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Research Article

INDIVIDUAL DIFFERENCES IN HOW LANGUAGE LEARNERS PURSUE GOALS

REGULATORY MODE PERSPECTIVE

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Abstract

In two studies, we examined two functional dimensions of L2 learners' self-regulation toward their motivational goals: assessment and locomotion. The assessment constitutes the aspect of self-regulation concerned with critically evaluating the relative quality of L2 states and goals and the means to achieve them. The locomotion mode constitutes the aspect of self-regulation concerned with uninterrupted movement from state to state toward L2 goals. We developed two scales to measure L2 self-regulatory modes. We also examined how L2 learners' regulatory modes were associated with their emotional experiences, motivation, and language proficiency. Psychometric work attested to the reliability and validity of the two scales. Moreover, regression analyses revealed that each L2 self-regulatory mode has distinct emotional, motivational, and linguistic emphases. Finally, cluster analyses suggested that both L2 self-regulatory modes should work together for optimal L2 learning outcomes.

INTRODUCTION

In 1959, Gardner and his advisor, Lambert, introduced the notion of motivation as a key factor determining the ultimate success in second language (L2) learning. Since then, the

The experiment in this article earned an Open Materials badge for transparent practices. The materials are available at https://www.iris-database.org/iris/app/home/detail?id=york%3a939352

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L2 motivation research in second language acquisition (SLA) has focused on classifying *what* motivates L2 learners and has studied the impact of those motivational goals on language learning behaviors and outcomes. Throughout the various chapters of its historical research trajectory (e.g., Dörnyei, 2020; Dörnyei & Ryan, 2015), the L2 motivation research has documented an array of social, psychological, and environmental factors as potential sources of L2 motivation. During the so-called social-psychological period (Dörnyei, 2020)—characterized by Gardner and his associates' works in the Canadian context—the motivational power of one's attitudes toward the target language and community took the central stage (e.g., Gardner, 1985, 2020; Gardner & Lambert, 1972). During the cognitive-situated period, the motivational power of situational factors inherent in the L2 learning context and their links to intrinsic and extrinsic types of motivation were emphasized (Dörnyei, 2020; Dörnyei & Ottó, 1998; Noels, 2001; Noels et al., 2000). During the sociodynamic period, the temporal and context-dependent nature of L2 motivation was highlighted (e.g., Dörnyei, 2014, 2020; Dörnyei & Ushioda, 2011; Hiver & Papi, 2019; MacIntyre & Legatto, 2011; Mercer, 2011; Papi & Hiver, 2020). At the turn of the twenty-first century, L2 motivation was conceptualized based on the notion of selves (Higgins, 1987; Markus & Nurius, 1986) in what is well known as the L2 motivational self system (Dörnyei, 2009)—which is currently the dominant L2 motivation theory in SLA (Boo et al., 2015). In short, over 60 years of L2 motivation research has generated several motivational theories explicating what motivates learners to engage in L2 learning (for reviews, see Dörnyei & Ushioda, 2011; Ryan & Dörnyei, 2015) and, consequently, how those motives influence their ultimate L2 achievement (see also Al-Hoorie, 2018).

What motivates L2 learners, however, only shapes one part of their motivation. How the L2 learners go about pursuing their motivational goals is another substantive part of their motivation. Not only do L2 learners possess different L2 learning goals but they also pursue them in different manners (Higgins, 2011; Kruglanski et al., 2000, 2010; Papi & Teimouri, 2014). In other words, both the quality of their L2 motivational goals and the quality of the manners they pursue those motivational goals play substantial roles in their L2 learning behaviors and achievement. Thus far, however, the L2 motivation research has mainly focused on the former and has left the latter out of its investigative scope (Papi, 2016, 2018). The path from one's actual self toward one's L2 learning goals is a rocky one, and how L2 learners self-regulate through it plays a decisive role in reaching those goals (e.g., Kruglanski et al., 2000; Pintrich & de Groot, 1990).

In this article, we test the theory of self-regulatory mode in L2 settings—as a complementary approach to the existing outcome-oriented theories of L2 motivation—by focusing on the motivational mechanisms underlying how L2 learners approach their motivational goals. Moreover, we investigate how those motivational mechanisms are differentially related to L2 learners' emotional experiences, motivation, and language proficiency. In the following sections, we first offer a theoretical background on the theory of self-regulatory mode and its subcomponents (assessment and locomotion) with respect to L2 learning context. Then, we will focus on the limitations of each self-regulatory mode by discussing in detail the complimentary hypothesis, which emphasizes that both assessment and locomotion modes should work together for optimal goal-pursuits.

THE L2 SELF-REGULATORY MODES: A THEORETICAL BACKGROUND

Language learning for many people is goal-directed. As such, most people decide to learn a language from a pool of competitive goals. Their decision to learn a new language has resulted from a thorough process of assessing and comparing each competing goal's potential value and the means to achieve them (Papi & Hiver, 2020). After deciding to learn a new language, they then take action; for instance, by registering in a foreign language course, attending class sessions, and participating in class activities. Two motivational mechanisms are apparent here: (a) people *assess* the potential value of different goals and the means to reach them, and (b) people *locomote*, or move away, from their current state toward their desired end-states by taking action (Kruglanski et al., 2000). Assessment and locomotion are two motivational functions underlying any motivated behaviors, and the theory of self-regulatory modes discusses individual differences of people with respect to these two motivational mechanisms (Kruglanski et al., 2000).

According to self-regulatory mode theory (Kruglanski et al., 2000), there are two distinct aspects of any self-regulation: assessment and locomotion. Assessment "constitutes the comparative aspect of self-regulation concerned with critically evaluating entities or states, such as goals or means in relation to alternatives in order to judge relative quality" (Kruglanski et al., 2000, p. 794). In other words, high (vs. low) assessors want to consider all the options and possibilities before making a decision or taking action, even if the process takes time and delays the decision or action. In short, they want to "get it right" (Higgins, 2011). However, locomotion is "the self-regulatory aspect concerned with movement from state to state and with committing the psychological resources that will initiate and maintain goal-directed progress in a straightforward manner, without undue distractions or delays" (Kruglanski et al., 2000, p. 794). The action is motivating for high (vs. low) locomotors, so when a task is initiated, they focus on sustaining its progress, without any disruptions, until it is completed. In short, they "just do it" (Higgins, 2011).

To better understand the motivational functions of self-regulatory modes in L2 learning, let's focus on the motivational mechanisms involved in the L2 motivational self system as an example. The L2 motivational self system (Csizér, 2020; Dörnyei, 2009) assumes that a discrepancy between language learners' actual self and their future L2 self-guides—conceived as ideal L2 self and ought-to L2 self—will create a sense of discomfort that, in turn, generates the motivational force to reduce this psychological gap (Dörnyei, 2009; Papi et al., 2019; Teimouri, 2017). Like other outcome-oriented theories of motivation, the L2 motivational self system theory assumes that the assessment of the discrepancy between one's actual L2 self and future L2 self and the movement from one's actual L2 self toward the future L2 self operate *interdependently*. In other words, the movement will not begin unless a discrepancy is detected by assessing one's present state and desired future end-state.

