tested a path from Promotion to Eager L2 Use and one from Prevention to Vigilant L2 Use. Similarly, based on Papi et al. (2019), we drew paths from the ideal selves to eager L2 use and from the ought selves to vigilant L2 use. Even though previous studies have shown links between our two emotions (enjoyment and anxiety) and L2 achievement (e.g., Teimouri et al., 2019), we decided not to draw direct paths from L2 enjoyment and L2 anxiety to L2 achievement because, according to the self-discrepancy theory (Higgins, 1987), emotional reactions precede behaviors and actions, which in turn can lead to learning outcomes. In other words, experiencing an emotion by itself cannot lead to tangible learning outcomes unless it motivates some behavior.

Method

Participants

The participants in this study were 324 students (male: 43.5%, female: 53.4%, and 3.1% unknown) from a university in Iran. The students were from different majors, including humanities (49.7%), engineering (18.2%), arts (18.2%), and sciences (7.1%; 6.8% unknown), and were taking a compulsory three-credit general English course. Students' ages ranged from 18 to 38 years ($M = 19.70$, $SD = 1.70$). All students were at the undergraduate level and most of them were in the first year of their studies (71.3%). They had studied English for at least 6 years, with 81.5% of them having studied at school and university, 10.8% at private language institutes, and 7.7% not reporting a specific place. Students were informed that participation in the study was voluntary. Data were gathered during regular classroom hours from nine different classes.

Instrumentation

For this study, we used a questionnaire to measure regulatory focus, the L2MSS, L2 anxiety and enjoyment, and L2 strategic inclinations. All variables were assessed on a 6-point Likert type scale ranging from 1 (strongly disagree) to 6 (strongly agree) in Persian, which is Iran's official language. The items are presented in Appendix S1 in the Supporting Information online. It took approximately 15 minutes for students to answer the questionnaire items. In addition, to assess students' L2 achievement, we used their final grades. We

asked them to write down their student ID numbers so that we could access their grades at the end of the semester.

Regulatory Focus

We used the regulatory focus questionnaire developed by Higgins et al. (2001) to assess regulatory focus. Four items were used to measure Promotion (e.g., "Do you often do well at different things that you try?") and five items to measure Prevention (e.g., "How often did you obey rules and regulations that were established by your parents?").

L2 Selves

We adapted the self-guide scales developed by Papi et al. (2019) to fit the context of the study. Five items were used to measure Ideal L2 Self/Own (e.g., "One day I will be able to speak English very easily and fluently"), three items for Ideal L2 Self/Other (e.g., "My family will be proud of me if one day I master the English language"), four items for Ought L2 Self/Own (e.g., "If I don't work on my English, I will fail in my future career"), and four items for Ought L2 Self/Other (e.g., "If I don't improve my English, my family/teachers will lose confidence in me").

Anxiety and Enjoyment

To assess L2 anxiety, we used five items from Khodadady and Khajavy (2013; adapted from Horwitz et al., 1986). These items assess to what extent students feel anxious when they are in their language classrooms. A sample item is "I get nervous and confused when I am speaking in my English class." To assess L2 enjoyment, we developed four items based on Khajavy et al.'s (2018) L2 learning enjoyment scale. These items simply assess the extent to which students enjoy their English learning experience (e.g., "I enjoy learning English").

Strategic Inclinations

To measure the two qualitatively different L2 strategic inclinations (Eager L2 Use vs. Vigilant L2 Use), we employed Papi et al. (2019) scales. Five items were used to measure Eager L2 Use (e.g., "To improve my English, I frequently ask questions and volunteer answers in my classes"), and five items were used to measure Vigilant L2 Use (e.g., "I use English only when I am sure it is correct").

Foreign Language Achievement

Students' grades were based on the exam they took at the end of the semester. All students took the same test. The test measures students' reading ability, vocabulary knowledge, grammatical knowledge, and pronunciation. The instructors who taught the classes also corrected their students' tests. As there were clear guidelines for correcting the tests, no cross-checking was done to ascertain the reliability of the tests. In the Iranian educational system, grades range from 0 to 20, with 20 being the maximum possible grade. In this test, out of 20, reading had nine points (45%), vocabulary knowledge had three points (15%), grammatical knowledge had seven points (35%), and pronunciation had one point (5%). A grade of less than 10 is considered as failing the course, and a student with such a grade has to take that course again. Instrument reliability or inter rater reliability are not reported because full information about tests was not available. The test took 75 minutes and was conducted in one session. It is not possible to make the complete test available because it is proprietary to the University of Bojnord but we have included simulated test items from each section in Appendix S2 (in the Supporting Information online).

Data Analysis

We ran structural equation modeling (SEM) using Mplus 7.4 (Muthén & Muthén, 2012, 2014) to test our hypothesized model. To prepare the data for SEM, we examined missing data, outliers, and the SEM assumptions. To handle missing data, we used full information maximum likelihood estimation. The amount of missing data ranged from 3.5% to 7.7% for the questionnaire items, and it was 18.3% for the L2 achievement test scores. The reason for higher missing data rate for L2 achievement scores was that some of the participants failed to write their assigned IDs on the questionnaires, and so their achievement data, which could not then be matched with a specific questionnaire, had to be excluded as a result. We examined univariate outliers using standardized scores, and as a result we removed 13 cases leaving 311 participants' data for the main SEM analysis. In addition, we used the squared Mahalanobis distance (D^2) to check multivariate outliers for which no case was found. We then examined univariate normality using skewness and kurtosis, which, for large sample sizes ($n > 300$), should be less than 2 and 7, respectively (Kim, 2013). All variables had skewness and kurtosis values within the acceptable range (see Table 3). Finally, we examined multivariate normality using Mardia's test (Korkmaz, Goksuluk, & Zararsiz, 2014). Results for both skewness (12.28, $p < .001$) and kurtosis (134.18, $p < .001$) indicated that the data did not have multivariate normality. This lack of multivariate normality

