Persistence in language learning: The role of grit and future self-guides

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ABSTRACT

The study explored the role of Grit and future selves in motivational intensity and persistence in second language (L2) learning. Questionnaire data were collected from 94 learners of Chinese as a foreign language in the context of the United States. Multiple regression results showed that the Perseverance of Effort (POE) component of Grit along with Ideal L2 Self/Own and Ought L2 Self/Own significantly predicted Motivational Intensity. In addition, the relationship between POE and Motivational Intensity was mediated by the two selves. With Persistence as the outcome variable, POE, Ideal L2 Self/Own and Ideal L2 Self/Other emerged as positive predictors whereas Ought L2 Self/Other was a negative predictor. Furthermore, Ideal L2 Self/Own mediated the relationship between POE and Persistence. The results cast doubt on the validity of Grit as a unitary construct, suggest that different selves predict qualitatively different motivated behaviors, and confirm that POE along with future selves form a strong motivational force.

1. Introduction

In the field of second language acquisition (SLA), motivation is conceived of as "the primary impetus to initiate L2 learning and later the driving force to sustain the long, often tedious learning process" (Dörnyei & Ryan, 2015, p. 72). As a desire to initiate and engage in L2 learning, motivation has been investigated in different learning contexts across the globe (Dörnyei & Chan, 2013; Kormos & Csizér, 2014; Papi & Teimouri, 2012, 2014; Ryan, 2009; Taguchi, Magid, & Papi, 2009; You & Dörnyei, 2014). Such a dimension has been described more or less similarly but using different terms such as motivational intensity (e.g., Gardner & Lambert, 1972), intended effort (e.g., Dörnyei, Csizér, & Németh, 2006) and motivated behavior (Papi, Bondarenko, Mansouri, Feng, & Jiang, 2019). However, the other dimension of motivation, that is learner's persistence in L2 learning, has not been received much attention in the field. In fact, the L2 motivation models and theories that have been proposed usually do not distinguish the intensity of motivation from the motivation to persist probably because researching persistence might require longitudinal and resource-intensive research designs. This is the case whereas the process of language learning is a long-term, and even for some, a lifelong one; therefore one's invested effort at a certain point in time may not necessarily represent how long the learners will be invested in the goal pursuit. This lack of attention to the role of persistence in language learning is especially problematic in research in the area of L2

motivation where the most important motives are usually considered to be long-term goals. In this study, we will highlight the distinction between the intensity and persistence dimensions of motivation and examine those in relation to L2 learners' personality characteristic of Grit (Duckworth, Peterson, Matthews, & Kelly, 2007) and their future L2 selves (Papi et al., 2019).

Over the last decade, Dörnyei's L2 Motivational Self System (L2MSS; Dörnyei, 2005, 2009) has received considerable attention and been utilized in a variety of research studies in the field of SLA. Researchers have found that the ideal and ought-to L2 self-guides (or selves) outlined in this model are generally significant predictors of L2 learners' intended learning effort or motivated behavior (Csizér & Kormos, 2009; Kormos & Csizér, 2014; Papi, 2010; Papi et al., 2019; Papi & Teimouri, 2012, 2014; Ryan, 2009; Taguchi et al., 2009; Teimouri, 2017; You & Dörnyei, 2014). Papi and his colleagues (Papi, 2016, 2018; Papi et al., 2019) have recently argued that the future selves with different regulatory focus lead to qualitatively different motivational and behavioral outcomes. Exploring the link between the future L2 selves and the intensity versus persistence dimensions of motivation could further our understanding of such qualitative differences in the motivational consequences of pursuing ideal versus ought selves. The present study aims to bridge this gap and examine how learners' future self-guides account for differences in the intensity and the persistence dimensions of motivation for language learning.

The notion of persistence has received considerable attention in the

field of psychology. Psychologist Angela Duckworth and her colleagues (e.g., Duckworth et al., 2007) have claimed that the key to learning persistence is the personality trait of Grit. Defined as "perseverance and passion for long-term goals" (Duckworth et al., 2007, p. 1087), Grit has been found to be associated with academic achievement (i.e. GPA, SAT scores) and retention in career, military service, and competitions (Duckworth et al., 2007; Duckworth & Quinn, 2009). The topic has recently caught the attention of some SLA scholars as well. Changlek and Palanukulwong (2015) have found Grit to be associated with L2 achievement. Teimouri, Plonsky and Tabandeh (in press) have found both general Grit and what they consider "L2-specific Grit" to be positively associated with L2 learner's motivation, willingness to communicate, emotions (i.e. anxiety and joy), and achievement. They also identified that L2 Grit was a stronger predictor of intended effort and achievement than general Grit. In the present study, however, we have employed general Grit mainly because whereas we view the role of persistence in language learning as highly important, we do not subscribe to the idea that there is a specific personality characteristic (i.e., Grit) that is only relevant in learning a specific second language. In other words, whereas persistence and interest in L2 learning have traditionally been considered key constructs in the field, there is no reason to believe that perseverance, which equates the notion of persistence in this study, and the vague construct of consistency of interests in language learning can be combined to create a dispositional tendency specific to learning a specific second language. This is also evident in Teimouri et al., in press) results showing that the consistency of interest in L2 did not predict any of numerous L2 motivational or achievement outcomes. Therefore, in the present study, we will examine the original Grit construct (Duckworth et al., 2007) in relation to persistence and motivational intensity in second language learning.