The self-regulatory mode theory, by contrast, emphasizes each self-regulatory mode's *independence* (Kruglanski et al., 2000). That is, in any goal-directed pursuits, there may be a strong emphasis on assessment but a weak emphasis on movement, or a strong emphasis on movement and a weak emphasis on assessment, or a strong or weak emphasis on both (Higgins, 2011; Kruglanski et al., 2000, 2010). Intriguingly, these two

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motivational functions may even work in opposition to each other under certain conditions (e.g., time pressure), leading to the predomination of one over the other (Kruglanski et al., 2010). In the presence of a discrepancy, for instance, an individual may start mulling over the past failures or adopt a pessimistic view over the attainability of the goal or the means to reach it; consequently, such an assessment will stagnate the movement (Kruglanski et al., 2000, 2010; Higgins, 2011). Therefore, self-regulatory modes complement outcome-oriented theories such as the L2 motivational self system by throwing accurate light on the motivational mechanism involved on the paths toward one's L2 goals.

Assessment and locomotion (movement) represent motivational states that vary across *individuals* and *situations.* Assessment and locomotion may differ across individuals chronically; that is, we have individuals who are chronically (a) high in assessment and low in locomotion; (b) low in assessment and high in locomotion; (c) high in assessment and high in locomotion; and (d) low in assessment and low in locomotion. Moreover, assessment and locomotion can act as situational variables. In certain situations, for instance, time pressure will heighten locomotion tendencies, and, in other situations, the presence of a critical observer will heighten assessment tendencies. In the following sections, we will describe the implications of each self-regulatory mode on people's attitudes, emotions, and motivation.

Assessment Mode

Because high (vs. low) assessors are highly concerned with making the right choice and decision, they are more inclined to worry about making mistakes (Pierro et al., 2011). Several studies have exhibited that the assessment mode is positively related to fear of failure (e.g., Herman, 1990), fear of invalidity (e.g., Webster & Kruglanski, 1994), and social anxiety and stress (e.g., Lucidi et al., 2016). Kruglanski and his associates found that high (vs. low) assessors are more sensitive to social criticism due to their obsession with critically evaluating themselves against strict social norms and standards (Kruglanski et al., 2010). Research has also shown that high (vs. low) assessors are more likely to exhibit emotional instability.

Because people with strong assessment tendencies carry out activities for external reasons, constantly evaluate their progress against external factors, and are highly sensitive to social comparisons and feedback, assessment mode should be associated with extrinsic types of motivation. In fact, past research has confirmed such a connection (Kruglanski et al., 2010). The assessment mode also moderates the path between subjective norms and intention. That is, high assessors are more likely to form an intention to follow an activity based on a strong social norm. Although people with a strong assessment tendency put a higher value on an activity or goal, their intentions to follow that activity or goal may not translate to action. Mannetti et al. (2012), for instance, showed that people with strong assessment tendencies rate the potential value of physical activities higher than other people, but their intention to pursue those physical activities did not turn into reality.

Locomotion Mode

High (vs. low) locomotors are concerned with moving from state to state, and because the notion of movement represents a sense of progress, they are more inclined to experience

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positive emotions like joy and less prone to feeling negative emotions like anxiety (Pierro et al., 2011). The results of Di Santo et al.'s (2018) study, for instance, revealed that high (vs. low) locomotors entertain positive attitudes toward gaining novel experiences and possess a sense of optimism toward the future, which, as a result, help them protect themselves from negative emotions like hopelessness and regret.

Because sustained activity, constant movement, and progress are critical ingredients of locomotion orientation, and because task involvement is an end in itself, locomotion mode should be related to the more intrinsic types of motivation (Kruglanski et al., 2012). Research indeed has shown that locomotion mode and intrinsic motivation are positively correlated (e.g., Pierro et al., 2006). Moreover, people with stronger locomotion are more likely to translate their intention to do an activity into action, although they may not put much value on the activity (Pierro et al., 2006).

Complementarity Hypothesis: It Takes Two to Tango

The complementarity hypothesis states that both aspects of self-regulatory modes should work together for optimal results in most domains because each self-regulatory mode has its own limitation (Kruglanski et al., 2000, 2010). Too much focus on assessment, for instance, will delay the action: Looking but not leaping (Kruglanski et al., 2000). Too much focus on action, however, may lead to misguided behaviors and waste of time, energy, and resources (Kruglanski et al., 2000).

Complementarity of regulatory modes can occur at various levels: (a) within individuals, when an individual is chronically high in both assessment and locomotion preferences; (b) between individuals, when one individual is predominantly high in assessment but the other individual is predominantly high in locomotion; and (c) across levels of social structures, when an individual group member is high in assessment, but all the other group members are high in locomotion—or the reverse. The results of several studies in various domains have lent support to the complementarity hypothesis (e.g., Hamstra et al., 2014; Kruglanski et al., 2000, 2010; Pierro et al., 2012). For instance, in educational contexts, past research has shown that students who were high in both assessment and locomotion modes received higher grades than those who were high only in one of the regulatory modes (Kruglanski et al., 2000). In business contexts, research findings have suggested that employees who were high in both self-regulatory modes exhibited better job performance than those who were high only in assessment or locomotion (Hamstra et al., 2014; Pierro et al., 2011).

The complementarity hypothesis has also been tested concerning group performance. For instance, in groups with predominant locomotion concerns, the addition of a person with predominant assessment concerns would enhance the group's performance on various tasks and activities. However, the performance of groups with either strong assessment or locomotion tendencies would be enhanced by adding individuals with the other predominant mode. In a study conducted by Mauro et al., (2009), it was found that all-locomotor groups were faster than all-assessors groups in doing their work tasks, and all-assessors groups were more accurate than all-locomotors groups concerning their task outcomes; however, those groups who were high in both assessment and locomotion modes were as fast as all-locomotors groups and as accurate as all-assessor groups.

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OBJECTIVES OF THE STUDY

In two separate studies, we investigated the links between the L2 learners' self-regulatory modes and their emotional experiences, motivation, and language proficiency. In Study 1 ($N = 459$), we first developed and validated an instrument to measure L2 learners' L2 self-regulatory modes. We also examined how L2 learners' self-regulatory modes were differentially related to their emotional experiences, motivation, and language proficiency. In Study 2 ($N = 459$), we reexamined the psychometric properties of the instrument measuring the L2 self-regulatory modes and their relationships with L2 learners' emotional experiences, motivation, and language proficiency. Next, we combined the data from Study 1 and 2 ($N = 918$) to test the complementarity hypothesis. We ran cluster analyses to see if any distinct motivational profiles of L2 learners would emerge based on the strength of their L2 self-regulatory modes, and if so, how those distinct motivational profiles of L2 learners would differ in terms of their emotional experiences, motivation, and language proficiency. The present study aimed to answer the following research questions:

1. How reliable and valid is the instrument developed to measure learners' L2 self-regulatory modes of assessment and locomotion?
2. How are L2 Learners' assessment and locomotion modes differentially related to their emotional experiences, motivation, and language proficiency?
3. Do any distinct motivational profiles emerge based on the strength of learners' L2 self-regulatory modes? And if so, how do those distinct motivational profiles differ in terms of emotional experiences, motivation, and language proficiency?