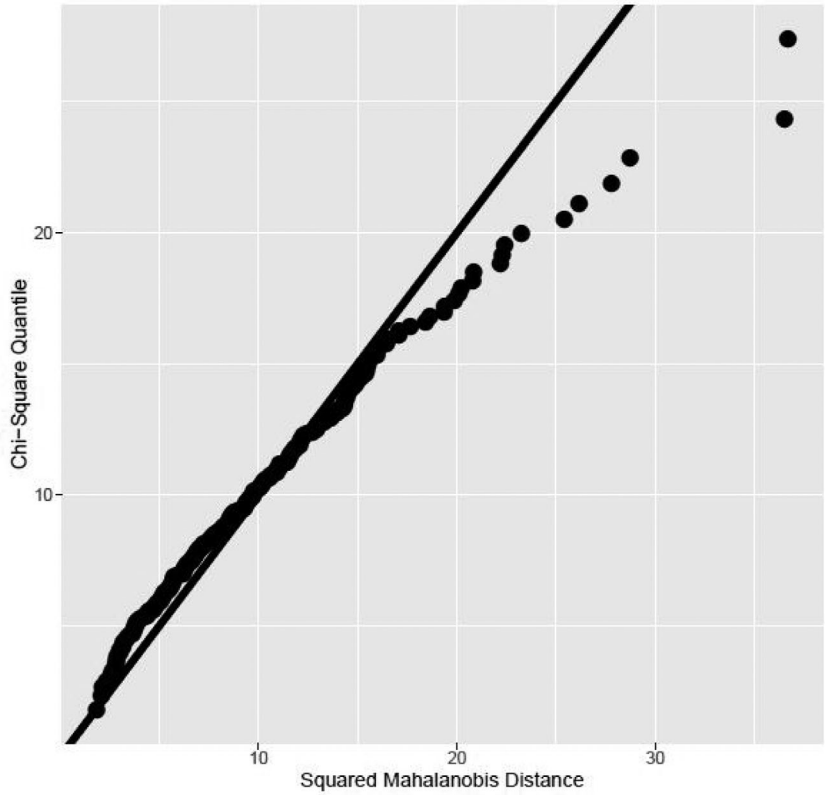

Figure 2 Quantile–quantile plot for the data, illustrating lack of multivariate normality.

can also be seen in the quantile–quantile plot (Figure 2), where points deviate from the straight line. For this reason, we decided to use robust maximum likelihood (MLR) in Mplus to handle lack of multivariate normality.

We investigated the measurement models of all constructs using confirmatory factor analysis (CFA). To confirm model fit in CFA and SEM, we utilized goodness-of-fit indices. In the present study, we used the comparative fit index (CFI), Tucker–Lewis index (TLI), root mean square error of approximation (RMSEA), and standardized root mean square residual (SRMR). CFI and TLI values above .90 and .95 show adequate and excellent fit to the data, respectively, and RMSEA and SRMR values less than .08 and .06 show adequate and excellent fit, respectively (Hu & Bentler, 1999). We reported effect sizes for the paired-sample *t* tests based on Cohen's *d* and the framework of reference

proposed by Plonsky and Oswald (2014) for within-subject comparisons: $0.60 \leq d < 1.00$ as generally small; $1.00 \leq d < 1.40$ as medium; and $d \geq 1.40$ as large. For SEM analyses, we relied on Cohen's f^2 (Cohen, 1992) for effect sizes and their interpretation: $0.02 \leq f^2 < 0.15$, a small effect; $0.15 \leq f^2 < 0.35$, a medium effect; and $f^2 \geq 0.35$, a large effect.

We also performed measurement invariance testing for the adapted L2 selves questionnaire to be sure that the scale items and underlying latent factor are interpreted in the same way for both males and females. We decided to establish measurement invariance across gender, because it is very common for a study to have both male and female participants, and it is important that scale items are interpreted equally for both groups. To this end, we followed a stepwise procedure in which configural, metric, and scalar invariance are tested (Chen, 2007; Cheung & Rensvold, 2002). Configural invariance confirms that the same number of items and factors are tenable for both groups. Metric invariance confirms that both males and females interpret the items in the same way. Finally, scalar invariance confirms that both males and females use the measurement scale in a similar way. To test these three steps, we followed Chen's (2007) guidelines. Based on these guidelines, in cases of adequate sample size ($N > 300$), ΔCFI ≤ 0.010 supplemented by ΔRMSEA ≤ 0.015, or ΔSRMR ≤ 0.030, indicates metric invariance. Moreover, ΔCFI ≤ 0.010 supplemented by ΔRMSEA ≤ 0.015, or ΔSRMR ≤ 0.010, indicates scalar invariance.

Results

Measurement Models

To examine the construct validity of the adapted scale for the 2×2 model of self-guides, we ran CFA. Goodness-of-fit indices showed excellent fit to the data (see Table 1) and factor loadings ranged from .637 to .895 (see Figure 3).