STUDY 1

METHOD

Participants

A total of 459 Iranian English as a foreign language (EFL) learners from two private English institutes in Iran agreed to participate in the study. The sample consisted of 163 males and 296 females, whose ages ranged from 11 to 55 years old ($M = 19.1$; $SD = 6.7$). On a scale from 1 (absolute beginner) to 5 (upper-intermediate), the students self-reported their English language proficiency below intermediate on average ($M = 3.67$; $SD = .92$).

Instrument

We collected the data by using a questionnaire consisting of two sections (see Supplementary Materials). The first section of the questionnaire contained 35 items measuring seven motivational and emotional variables. All the items used a six-point Likert scale with 1 showing *strongly disagree* or *not at all* and 6 showing *strongly agree* or *very much.* The second part of the questionnaire elicited background information, such as age, gender, and perceived language proficiency (see Supplementary Materials for a copy of the questionnaire). The questionnaire was developed in Farsi, the official language of Iran.

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The following is a detailed list of the variables included in the questionnaire along with sample items.

L2 Self-Regulatory Modes We first generated a pool of 16 items measuring L2 learners' assessment and locomotion orientations in L2 settings by following the theoretical guidelines set by Kruglanski et al.'s (2000). Eight items were developed to measure L2 assessment mode and eight items to measure L2 locomotion mode. As noted, assessment mode refers to the aspect of self-regulation involving a critical evaluation of entities and states, such as goals or means. Learners with strong L2 assessment tendencies, for instance, are more preoccupied with the accuracy and suitability of their L2 output (e.g., *I often analyze the structures of my sentences before speaking English*). However, locomotion mode refers to the aspect of self-regulation involving movement from state to state and making continuous progress. Learners with strong L2 locomotion tendencies, for instance, are more preoccupied with the act of communication, that is, initiating and sustaining meaningful communicative acts (e.g., *I often actively and energetically participate in my English learning activities in my class*).

L2 Anxiety L2 anxiety has a long history in SLA research with a great many studies showcasing its negative effects on L2 learners' motivation (e.g., Papi, 2010; Papi & Teimouri, 2014; Teimouri, 2017), willingness to communicate in an L2 (e.g., Khajavy et al., 2018; Shirvan et al., 2019), and language achievement (e.g., Teimouri et al., 2019). Four items were adopted from Taguchi et al. (2009) to measure learners' anxiety level during L2 learning and use in English class (e.g., *how worried would you get if the teacher asks you a question in English?*)

L2 Joy Emotion research in SLA has recently shifted toward studying the role of positive emotions in students' motivation and language achievement (e.g., Dewaele & MacIntyre, 2014, 2016; Teimouri, 2017). Dewaele and MacIntyre (2014, 2016) offered evidence that L2 learners, in fact, experience positive emotions much more often than negative emotions in class. MacIntyre and Gregersen (2012) also pinpointed the merits of positive emotions in L2 learning, such as broadening learners' attention and thinking, countering the effects of negative emotions, promoting resilience to stressful events, building personal resources, and leading toward greater well-being. Four items were adopted from Teimouri (2017) to measure learners' positive feelings of joy related to the use and learning of L2 (e.g., *do you enjoy learning English?*).

Intended Effort Intended effort assesses students' intention to invest time and effort in learning the target language (Taguchi et al., 2009). This construct has been used frequently in L2 motivation research as an essential indicator of students' overall motivation (e.g., Al-Hoorie, 2018; Dörnyei, 2009; Taguchi et al., 2009). Research has shown that intended effort is closely related to the actual effort (Lake, 2013). Three items (six-point Likert-type scale) were adopted from Taguchi et al. (2009) to measure students' intended effort (e.g., *I would like to spend lots of time studying English*).

Second Language Willingness to Communicate Second language willingness to communicatae (L2 WTC) refers to students' "readiness to enter into discourse at a particular

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time with a specific person, using a L2" (MacIntyre et al., 1998, p. 547). It represents students' intention to use the target language voluntarily in class and has been used as an important criterion variable in SLA research (Shirvan et al., 2019). Past research has shown that L2 WTC is positively related to L2 use (Hashimoto, 2002). Four items (six-point Likert-type scale) were adopted from Yashima (2002) to measure the students' L2 WTC (e.g., *if you were free to choose, how much would you like to speak English in the class?*).

Attention The attention scale measures students' motivation in terms of their actual level of mental attentiveness in class, such as how much attention they pay to their teachers, classmates, and class activities (Crookes & Schmidt, 1991; Teimouri, 2018). The results of Tremblay and Gardner's (1995) study have evidenced attention as highly reflective of students' motivation. Four items (six-point Likert-type scale) were adopted from Teimouri (2018) to measure students' attention in class (e.g., *how much attention do you pay to your teacher when she is speaking in class?*).

Data Analysis

Initially, we ran item analysis to examine the composite item characteristics and the coherence of each L2 self-regulatory mode scale. Next, we checked the item-total correlations of each self-regulatory scale; items with item-total correlations below .30 were considered questionable (Field, 2013). We then ran Principal Component Analysis (PCA) to examine the construct validity of the L2 assessment and L2 locomotion scales (Plonsky & Gonulal, 2015). Finally, to explore the relations between the L2 self-regulatory functions and the other motivational, emotional, and language-related variables, a series of multiple regression analyses were run. The main assumptions underlying each statistical analysis were also examined (see Supplementary Materials).

Procedure

First, the managers of three language institutes in a metropolitan city in Iran were contacted to gain approval for data collection. We fully informed the managers about the purpose of our study and its administrative procedures. After receiving permission from two managers to collect the data at their language centers, we distributed the questionnaires to the students during their class time. Before administering the questionnaires, students were informed about the study's purpose and were ensured about the confidentiality of their responses. The voluntary nature of the participation in the study was also emphasized. Students completed questionnaires in about 15 minutes on average.

RESULTS

The results of item-total correlations showed that three items from the L2 assessment scale and four items from the L2 locomotion scale did not reach the .30 threshold (Field, 2013) and, as a result, were excluded from the scales. After the initial analyses, nine items measuring L2 assessment mode (4 items) and L2 locomotion mode (5 items) were retained. As seen in Table 1, both L2 assessment and L2 locomotion scales yielded Cronbach's alphas beyond .70, suggesting good reliability (Field, 2013; Plonsky & Derrick, 2016).