We also checked the convergent and discriminant validity of the scale based on Hiver and Al-Hoorie's (2020) recommendations. Convergent validity was examined using average variance extracted (AVE): Values higher than .50 support convergent validity. The AVEs were all satisfactory: Ideal-Own, .72; Ideal-Other, .54; Ought-Own, .67; and Ought-Other, .65. For discriminant validity, the square root of AVE for each construct should be larger than the correlation of that construct with other constructs. The square roots of AVE for all four subscales were higher than their correlations with other constructs (which can be seen in Appendix S3 in the Supporting Information online): Ideal-Own, .85; Ideal-Other, .73; Ought-Own, .82; Ought-Other, .80. The results of the CFA on the measurement model (Figure 3) support the construct

Table 1 Goodness-of-fit indices for confirmatory factor analysis and structural equation modeling (SEM) models

	χ^2	*df*	CFI	TLI	RMSEA (90% CI)	SRMR
2 × 2 model	144.886	98	.979	.974	.039 [.025, .052]	.042
Strategic inclinations	806.001	45	.967	.956	.049 [.027, .069]	.039
Emotions	75.350	26	.930	.903	.078 [.058, .099]	.068
Regulatory focus	521.632	36	.941	.918	.060 [.037, .082]	.045
Final SEM model	1,453.101	908	.907	.899	.044 [.040, .048]	.061

Note. CFI = comparative fit index; TLI = Tucker–Lewis index; RMSEA = root mean square error of approximation; SRMR = standardized root mean square residual.

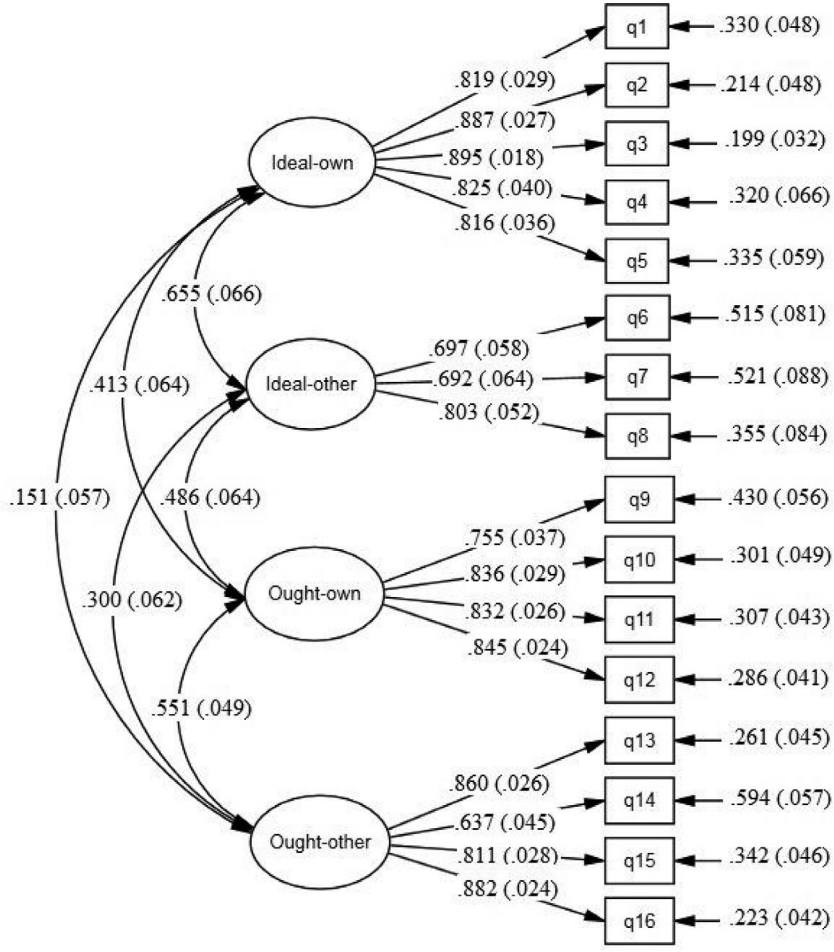

Figure 3 The results of confirmatory factor analysis for the self-guides with standardized estimates.

validity of the scales for measuring the four target L2 selves outlined in the 2 × 2 model (Papi et al., 2019) and reaffirm that a model of selves that represents not only the prevention-versus-promotion regulatory distinction but also the own-versus-other standpoints is an improvement over the original model proposed by Dörnyei (2005, 2009) as well as the model proposed by Teimouri (2017). Furthermore, the results of measurement invariance testing supported configural, metric, and scalar invariance (see Table 2). This means that the

Table 2 Measurement invariance test of the 2 × 2 model for males and females

	χ^2	*Df*	CFI	RMSEA	SRMR	ΔCFI	ΔRMSEA	ΔSRMR
Configural	337.827	196	.939	.070	.054			
Metric	342.898	208	.942	.066	.058	.003	.004	.004
Scalar	353.836	220	.942	.064	.060	.000	.002	.002

Note. CFI = comparative fit index; RMSEA = root mean square error of approximation; SRMR = standardized root mean square residual.

males and females in the current study had the same perception of the items and underlying latent factors. This further supported the validity of the scale.

We also performed CFA for other constructs. Goodness-of-fit indices for these constructs can be seen in Table 1. All models fitted the data adequately, suggesting the construct validity of the scales. Factor loadings for other constructs are reported in Appendix S4 in the Supporting Information online.

We calculated Cronbach's alpha (α) to measure internal consistency and omega (ω) to measure composite reliability of the scales (see Table 3). All measures had an acceptable level of Cronbach's alpha (except for Promotion, which was .68) and composite reliability coefficient (>.70), confirming the internal consistency of the scales.

Descriptive Statistics

Descriptive statistics for the variables are presented in Table 3. We used paired-sample *t* tests to examine the mean differences among the subscales of all the main constructs. Accordingly, among the four self-guide subscales, results for our participants showed higher means for three subscales when compared with Ought-Other: Ideal-Own, $t(277) = 21.33$, $p < .001$, Cohen's $d = 1.27$, 95% CI [1.09, 1.45], medium effect; Ideal-Other, $t(294) = 27.78$, $p < .001$, Cohen's $d = 1.77$, 95% CI [1.58, 1.96], large effect; and Ought-Own, $t(282) = 22.32$, $p < .001$, Cohen's $d = 1.29$, 95% CI [1.11, 1.47], medium effect. In addition, Ideal-Other had a slightly higher mean than Ideal-Own, $t(285) = 3.20$, $p < .001$, Cohen's $d = .19$, 95% CI [.02, .35], a negligible effect; and also slightly higher than Ought-Own, $t(290) = 7.79$, $p < .001$, Cohen's $d = .44$, 95% CI [.27, .60], a negligible effect. In addition, Ideal-Own had a slightly higher mean than Ought-Own, $t(273) = 4.64$, $p < .001$, Cohen's $d = .27$, 95% CI [.10 – .44], a negligible effect. Participants used slightly more Vigilant than Eager strategies, $t(282) = 5.08$, $p < .001$, Cohen's $d = .29$, 95% CI [.12 – .46], a negligible effect; experienced more Enjoyment than Anxiety, $t(281) = 6.27$, $p < .001$, Cohen's $d = .37$, 95% CI [.20, .54], a negligible effect; and were almost equally Promotion- and Prevention-focused, $t(285) = 1.89$, $p = .05$, Cohen's $d = .09$, 95% CI [−.07, .25]. Latent correlations among all variables can be seen in Appendix S3 in the Supporting Information online.

Structural Model

We used SEM to test our proposed structural model with five layers of variables (see Figure 4).[1] Goodness-of-fit indices showed that the model fitted the data

Table 3 Descriptive statistics and reliability of the measures

	n	*M*	*SD*	Skewness	Kurtosis	α	ω
1-Ideal-Own	287	4.60	1.23	−0.87	0.18	.93	.93
2-Ideal-Other	306	4.82	1.03	−0.92	0.44	.77	.78
3-Ought-Own	292	4.21	1.26	−0.49	0.14	.89	.89
4-Ought-Other	296	2.57	1.20	0.54	−0.52	.88	.88
5-Eager	293	3.13	1.10	0.22	−0.38	.83	.83
6-Vigilant	297	3.70	1.12	−0.34	0.22	.81	.80
7-Anxiety	292	3.61	1.21	−0.18	−0.58	.80	.80
8-Enjoyment	295	4.32	1.17	−0.51	−0.22	.85	.85
9-Promotion	300	4.40	0.82	−0.42	0.01	.68	.70
10-Prevention	296	4.26	1.03	−0.56	−0.07	.78	.79
11-L2 achievement	254	14.87	3.60	−0.17	−1.06	—	—

Note. Eager = Eager L2 Use; Vigilant = Vigilant L2 Use; L2 = second language. Reliability information is not reported for L2 achievement because full information was not available.

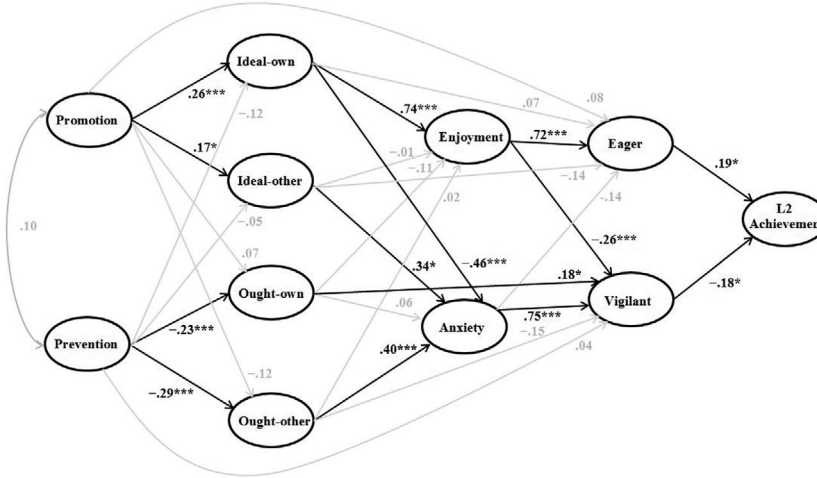

Figure 4 The final integrated model of motivation and achievement in language learning with standardized estimates. L2 = second language; Eager = Eager L2 Use; Vigilant = Vigilant L2 Use.
*$p < .05$. ***$p < .001$; for exact p values, see the text.

adequately, $\chi^2 = 1{,}453.101$, $df = 908$, CFI = .907, TLI = .899, RMSEA = .044, 90% CI [.040, .048], SRMR = .061.

In terms of paths in the first layer, Promotion was a significant positive predictor of Ideal-Own ($\beta = .26$, $p < .001$, $R^2 = .07$, 95% CI [.02, .12], $f^2 = 0.08$, a small effect) and Ideal-Other ($\beta = .17$, $p = .04$, $R^2 = .03$, 95% CI [−.01, .06], $f^2 = 0.03$, a small effect), as anticipated, whereas, surprisingly, Prevention was a significant negative predictor of Ought-Own ($\beta = -.23$, $p < .001$, $R^2 = .05$, 95% CI [.01, .10], $f^2 = 0.05$, a small effect) and Ought-Other ($\beta = -.29$, $p < .001$, $R^2 = .08$, 95% CI [.02, .14], $f^2 = 0.09$, a small effect).