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TABLE 1. The results of descriptive and reliability analyses of the variables

Variables	Mean	SD	95% CI		*a*
			Low	Up	
1. L2 assessment	4.44	.93	4.36	4.53	.74
2. L2 locomotion	4.41	.94	4.07	4.24	.77
3. L2 joy	5.10	.88	5.02	5.19	.85
4. L2 anxiety	3.34	1.32	3.22	3.47	.81
5. Intended effort	4.73	1.02	4.64	4.83	.77
6. L2 WTC	4.48	1.06	4.39	4.58	.84
7. Attention	4.66	.72	4.60	4.73	.74

PRINCIPAL COMPONENT ANALYSIS

In the next step, all the nine items measuring L2 self-regulatory modes were submitted to factor analysis using PCA with oblimin rotation. As seen in Figure 1, the scree plot is indicative of two components. We further examined the number of significant components in our data by running parallel analysis (PA) (Plonsky & Gonulal, 2015; also, see Teimouri, 2018; Teimouri et al., in press). The PA results (Table 2) revealed that the eigenvalues of components 1 and 2 are greater than their corresponding PA values. In sum, the PCA and PA results verified the existence of two components with Component 1 and Component 2 each explaining 29.8% and 24.3% of the variance in the data, respectively (54.1% of the variance, overall). A closer look at each component's composite items showed that the items representing L2 assessment and L2 locomotion modes were neatly and strongly loaded onto their respective scales (Table 3). The two components were found to be uncorrelated ($r = .10$, 95% [–.004 .20]).

MULTIPLE REGRESSION ANALYSIS

A set of multiple regression analyses using the Enter method was run to examine the power of the L2 self-regulatory modes in predicting students' emotional experiences (i.e., L2 joy and L2 anxiety), motivation (i.e., intended effort, attention, and L2 WTC), and English language proficiency. The effect sizes for each regression model (f^2) were also calculated (Soper, 2020). Based on Cohen's (1988) guidelines, $f^2 \geq 0.02$, $f^2 \geq 0.15$, and $f^2 \geq 0.35$ indicate small, medium, and large effect sizes, respectively.

As presented in Tables 4 and 5, although both L2 self-regulatory modes positively predicted L2 joy, the L2 locomotion mode had much stronger (almost twice) effects than the L2 assessment mode. Moreover, the L2 locomotion mode negatively but the L2 assessment mode positively predicted L2 anxiety. Both L2 assessment and L2 locomotion modes predicted intended effort and attention with similar positive effects. The L2 locomotion mode predicted L2 WTC with large effect sizes, whereas the L2 assessment mode had negligible effects on L2 WTC. Finally, the L2 locomotion mode positively and the L2 assessment mode negatively predicted English language proficiency of the L2 learners. Considering the effect sizes (f^2), the L2 self-regulatory modes, overall, had quite large effects in predicting dependent variables in each regression model except the model

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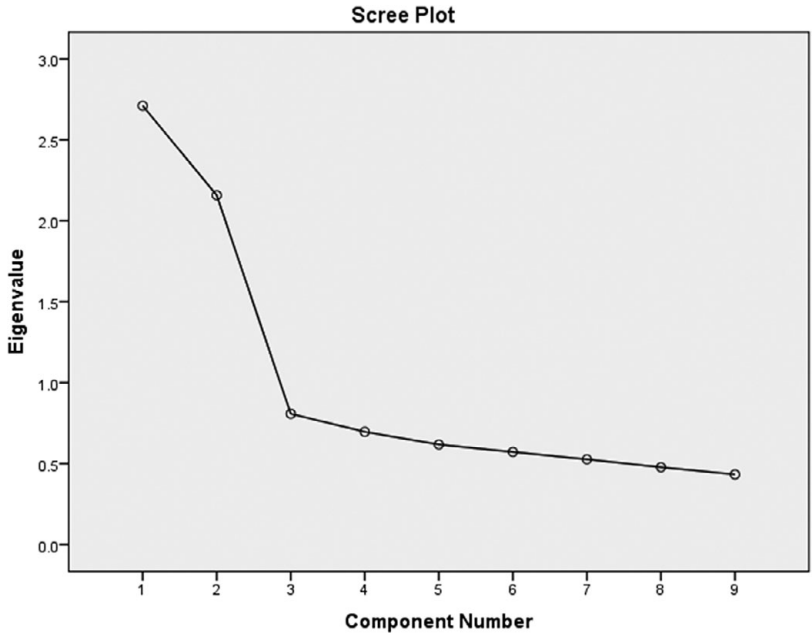

FIGURE 1. The scree plot of the eigenvalues.

TABLE 2. The results of principle component analysis and parallel analysis

Variable	Real-data eigenvalues	Mean of random eigenvalues	95 percentile of random eigenvalues	% of Variance	Cumulative %
1	2.68	1.22	.128	29.80	29.80
2	2.19	1.15	1.19	24.30	54.10
3	.80	1.09	1.13	8.94	63.04
4	.70	1.04	1.08	7.76	70.80
5	.62	.99	1.03	6.94	77.74
6	.56	.95	.98	6.20	83.94
7	.52	.90	.94	5.79	89.73
8	.48	.85	.89	5.30	95.04
9	.45	.79	.85	4.96	100

with the language proficiency as the dependent variable, in which the L2 self-regulatory modes had medium predictive effects (Cohen, 1988; Plonsky & Ghanbar, 2018).

STUDY 2

METHOD

In study 2, we provided more evidence on the L2 self-regulatory mode scales' reliability and validity. We further examined the relations between learners' L2 self-regulatory modes and their emotional experiences, motivation, and English proficiency. Next, we

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TABLE 3. The results of principal component analysis: Item loadings

Items	Component 1 L2 Locomotion	Component 2 L2 Assessment
1. I often look for any chance to speak English in my class.	.75	
2. I speak English a lot in my class.	.75	
3. Whenever I have an idea in my English class, I express it immediately.	.72	
4. I often actively and energetically participate in my English learning activities in my class.	.68	
5. I'd like to speak in my English class rather than watch others speaking.	.67	
6. I often analyze the structures of my sentences before speaking English.		.80
7. I often think about what I am going to say before I speak in English.		.76
8. When someone is speaking in English, I often analyze the structures of their sentences.		.71
9. I often pay close attention to my choice of vocabulary and grammatical structures while I am speaking English.		.70

Note: $N = 532$. All the factor loadings > .30 are reported in the table. Factor loadings are obtained using principal component extraction with both direct oblimin rotations.

TABLE 4. Regression analyses of the L2 self-regulatory modes with L2 joy and L2 anxiety as the criterion measures

	L2 Joy				L2 Anxiety			
			95% CI				95% CI	
Variables	*B*	*β*	L	U	*B*	*β*	L	U
L2 assessment	.21	.22***	.14	.30	.36	.25***	.23	.48
L2 locomotion	.41	.43***	.33	.48	–.31	–.22***	–.43	–.19
R^2 / F		.25/77.45***				.10/25.71***		
Cohen's f^2		.33				.11		

***$p \leq 0.001$.

combined the data from Study 1 and 2 ($N = 918$) to test the complementarity hypothesis (Kruglanski et al., 2000, 2012). That is, we aimed to examine if distinct motivational profiles would emerge based on the strength of L2 self-regulatory modes and, if so, how these motivational profiles would differ in terms of emotional experiences, motivation, and English language proficiency.

Participants

A total of 459 English-major undergraduate university students were surveyed in this study. The sample consisted of 377 females and 78 males, and their ages ranged from 18 to

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TABLE 5. Regression analyses of the L2 self-regulatory modes with intended effort, attention, L2 WTC, and language proficiency as the criterion measures

	Intended effort				Attention				L2 WTC				Language proficiency			
			95% CI				95% CI				95% CI				95% CI	
Variables	*B*	*β*	L	U	*B*	*β*	L	U	*B*	*β*	L	U	*B*	*β*	L	U
L2 assessment	.28	.25***	.19	.37	.23	29***	.16	.29	.09	.08*	.01	.17	–.10	–.10*	–.19	–.01
L2 locomotion	.37	.34***	.28	.46	.23	.30***	.16	.29	.73	.65***	.65	.81	.10	.10*	.01	.19
R^2 / F		.19/54.74***				.19/53.98***				.44/176.39***				.14/4.21*		
Cohen's f^2		.23				.23				.78				.16		

*$p \leq 0.05$; ***$p \leq 0.001$.

50 years old ($M = 24.4$; $SD = 4.95$). Most of the students self-reported their language proficiency as intermediate or upper-intermediate ($M = 3.85$; SD = .92). The language-learning experience of the students ranged from 1 to 240 months ($M = 26$; $SD = 34.23$).

Instrument

For the data collection, we used the same questionnaire that was used in Study 1. The questionnaire had two sections: The first section of the questionnaire contained 35 items measuring seven emotional and motivational variables; all the items used a six-point Likert scale with 1 showing *strongly disagree* or *not at all* and 6 showing *strongly agree* or *very much.* The second part of the questionnaire elicited background information, such as age, gender, and perceived language proficiency.

Data Analyses

We first ran descriptive analyses and reliability analyses to calculate the means, standard deviations, and Cronbach's alphas of all the scales. To further examine the construct validity of the L2 self-regulatory modes, confirmatory factor analysis was run using AMOS version 18.0. Next, a series of multiple regression analyses were run to examine the links between students' L2 self-regulatory modes, on the one hand, and their emotional reactions in class, language learning motivation, and self-reported language proficiency, on the other hand. Finally, to test the complementarity hypothesis, we ran cluster analysis (Kaufman & Rousseeuw, 2009) on the whole data from Study 1 and 2 (N = 918). A series of one-way analyses of variance (ANOVAs) were also run to verify significant between-group differences of the composite variables.

RESULTS

Table 6 illustrates the results of descriptive and reliability analyses. The students reported moderately high scores on both L2 assessment and L2 locomotion scales, although their assessment scores ($M = 4.51$) were slightly higher than their locomotion scores ($M = 3.90$) ($t(458) = 9.90$, $p = .000$). The students also felt joy ($M = 5.10$) much more often than anxiety ($M = 3.76$) in class ($t(458) = 18.02$, $p = .000$). The students rated high their intended effort, L2 WTC, and attention. All the scales depicted from good to excellent internal consistencies with Cronbach's alphas ranging from .77 to .88.

TABLE 6. The results of descriptive and reliability analyses of the variables

	Variables	Mean	SD	95% CI		Alpha
1	L2 assessment	4.51	.96	4.43	4.61	.77
2	L2 locomotion	3.90	.99	3.81	3.99	.79
3	L2 joy	5.10	.92	5.02	5.19	.82
4	L2 anxiety	3.76	1.24	3.64	3.76	.79
6	Intended effort	4.91	1.02	4.82	5.00	.82
7	L2 WTC	3.99	1.27	3.87	4.11	.88
8	Attention	4.39	.88	4.31	4.47	.79

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CONFIRMATORY FACTOR ANALYSES

We ran confirmatory factor analysis to confirm the construct validity of L2 self-regulatory modes. The maximum likelihood method was used to estimate the model's parameters, and the expectation-maximization algorithm was applied to handle the missing data. Because of the large sample size ($N = 459$), the chi-square to degrees of freedom ratio (χ^2/df) was used to measure the overall model fitness. Factor loadings, residuals, and the overall model fit indices were employed to examine the model's fitness. The results can be seen in Table 7.

Figure 2 demonstrates a schematic representation of the measurement model along with the factor loadings. As seen, the observed variables loaded neatly on the latent variables with acceptable values. The chi-square to degrees of freedom ratio (χ^2/df) displays a value below the proper level of 3. Furthermore, all the fit indices exceeded the acceptable criteria. L2 locomotion and L2 assessment modes were uncorrelated, too ($r =$. 04, *ns*).

MULTIPLE REGRESSION ANALYSES

A series of multiple regression analyses using the Enter method were run to examine the power of the L2 self-regulatory modes in predicting students' emotional experiences (i.e., L2 joy and L2 anxiety), motivation (i.e., intended effort, attention, and L2 WTC), and English language proficiency. As seen in Tables 8 and 9, the results echoed the findings of Study 1: (a) Both L2 self-regulatory modes positively predicted L2 joy with L2 locomotion having more substantial effects than L2 assessment mode; (b) the L2 locomotion mode negatively but L2 assessment mode positively predicted L2 anxiety; (c) both L2 self-regulatory modes predicted intended effort and attention with similar positive effects, but only the L2 locomotion mode predicted L2 WTC with large effects; and (d) only the L2 locomotion mode positively predicted language proficiency of the students. The L2 self-regulatory modes, overall, had quite large effects in predicting dependent variables in each model except the one with the language proficiency as the

TABLE 7. Selected fit measures for the final model

Index	Current	Accepted level	Evaluation
χ^2	p < .001	P > .05	Very poor
χ^2/df	2.85	< 3.00	Very good
GFI	.96	> .90	Very good
AGFI	.94	> .90	Very good
NFI	.93	> .90	Very good
RFI	.91	> .90	Very good
IFI	.96	> .90	Very good
TLI	.94	> .90	Very good
CFI	.96	> .90	Very good
RMSEA	.06	< .07	Very good

Note: GFI = Goodness of Fit Index; AGFI = Adjusted Goodness of Fit Index; NFI = Normal Fit Index; *IFI* = Incremental Fit Index; TLI = Tucker-Lewis Index; CFI = Comparative Fit Index; RMSEA = Root Mean Square Error of Approximation.