In the second layer, Ideal-Own was a significant positive predictor of Enjoyment ($\beta = .74$, $p < .001$, $R^2 = .55$, 95% CI [.47, .62], $f^2 = 1.22$, a large effect) and a significant negative predictor of Anxiety ($\beta = -.46$, $p < .001$, $R^2 = .21$, 95% CI [.13, .29], $f^2 = 0.27$, a medium effect), as anticipated. In addition, Ideal-Other ($\beta = .34$, $p = .02$, $R^2 = .12$, 95% CI [.05, .19], $f^2 = 0.14$, a small effect) and Ought-Other ($\beta = .40$, $p < .001$, $R^2 = .16$, 95% CI [.09, .23], $f^2 = 0.19$, a medium effect) were significant positive predictors of Anxiety.

In the third layer, Enjoyment was a significant positive predictor of Eager L2 Use ($\beta = .72$, $p < .001$, $R^2 = .52$, 95% CI [.44, .60], $f^2 = 1.08$, a large effect) and a significant negative predictor of Vigilant L2 Use ($\beta = -.26$, $p <$

.001, $R^2 = .07$, 95% CI [.02, .12], $f^2 = 0.08$, a small effect), whereas Anxiety was a significant positive predictor of Vigilant L2 Use ($\beta = .75$, $p < .001$, $R^2 = .56$, 95% CI [.49, .63], $f^2 = 1.27$, a large effect), precisely as anticipated. In addition, Ought-Own, which did not predict L2 Anxiety, was a significant positive predictor of Vigilant L2 Use ($\beta = .18$, $p = .04$, $R^2 = .03$, 95% CI [.00, .07], $f^2 = 0.03$, a small effect).

Eager L2 Use was a significant positive predictor of L2 Achievement ($\beta = .19$, $p = .04$, $R^2 = .04$, 95% CI [.00, .08], $f^2 = 0.04$, a small effect), and Vigilant L2 Use was a significant negative predictor of L2 Achievement ($\beta = -.18$, $p = .04$, $R^2 = .03$, 95% CI [.00, .07], $f^2 = 0.03$, a small effect).

Discussion

In this section, the results related to each of the four layers of paths are discussed one at a time.

First Layer of Paths: Regulatory Focus → Self-Guides

In the first layer of hypothesized paths, the analysis of the structural model showed that Promotion positively predicted Ideal L2 Self/Own and Ideal L2 Self/Other. The results support our hypothesis that learners who have a stronger chronic promotion focus are more likely to pursue ideal selves. This is due to the regulatory match between the promotion focus and ideal selves. According to regulatory focus theory (Higgins, 1997), the promotion focus is concerned with accomplishments, advancement, and growth. Individuals with a promotion focus tend to move from the status quo to a more desirable end-state such as an ideal self. In the case of language learners, promotion-focused learners are motivated to improve their current language abilities, which they might perceive as inadequate, and reach their ideal levels of L2 proficiency, as found in previous studies (Papi et al., 2019; Teimouri, 2017).

Prevention, on the other hand, negatively predicted Ought L2 Self/Own and Ought L2 Self/Other. The negative paths from Prevention and the oughts were not expected, given that ought selves have historically been considered prevention-focused motives (Higgins, 1987, 1997) and were thus expected to be positively predicted by Prevention. However, a closer look at the mechanisms underlying regulatory focus theory (Higgins, 1997) can help to explain these results. According to Higgins (1997; Higgins et al., 2001), the prevention focus is concerned with safety, stability, and calmness. Individuals with a prevention focus are motivated to maintain the status quo and avoid a less desirable end-state. To do so, learners with a prevention focus try to meet the obligations and expectations at the core of the ought selves in order to

avoid negative consequences and maintain the status quo (e.g., their job or their academic status). Their successful investment of effort into meeting the obligations and oughts, therefore, results in the reduction of those obligations and oughts, hence the negative path from Prevention to the oughts. In other words, given that prevention-focused learners are better at meeting expectations and obligations, the stronger their prevention focus, the fewer will be the unmet expectations and obligations. Thus, it is in fact, arguably, understandable that the prevention focus negatively predicted the ought L2 selves in our study.

These results may suggest that, whereas the promotion focus is the main chronic regulatory focus that drives language learners to pursue foreign language learning goals, the prevention focus also plays a positive motivational role by reducing the ought selves, which in turn negatively influence L2 achievement by increasing Anxiety and Vigilant L2 Use, confirming that the quality of motivation might be more important than the quantity of motivation, as previously argued by Papi and colleagues (Papi, 2018; Papi et al., 2019). These results also suggest that the ought selves are not the product of learners' chronic prevention focus and could simply reflect the realities of the learning context. More interestingly, the prevention focus seems to play an important role in reducing those oughts by helping learners meet them and ensuring that negative consequences are avoided.

Second Layer of Paths: Self-Guides → Emotions

In the second layer of paths, Ideal L2 Self/Own strongly and positively predicted L2 Enjoyment and moderately and negatively predicted L2 Anxiety, as expected. This promotion-focused future self predicted approximately a remarkable 55% of the variance in L2 Enjoyment and 21% of the variance in L2 Anxiety. These results are consistent with the findings of previous studies. For instance, Papi (2010) found that Ideal L2 Self negatively predicted L2 anxiety, and Teimouri (2017) found that Ideal L2 Self positively predicted joy. Ideal L2 Self is a more desirable end-state than the current state of learners' proficiency and is thus a motive with a promotion focus. Learners feel the elation-related emotion of joy when they approach this promotion-focused end-state (Higgins, 1987). Therefore, it is not surprising that Ideal L2 Self/Own has emerged as a strong predictor of L2 Enjoyment. The negative path from Ideal L2 Self/Own to L2 Anxiety may also be due to the mutually inhibitory feature of regulatory focus (Higgins, 1998; Klenk et al., 2011). Such mutual inhibition does not allow both promotion-focused and prevention-focused emotions to be in play simultaneously. In other words, when learners are motivated by

promotion-focused motives, they predominantly feel elation-related emotions such as enjoyment, and when they are motivated by prevention-focused motives, they mostly feel agitation-related emotions such as anxiety. That is probably why Ideal L2 Self/Own not only positively predicted L2 Enjoyment but also negatively predicted L2 Anxiety.