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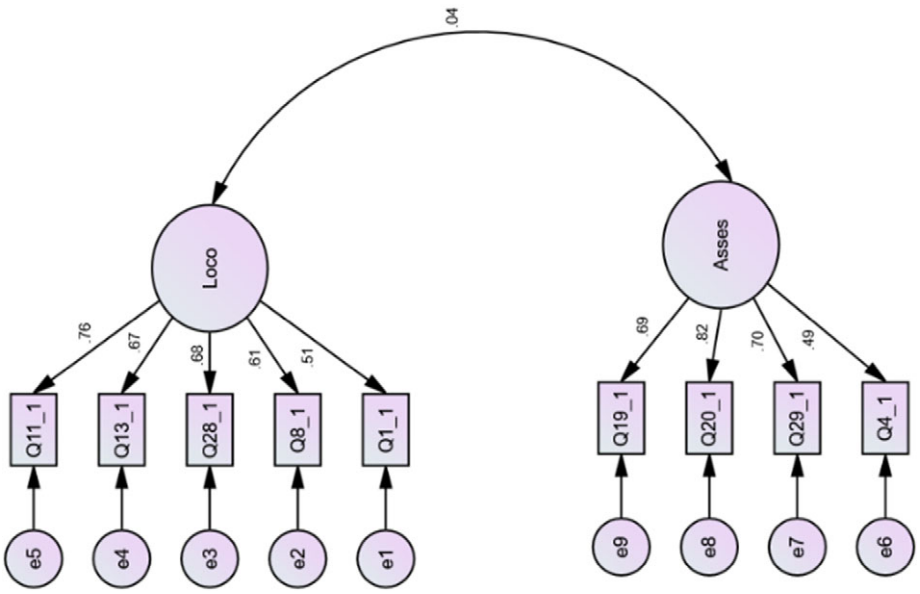

FIGURE 2. A schematic representation of the L2 self-regulatory model with factor loadings.
Note: Loco = locomotion, Asses = Assessment

TABLE 8. Regression analyses of the L2 self-regulatory modes with L2 joy and L2 anxiety as the criterion measures

	L2 Joy				L2 Anxiety			
			95% CI				95% CI	
Variables	*B*	*β*	L	U	*B*	*β*	L	U
L2 assessment	.20	.21***	.12	.28	.34	.26***	.23	.45
L2 locomotion	.36	.39***	.29	.44	–.47	–.38***	–.58	–.37
R^2 / *F*		.21/60.53***				.19/55.19***		
Cohen's f^2		.27				.23		

***$p \leq 0.001$.

dependent variable, in which the L2 self-regulatory modes had medium predictive effects (Cohen, 1988; Plonsky & Ghanbar, 2018).

CLUSTER ANALYSES

We ran cluster analysis to group students based on the strength of their L2 regulatory modes of assessment and locomotion. As noted, locomotion and assessment modes hold an orthogonal relationship; that is, an individual can be high or low in both modes, or high in one mode and low in the other mode (four possible motivational profiles). Therefore,

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TABLE 9. Regression analyses of the L2 self-regulatory modes with intended effort, attention, L2 WTC, and language proficiency as the criterion measures

	Intended effort				Attention				L2 WTC				Language proficiency			
			95% CI				95% CI				95% CI				95% CI	
Variables	*B*	*β*	L	U	*B*	*β*	L	U	*B*	*β*	L	U	*B*	*β*	L	U
L2 assessment	.25	.24***	.16	.34	.18	20***	.11	.25	–.003	–.002	–.09	.09	–.05	–.06	–.15	.04
L2 locomotion	.30	.29***	.21	.39	.44	.50***	.37	.51	.85	.66***	.76	.94	.29	.32***	.20	.38
R^2 / F		.15/40.79***				.30/99.11***				.44/180.10***				.10/20.44***		
Cohen's f^2		.18				.43				.78				.11		

***$p \leq 0.001$.

we ran cluster analysis using the K-mean method in which we set the number of clusters at four. A series of one-way ANOVAs were also conducted to confirm the between-groups differences for each measured variable (Csizér & Dörnyei, 2005; Papi & Teimouri, 2012, 2014). Tables 10 and 11 illustrate the results of cluster analyses and one-way ANOVAs.

As seen in Table 11, Group 1 has the lowest and Group 4 has the highest scores in both L2 self-regulatory modes. Group 2 reported higher L2 assessment mode scores, whereas Group 3 reported higher L2 locomotion mode scores. We further examined the group differences in terms of motivational, emotional, and linguistic criterion measures. As seen in Table 11, Group 4 learners (high L2 locomotion and high L2 assessment) outperformed learners in the other groups in terms of intended effort, L2 WTC, and attention, and reported the highest level of L2 joy. In sharp contrast, Group 1 learners (low L2 locomotion and low L2 assessment) had the lowest score in terms of intended effort, L2 WTC, and attention, and reported the lowest level of L2 joy. Groups 2 and 3 also exhibited some intriguing differences: Group 3 learners (high L2 locomotion and low L2 assessment) reported higher scores in L2 WTC, attention, and L2 joy, whereas Group 2 (low L2 locomotion and high L2 assessment) reported higher L2 anxiety. Both Groups 2 and 3 had similar scores concerning their intended effort. Of note, Group 2 learners perceived their English proficiency to be the lowest compared to learners of the other groups.

GENERAL DISCUSSION

In two separate studies, we tested the theory of self-regulatory mode in L2 settings to explain learners' motivational processes on their paths toward their language learning goals. To that end, we first developed an instrument to measure learners' locomotion and assessment tendencies in L2 settings. As such, our first research question addressed the psychometric properties of the newly developed instrument. The results of both exploratory and confirmatory factor analyses supported the construct validity of L2 self-regulatory modes. Lack of a relationship between the L2 locomotion and L2 assessment modes further corroborated the independence of each L2 self-regulatory mode (e.g., Kruglanski et al., 2000). The reliability analyses further substantiated the internal consistency of the scales in measuring L2 self-regulatory modes of learners. Differential relations of L2 self-regulatory modes with a host of motivational, emotional, and linguistic measures in both studies also evidenced the predictive validity of each L2 self-regulatory mode.

In our second research question, we queried about the potential links between L2 self-regulatory modes and a set of emotional, motivational, and linguistic factors. We initially hypothesized that because high (vs. low) assessors are concerned with doing the right thing, they engage themselves in strict critical evaluations of their actions against numerous internal and external norms and standards (Kruglanski et al., 2000, 2010) and, consequently, become more sensitive to negative emotional reactions such as anxiety (e.g., Higgins et al., 2002; Hong et al., 2004; Pierro et al., 2008). For instance, an L2 learner may continuously (re)assess linguistic features of his or her L2 speech before, during, or after an interaction to produce the most appropriate and accurate target output; as a result, the learner is more likely to feel anxious about making mistakes and how those mistakes may send the wrong impressions to others. Conversely, high (vs. low)

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TABLE 10. The means of L2 self-regulatory modes along with the one-way ANOVA results

	Group 1 –A –L	Group 2 +A –L	Group 3 –A +L	Group 4 +A +L	Tuckey's post hoc tests	F / P
L2 assessment	2.92	4.95	3.91	5.26	1 < 3 < 2 < 4	670.39 / .000
L2 locomotion	3.17	2.98	4.41	4.73	2 < 1 < 3 < 4	422.23 / .000

Note: A = assessment; L = locomotion; – = low; + = high.