Ideal L2 Self/Other and Ought L2 Self/Other positively predicted L2 Anxiety. It seems that the Other standpoint of the Ideal/Other and Ought/Other led to L2 Anxiety regardless of the regulatory focus of the two variables. In other words, learners' concerns with other people's judgments, perceptions, or evaluation of their English learning abilities could have resulted in the learners' experience of L2 anxiety. This may also be the reason that Ideal L2 Self/Other failed to contribute to L2 Enjoyment. Another possible explanation relates to the participants' understanding of the questionnaire items measuring this variable: It might be the case that the respondents did not make a distinction between their desire to make their family proud (Ideal L2 Self/Other) and their perceived need to meet their family's expectations (Ought L2 Self/Other). This explanation, however, does not hold against the moderate positive correlation between Ideal L2 Self/Other and Ought L2 Self/Other ($r = .31$).

Ought L2 Self/Own did not lead to L2 Anxiety. This result was also unexpected. Given that this variable measures the negative concerns that learners have with failing to learn English successfully, it was surprising that it did not emerge as a positive predictor of L2 Anxiety. A closer look at the specific context of the study, however, could help to explain this result. The participants were college students studying different majors in a public university with the language of instruction being Persian (Farsi). Failure to learn English, therefore, is not typically considered as a failure with costly negative consequences. The students are required to take and successfully pass the English courses; if they fail to do so, they can try again. They might try to learn just enough English to pass their course. Other than possibly being reprimanded or disapproved of by family or other important figures in their life (Ought L2 Self/Other), the negative consequences of failure to learn English, therefore, may not be too serious. Even though the lack of severity of negative consequences has led to the minimal experience of self-reported anxiety among these students, Ought L2 Self/Own seemed to lead to their reported use of vigilant L2 use strategies. This is probably because the students motivated by Ought L2 Self/Own try to avoid making mistakes through minimizing their use of the target language in an attempt to avoid being negatively evaluated by their teachers. These may be at least some of the reasons why Ought L2 Self/Own predicted Vigilant L2 Use but not L2 Anxiety.

Third Layer of Paths: Emotions → Strategic Inclinations

In the third layer of the hypothesized paths, drawn from L2 Anxiety and Enjoyment to strategic inclinations, the relationships that emerged were exactly as anticipated. L2 Anxiety predicted Vigilant L2 Use positively and strongly, explaining approximately 56% of its variance. L2 Enjoyment showed a partially inverse pattern. It positively accounted for 52% of the variance in Eager L2 Use and negatively predicted Vigilant L2 Use. These results provide a clear role for L2 anxiety and enjoyment as the links between motives and motivated behaviors. According to regulatory focus theory (Higgins, 1997), the pursuit of goals with different regulatory foci results in different emotional experiences that may influence individuals' preferences and actions. In the case of our results, it seems that the pursuit of Ought L2 Self/Other resulted in the experience of the agitation-related emotion of anxiety, which in turn led to the use of vigilant strategies concerned with minimal use of English as a foreign language. Such a minimalist approach is perceived by the learners as helping their pursuit of their Ought L2 Self/Other and avoiding the negative consequences of failure to learn English. It appears, on the other hand, that the pursuit of the Ideal L2 Self/Own as a promotion-oriented goal led to the elation-related emotion of enjoyment, which contributed to the use of eager strategies concerned with maximal use of L2. In other words, the eager strategy works in the service of the learners' motivation to approach a more desirable level of English proficiency (i.e., Ideal L2 Self/Own).

Fourth Layer of Paths: Strategic Inclinations → Achievement

Finally, in the fourth layer of the hypothesized paths, Eager L2 Use emerged as a positive contributor to L2 Achievement, whereas Vigilant L2 Use was a negative predictor. This makes intuitive sense because eager strategies, which involve taking advantage of every opportunity to maximize the use of the L2, are expected to lead to improvements in L2 learning. The vigilant strategic inclination, on the other hand, represents minimizing the use of the target language in order to avoid making errors and the ensuing negative consequences. Such a strategic tendency is thus not expected to lead to improvements in language learning. These results are the first that directly link such strategic behavioral tendencies and language achievement, and provide support for Papi's (2016, 2018) argument that even though some future self-guides may result in higher levels of motivation, the qualitative differences between the motivated behaviors that learners employ may be equally important, if not more so, in our understanding of motivation and success in language learning.

Educational Implications

The findings of this study point to some potential pedagogical implications that could prove effective in the specific context of language learning. We would recommend that teachers adopt, in their motivational practice, a promotion-oriented approach that aligns with the common-sense perception of language learning as an undertaking that requires high levels of openness to experience, positive attitudes, a desire for change, and a willingness to take risks, make mistakes, and learn about new cultures. Such a promotion-oriented motivational practice could lead to learners' eager strategic involvement in various language learning experiences, maximize their use of different opportunities to use their language skills, and increase their willingness to make mistakes, receive feedback, and seek out different sources and activities to regulate their language learning pursuit. Language educators can also foster such a promotion-oriented motivational practice by highlighting the utility value or relevance of language learning to students' lives, as found in a previous study by Rodriguez, Romero-Canyas, Downey, Mangels, and Higgins (2013).