TABLE 11. The means of motivational, emotional, and language proficiency scales along with the one-way ANOVA results

	Group 1 –A –L	Group 2 +A –L	Group 3 –A +L	Group 4 +A +L	Tuckey's post hoc tests	F / P
Intended effort	3.99	4.67	4.83	5.23	1 < 3, 2 < 4	42.99 / .000
L2 WTC	3.53	3.41	4.51	4.85	1, 2 < 3 < 4	101.52 / .000
Attention	3.91	4.28	4.56	4.89	1 < 2 < 3 < 4	51.38 / .000
L2 anxiety	3.40	4.12	3.22	3.52	3, 1, 4 < 2	22.52 / .000
L2 joy	4.36	4.86	5.15	5.51	1 < 2 < 3 < 4	56.06 / .000
L2 proficiency	3.73	3.52	3.86	3.80	2 < 3, 4, 1	5.70 / .001

Note: A = assessment; L = locomotion; – = low; + = high.

locomotors are concerned with moving from state to state, and because constant movement signals a sense of progress, they are more likely to feel positive emotions such as joy. For instance, an L2 learner may be overly enthusiastic about engaging in any communicative act whenever an opportunity arises; as a result, the learner is more likely to enjoy initiating and sustaining meaningful conversations with others. Our findings validated these hypotheses regarding the emotional emphases of each L2 self-regulatory modes: (a) L2 anxiety was positively related to L2 assessment mode and negatively related to L2 locomotion and (b) L2 joy was very strongly correlated with L2 locomotion mode but negligibly but positively related to L2 assessment mode. These findings also reflected past research findings in social psychology regarding emotional experiences of people with high (vs. low) assessment and locomotion tendencies in various domains (for a review, see Kruglanski et al., 2010).

How are L2 learners' self-regulatory modes related to their motivation to engage in various L2 learning activities and tasks? In a general sense, individuals with predominant locomotion concerns spend greater effort on and pay more attention to activities that afford actions and movement. However, individuals with predominant assessment concerns spend greater effort on and pay more attention to activities that afford comparisons and critical evaluations (Kruglanski et al., 2000, 2010). Taylor and Higgins (2002), for instance, demonstrated that activities like playing sports, exercising, dancing, and partying are primarily related to locomotion mode, whereas activities like thinking, corresponding, doing academic work, and financial tasks are closely associated with assessment mode. Activities like traveling were found to be associated with both locomotion and assessment modes.

L2 learners also engage in a wide range of activities and tasks in the L2 classroom. Some activities and tasks stress assessment and evaluations, such as reading comprehension tasks or grammar exercises. Some activities and tasks stress movements and actions, such as role-plays and group discussions. And some activities and tasks stress both assessment and actions, such as an argumentative task in which L2 learners first reflect on reasons for or against an issue and then discuss their thoughts with class. In the present study, we measured the students' motivation in terms of intended effort, attention, and L2 WTC. The intended effort scale (e.g., *I am prepared to expend a lot of effort in learning English*) and attention scale (e.g., *How would you rate your mental attentiveness during English class activities*) measure L2 learners' effort and attention in relation to *any* types of class activities and tasks. Because class activities may stress either assessment or locomotion—or both—each L2 self-regulatory mode should positively correlate with intended effort and attention. However, L2 WTC represents learners' intrinsic motivation to use the L2 in classroom through different channels, such as participating in role-plays or group discussions (e.g., *If you were free to choose, how much would you like to participate in a group discussion in your English class?*). In other words, L2 WTC exemplifies the behavioral intention of those students with a strong desire to engage in action. As such, locomotion mode should positively correlate with L2 WTC. The regression analysis results lent strong support to our hypotheses: Both L2 assessment and locomotion modes moderately and positively predicted intended effort and attention, whereas only locomotion strongly and positively predicted L2 WTC.

In our third research question, we asked whether distinct motivational profiles of L2 learners may emerge based on the strength of their L2 self-regulatory modes; if so, what is

the optimal combination of L2 modes for reaching L2 goals (i.e., complementarity hypothesis). As noted, the independence of L2 self-regulatory modes allows the dominance of one over the other. As such, theoretically, four motivational profiles of learners should exist: (a) those with strong L2 locomotion and L2 assessment; (b) those with weak L2 locomotion and weak L2 assessment; (c) those with strong L2 locomotion and weak L2 assessment; and (d) those with weak L2 locomotion and strong L2 assessment (Higgins, 2011; Kruglanski et al., 2000). The results of cluster analyses (along with one-way ANOVAs) attested to the validity of this theoretical assumption.

The complementarity hypothesis further emphasizes the benefits of both locomotion and assessment modes working together because each mode has its own limitations. Assessment mode improves the goal attainment chances by acting as a guide directing the self on the right path toward a specific goal. But an individual with a predominant assessment mode may get engaged in excessive critical thinking and evaluations that may postpone the action. For instance, an L2 learner with predominant assessment tendencies may find himself hesitant to speak up in class due to an obsession with his utterances' accuracy. By contrast, locomotion mode improves the chances of goal attainment by emphasizing action toward the specific goal. But an individual with a predominant locomotion mode may get engaged in excessive activities and movement without any particular purpose in mind. For instance, an L2 learner with predominant locomotion tendencies may jump at any opportunities for speaking up with less concern for her utterances' accuracy, resulting in repeating similar mistakes. Thus, optimal self-regulation builds on both modes of the self-regulatory system with assessment mode acting as a guiding constraint on locomotion mode (Higgins, 2011; Kruglanski et al., 2000, 2010). The results of cluster analyses verified the complementarity hypothesis: L2 learners with strong L2 locomotion and L2 assessment modes outperformed other learners who were high in either L2 self-regulatory modes in terms of emotional, motivational, linguistic criterion measures.

LIMITATIONS

In this article, we introduced an additional direction into L2 motivation research by focusing on how differently L2 learners pursue their motivational goals. Before addressing the theoretical and pedagogical implications of this complementary motivational perspective, several unique limitations of the study need to be noted. First, the reliability and validity of the newly developed instrument measuring L2 self-regulatory modes should be further investigated in other FL/SL contexts. The concurrent validity of the domain-specific instrument, for instance, can be assessed in relation to the general-domain measure of self-regulatory modes (Kruglanski et al., 2000). Moreover, we used self-reported measures to assess L2 learners' language proficiency and motivation in class. Although past research has shown the merits of well-developed self-reported scales in measuring L2 learners' language proficiency (e.g., Blanche & Merino, 1989; Li & Zhang, 2021), and how they can be used as a criterion measure to pinpoint individual differences of L2 learners (e.g., Teimouri et al., 2019), the use of more objective measures of language proficiency is desirable (Brown et al., 2018). Likewise, objective measures of students' motivation can complement self-reported motivation measures used in our study (also, see Teimouri et al., in press).

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THEORETICAL IMPLICATIONS FOR FUTURE RESEARCH

In this article, we shifted the focus from what motivates L2 learners to how L2 learners pursue their motivational goals. We argued that not only the quality of the learners' goals but also the quality of the manners they pursue those goals affect their language learning behaviors and achievement. Future research thus should bridge the gap between students' motivational orientations and self-regulatory modes. For instance, how are students' future L2 self-guides (Dörnyei, 2009; Papi et al., 2019; Teimouri, 2017) related to self-regulatory modes?

Motivation and emotions are closely linked. Future research can use the L2 self-regulatory modes of the students to explain emotional experiences of learners in L2 settings. (Dörnyei, 2009; Dörnyei & Ushioda, 2009; MacIntyre & Gregersen, 2012; Teimouri, 2017). Past research in SLA has shown that the quality of students' motivational goals triggers different emotional responses in students (Teimouri, 2017). Likewise, the quality of manners that students adopt to achieve their motivational goals generates diverse emotional experiences. The L2 self-regulatory modes provides a solid theoretical context to study the intricate links between language learners' motivations and emotions.

Future research should also investigate the links between students' motivation and characteristics of their spoken or written output (e.g., Dörnyei, 2020; Papi, 2018; Ushioda, 2016). Outcome-oriented theories of L2 motivation may not be appropriate for studying individual differences of L2 learners regarding features of their target output, such as fluency and accuracy. Because the L2 self-regulatory modes target motivational processes involved in pursuing L2 learning goals, it provides a better fit for linking L2 learners' motivation to their target language features. Past research has shown that on tasks with speed/accuracy trade-off, people with predominant assessment concerns are more accurate and people with predominant locomotion concerns are more fluent (Kruglanski et al., 2012). Future research, thus, should investigate features of L2 learners' target language in relation to L2 self-regulatory modes.

How are L2 learners' self-regulatory modes related to their task performance? In his dynamic theory of task motivation, Dörnyei (2002) highlighted three motivational mechanisms involved during task performance: task execution, appraisal, and action control. Task execution refers to the learners' actual task-supportive learning behaviors; appraisal refers to the learners' continuous processing of multitudes of stimuli and compassion of their progress toward the desired outcomes; and action control is also defined as a self-regulatory process that is called into force to enhance, scaffold, and protect learning-specific actions. In short, task performance is a function of action and assessment, which are coordinated through self-regulation. Exploring the links between L2 self-regulatory modes and task performance will increase our understanding of students' differential task engagement (see Pierro et al., 2012); for instance, in a group activity, why are some more active in sharing their thoughts than the other group members?

How do teachers' self-regulatory modes influence their instructional styles? Past research has shown that teachers' instructional styles are closely related to their self-regulatory modes. In a series of studies, Pierro and associates (2009) uncovered that teachers with higher locomotion concerns were inclined toward creating autonomy-supporting class atmospheres. In contrast, teachers with higher assessment concerns

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were inclined toward creating controlling class atmospheres. Intriguingly, students with stronger locomotion tendencies preferred autonomy-supporting classes, and students with stronger assessment tendencies preferred controlling classes. When the students observed a fit between teachers' instructional styles and their own motivational orientations, they felt better about their class performance. Investigating the interactions between teachers' and students' self-regulatory modes and their teaching and learning styles opens up an interesting research line with important pedagogical implications.

PEDAGOGICAL IMPLICATIONS

One of the main findings of our study was that both L2 self-regulatory modes should work together for optimal results in L2 learning. As such, we favor a motivational approach that aims to enhance both L2 self-regulatory modes of learners. Teachers may want to take advantage of L2 self-regulatory modes' situational aspects to enhance one mode over the other (whenever needed) by manipulating certain aspects of an L2 task (e.g., Avnet & Higgins, 2003; Higgins et al., 2003; Kruglanski et al., 2000, 2010). For instance, if in a writing task a student who is thought to be highly assessive is spending too much time on planning rather than writing, the teacher may want to heighten his locomotion mode by reducing the allotted time for planning. Conversely, if a student who is thought to be highly locomotive is spending too much time on writing rather than planning, the teacher may want to heighten her assessment mode by increasing the allotted time for planning. Another situational strategy to balance the students' L2 self-regulatory modes is to put students in groups with mixed modes. Students with strong assessment tendencies, for instance, can be placed in groups with students with strong locomotion tendencies. Past research has shown that groups of students with mixed self-regulatory modes outperform groups with students who are all strong in only one of the modes (e.g., Mauro et al., 2009).

Consciousness-raising activities is also another strategy that teacher may want to use in class to make students aware of the strengths of their own self-regulatory modes. For instance, teachers, can help students determine their own motivational orientations by asking students to (a) fill out the L2 self-regulatory modes questionnaire and calculate their scores for each mode or (b) reflect upon their performance in tasks and evaluate their self-regulatory modes based on the speed/accuracy criteria (see also Kruglanski et al., 2010). Next, teachers should remind students of each mode's advantages (and disadvantages) and emphasize how both self-regulatory modes should work together for better L2 learning and performance. Such consciousness-raising activities will be helpful for the L2 learners to better understand the motivational mechanisms underlying their own behaviors in various L2 settings. More specifically, these activities can help students consciously make the necessary adjustments whenever one of the self-regulatory modes is felt to be dominating their learning behavior. Considering the previous examples, the students with predominant assessment or locomotion tendencies—who are also fully aware of the strengths and weaknesses of their own self-regulatory modes—can allocate a certain amount of time for planning and writing so that they take advantage of both self-regulatory modes during the learning task.

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CONCLUSION

Past L2 motivation research has focused on documenting what motivational goals direct and energize students on their L2 learning path (Papi, 2016, 2018; Teimouri, 2017). As such, learner differences were discussed with respect to the quality of L2 motivational goals. In this study, we discussed learner differences with respect to the quality of manners students pursue their L2 learning goals. By drawing on Kruglanski et al.'s (2000) theory of self-regulatory modes, two motivational constructs—L2 assessment and L2 locomotion—were operationalized and validated in the study. Moreover, the implications of these two independent motivational functions were discussed in terms of learners' emotional states, motivation, and English language proficiency. The study revealed that both locomotion and assessment modes should work together for optimal L2 outcomes.

SUPPLEMENTARY MATERIALS

To view supplementary material for this article, please visit http://doi.org/10.1017/S0272263121000413.

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