Teachers can optimize their students' eager involvement by adopting a promotion-oriented management style (Leung & Lam, 2003), such as: framing instructions in gain terms (Papi, 2016, 2018); activate a temporary promotion focus using induction techniques leading students to reflect on their ideal selves and gains (Higgins et al., 2001); developing tasks that promote creativity, risk-taking, and imagination (Van Dijk & Kluger, 2004); and giving students positive feedback on such tasks (Van Dijk & Kluger, 2011). Enhancing learners' eager learning behaviors, including active participation in group activities, as well as their positive emotional experiences, is likely be beneficial in the classroom context. Some recent research on positive psychology in the field of L2 acquisition (e.g., Dewaele, Chen, Padilla, & Lake, 2019) further aligns with some of the suggested implications that could be drawn from the current study's findings. These are just a few possibilities, but teachers can of course innovate further and perhaps draw on regulatory focus theory to develop motivational strategies that promote eager involvement among their students.

Limitations and Future Directions

The results of this study cannot be generalized without further investigation to other L2 learning contexts. Every learning context has its own special culture and affordances that need to be directly examined before any conclusions are drawn. In the current study, L2 anxiety was found to negatively affect L2 achievement through the reported use of vigilant strategies. This does not mean

that there is a negative relationship between L2 anxiety and vigilant strategies, on the one hand, and all types of motivated behavior, on the other hand. It might even be the case that anxiety and other prevention-related motives (e.g., oughts) contribute to other measures of motivated behavior, including the quantity of effort (Horwitz et al., 1986; Papi et al., 2019), and that vigilant strategies ensure that things do not go wrong in the process of learning (e.g., distracting activities are avoided).

In this study we used self-report questionnaires to collect the data related to motivation, emotions, and learning behavior; in future studies such data could be strengthened by incorporating interviews (see Papi & Hiver, 2020) and observations of students' learning behavior (see Papi & Abdollahzadeh, 2012). The data on L2 achievement was a direct measure (course grades), though may also have limitations due to it being an institution-based test for which full information about instrument reliability, rater reliability, and validity is not available. Employing other measures, such as task performance, could provide a more nuanced examination of the role of motivation in language learning. In sum, using other kinds of behavioral and linguistic data in future studies could elucidate how chronic and L2-specific motivational characteristics can result in differences in the observed behaviors and linguistic characteristics of learners.

Conclusion

Since the introduction of the L2MSS (by Dörnyei, 2009), researchers have conducted numerous studies to explore how the self-guides work in language learning. The studies have provided support for the motivational significance of the self-guides in the development of a L2. The present study built on previous work using Papi et al. (2019) 2 × 2 model of L2 self-guides, which is a revised version of Dörnyei's model. This revised version was used in order not only to test the motivational relevance of the new self-guides in a different context, but also to delineate their relationship with language learners' (a) chronic regulatory focus, (b) emotional experiences, (c) strategic inclinations, and (d) language learning achievement.

The results of this study provide a meaningful depiction of the motivational mechanisms underlying language learning from a regulatory focus perspective. The results show that chronic regulatory focus can affect future L2 selves in a meaningful way. The promotion focus tends to enhance the pursuit of ideal selves, and the prevention focus seems to play a complementary role by ensuring that ought selves are met and undesired consequences that could disrupt the learning process are avoided. Beyond the level of chronic regulatory focus, the promotion-oriented constellation of factors seems to play a positive and

adaptive role in L2 learning, whereas the prevention-oriented half of the model seems to have a negative impact. The promotion regulatory focus, along with Ideal L2 Self/Own, seems to form a strong motivational profile that can result in higher levels of enjoyment, lower levels of anxiety, more eager use of the L2, and, finally, greater achievement in the language learning pursuit, relative to other motivational profiles. By contrast, Ought L2 Self/Other seems to result in more reported anxiety, which in turn can lead to more reported vigilant L2 use strategies and relatively negative effects on L2 achievement. Ought L2 Self/Own seems to have similar effects on L2 achievement but only through reported vigilant L2 use strategies. Overall, these results suggest the benefits of a promotion-oriented motivational approach in the process of L2 learning, an approach that leads to more adaptive motivational, emotional, and behavioral patterns that positively contribute to language learning. In addition, the potential negative effects that prevention-oriented oughts and obligations seem to have on learners' emotional states, L2 use, and, by extension, L2 achievement can be minimized if students enjoy an effective chronic prevention focus that helps them meet those oughts and obligations.

The findings of this study also broadly align with three major proposals in L2 motivation research. First, as Dörnyei and Ushioda (2011) suggest, motivation is not an isolated variable; rather, it is a complex constellation or conglomerate that acts in harmony with different dimensions of learners' experience, including their learning environment, personality, and emotional and behavioral experiences, which in turn influence their learning success. Language learning, thus, can be considered a motivational process that is constantly influenced by a myriad of factors that create ebbs and flows throughout, and push it one way or another toward variable outcomes (Hiver & Papi, 2019; Papi & Hiver, 2020). Research on L2 motivation should, therefore, reflect this complexity and focus on the constellation of personality, motives, emotions, behaviors, and learning outcomes rather than on variables in isolation.

Second, as Papi and his colleagues have suggested (Papi, 2016, 2018; Papi et al., 2019), a perspective on motivation in terms of the quality of the construct may better elucidate the process of L2 learning than a perspective focusing solely quantity (amount) of motivation. A simple increase in the intensity of motivation may not be a good predictor of the quality of a learner's emotional experiences, behavioral strategies, and final language achievement. L2 motivation research can benefit from an approach that considers the regulatory fit (as proposed by Higgins, 2000) between learning activities of different kinds, on the one hand, and learners' emotional, cognitive, and behavioral engagement in the process, on the other hand (Papi, 2016, 2018).

Last but not least, the significance in our results of the chronic promotion focus, Ideal L2 Self/Own, the elation-related emotion of enjoyment, and the eager strategic tendency leads us to speculate that, from a regulatory focus perspective, language learning might be considered an inherently promotion-focused enterprise (as suggested by Papi & Teimouri, 2014). Learning a new language, at least to higher levels, might require leaving one's comfort zone, embracing another culture and language, taking risks to use the language and make mistakes, and developing a new identity; such endeavors require a disposition for seeking growth, change, and advancement, which are commonly found among promotion-focused individuals. Experimental studies could examine how encouraging learners to adopt such outlooks and perspectives could influence their emotions, learning behaviors, and performance, thus furthering our understanding of language learning motivation and emotions.

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Note

1 We tested an alternative model with additional paths from emotions to L2 Achievement, which is shown in Appendix S5 in the Supporting Information online. In this alternative model, not only did we lose the significant paths from strategic inclinations to L2 Achievement, but also none of the paths from anxiety and enjoyment to L2 Achievement were significant. These results confirmed our hypothesis that the relationship between emotions and achievement is mediated by behaviors.

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Supporting Information

Additional Supporting Information may be found in the online version of this article at the publisher's website:

Appendix S1. Questionnaire Items.
Appendix S2. Simulated L2 Achievement Test Items.
Appendix S3. Correlation Matrix.
Appendix S4. Measurement Models.
Appendix S5. The Alternative Model.

Appendix: Accessible Summary (also publicly available at https://oasis-database.org)

How Motivation Benefits Second Language Achievement

What This Research Was About and Why It Is Important

Motivation is an important factor in learning a second/foreign language (L2). The construct is multidimensional and involves learners' personality, goals, emotions, and behaviors, which in turn influence achievement. To investigate how different dimensions of motivation create a psychological mechanism for success, this study tested a new model of motivation incorporating many different components. The model included: learners' regulatory focus (i.e., whether they tend to "promote" advancements and accomplishments or tend to "prevent" negative outcomes); their L2 future selves (their "ideal self" [as perceived by themselves and by others] and their "ought self" [as perceived by themselves and others]); their emotional reactions (anxiety vs. enjoyment) to their desire to achieve those "selves"; their strategic behaviors (eager vs. vigilant) that match those emotions; and finally their language achievement. The findings indicated that (a) a promotion focus (concerned with advancements and accomplishments) positively predicted ideal selves (representing hopes and aspiration) whereas a prevention focus (concerned with safety and security) negatively predicted ought selves (representing obligations), (b) ideal self/own predicted enjoyment positively and anxiety negatively, and ideal self/other and ought self/other predicted anxiety positively, (c) enjoyment predicted eager (maximal) L2 use positively and vigilant L2 use negatively whereas anxiety and ought self/own predicted vigilant (minimal) L2 use positively, and finally (d) eager L2 use positively and vigilant L2 use negatively predicted achievement.

What the Researchers Did

- Participants were 324 undergraduate university students from various disciplines at a university in Iran.
- Students were taking a compulsory three-credit general English course.
- Participants completed a questionnaire measuring: regulatory focus (promotion and prevention); future "selves" (ideal self/own, ideal self/other, ought self/own, ought self/other); emotions (anxiety and enjoyment); motivated behaviors (eager and vigilant).
- Students' final grades were used to measure their L2 achievement.

What the Researchers Found

- Students with higher "promotion" pursued ideal selves whereas those with higher prevention satisfied ought selves.
- Students with a sronger ideal self/own enjoyed L2 learning, those with higher ideal self/other and ought self/other were more anxious, and those with a stronger ought self/own were more vigilant L2 users.
- Those who enjoyed L2 learning were more eager in L2 use whereas those who were more anxious L2 learners were vigilant in their L2 use.
- Students who used the L2 eagerly obtained higher grades than those who were more vigilant L2 users.

Things to Consider

- The results showed that chronic regulatory focus plays an important role in future L2 selves.
- The promotion regulatory focus along with the ideal L2 self/own seem to form a strong motivational profile that results in high levels of enjoyment, low levels of anxiety, eager use of the second language, and finally achievement in the language learning pursuit.
- Ought L2 self/other resulted in anxiety, which in turn led to vigilant L2 use strategies and negative effects on L2 achievement. Ought L2 self/own had similar effects on L2 achievement but directly through vigilant L2 use strategies.
- A promotion-oriented teaching approach is recommended. This aligns with the common-sense perception that language learning requires high levels of openness to experience, positive attitudes, desire for change, and the ability to take risks, make mistakes, and learn about new cultures.

Materials and data: Materials are publicly available at https://www.iris-database.org

How to cite this summary: Papi, M., & Khajavy, G. H. (2020). How motivation benefits second language achievement. *OASIS Summary* of Papi & Khajavy (2021) in *Language Learning*. https://oasis-database.org

Graphical Abstract

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Appendix: Accessible Summary (also publicly available at https://oasis-database.org)

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What the researchers found

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- Students with higher Ideal self/own enjoyed L2 learning, those with higher Ideal self/other and Ought self/other were more anxious, and students with higher Ought self/own were more vigilant L2 users.
- Those who enjoyed L2 learning were more eager L2 user whereas those who were more anxious L2 learners were are vigilant in their L2 use.
- Students who used the L2 eagerly obtained higher grades while those that were more vigilant obtained lower grades.

Things to consider

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