1.1. Persistence in language learning

Motivation plays a significant role in L2 learning since it is highly associated with L2 achievement (Dörnyei & Chan, 2013; Khan, 2015) and proficiency (Lamb, 2012). However, despite more than six decades of research on L2 motivation, there have been only a few studies on the topic of L2 persistence. Matsumoto and Obana (2001) explored L2 persistence of university students learning Japanese as a foreign language in Australia based on Gardner's motivation theory (Gardner, 1985; Gardner & Lambert, 1972). The researchers found that different degrees of commitment and a varied range of interests in language and culture were associated with students' intention to continue or discontinue their Japanese learning. On the other hand, the discontinuing students regarded learning Japanese as an academic subject and felt anxious about their academic achievement. The connection between interest and persistence has also been highlighted by Fryer (2019), who argued that a key to persistence lies in triggering and maintaining interest of learners. Similarly, Loh (2019) argued that learners' expectancy of success and the value they associate with language learning can lead to their persistence in the process. Awad (2014) also found that L2 persistence was related to learners' cross-cultural awareness, engagement in the process of L2 learning, positive perception of instructor's role in learning and teaching, acceptance of learning content, and reception of supports. In a study of 1620 secondary school English learners' in South Korea, Kim and Kim (2017) found that persistence, defined as the learners' likelihood "to continue their efforts to solve problems in the face of difficulties" (Kim & Kim, 2017, p. 5), was the strongest predictor of motivated behavior and L2 proficiency.

These studies have contributed to our understanding of how L2 persistence is related to L2 proficiency, learner retention, academic achievement, and cross-cultural awareness. However, the questions remain whether and to what extent L2 persistence is a function of learners' personality or the goals they pursue in their language learning. To bridge this gap, this study examines how the future selves outlined in the 2 × 2 Model of L2 Self-Guides (Papi et al., 2019) and the

personality characteristic of Grit (Duckworth et al., 2007) can function as potential sources of persistence in language learning.

1.2. The L2 Motivational Self System

The L2 Motivational Self System (Dörnyei, 2009) has been the most-commonly used model of motivation over the last decade. Having its core principles drawn from the Self-Discrepancy Theory (Higgins, 1987), the model postulates that L2 learners' motivation depends on their desire to reduce the discrepancy between their current and future L2 selves. The model consists of the Ideal L2 Self, which represents the kind of L2 user one ideally wants to be in the future, the Ought-to L2 Self, representing the L2 attributes that one thinks he or she ought to possess to meet his or her L2-related responsibilities and obligations (Dörnyei & Ryan, 2015), and the L2 Learning Experience, which concerns learners' perception of elements related to their instructional environment and experiences such as their teachers, classes, activities and materials.

Using this model, many studies have explored the association between future L2 selves and learners' motivation for L2 learning in various contexts (e.g., Csizér & Dörnyei, 2005; Dörnyei et al., 2006; Dörnyei & Chan, 2013; Lamb, 2012; Papi, 2010; Papi & Teimouri, 2012, 2014; Taguchi et al., 2009; Teimouri, 2017). More relevant to the present study, Papi and Teimouri (2012) found that in Iran, university and high school students had stronger ideal L2 selves than middle school students, whereas high school and middle school students had stronger ought-to L2 selves than university students. These results may suggest that the learners with stronger ideal selves might have been more persistent in their English learning in order to "reach their long-term goals and fulfill their hopes" (p. 300). Similarly, Papi and Teimouri (2014) showed that learners with a strong Ideal L2 Self-reported highest levels of English proficiency. Likewise, Kim and Kim's (2014) study of 2239 English learners in South Korea showed that the Ideal L2 Self was significantly correlated with student English proficiency among middle school ($r = .37$, $p < .01$), high school ($r = .34$, $p < .01$) and elementary school students ($r = .33$, $p < .01$). In the context of Hong Kong, Dörnyei and Chan (2013) found that Ideal L2 Self significantly correlated with Mandarin achievement ($r = .42$, $p < .001$) and English achievement ($r = .24$, $p < .01$), while the Ought-to L2 Self did not correlate with Mandarin or English achievement. A positive correlation between Ideal L2 Self and English achievement ($B = .18$, $p < .05$) was also reported by Khan (2015). In sum, the association between Ideal L2 Self and learners' L2 proficiency and achievement in the previous studies may suggest that L2 learners with a stronger Ideal L2 Self might tend to persist longer in L2 learning; alternatively, it may imply that learners who persist in L2 learning are more likely to develop an Ideal L2 Self. As L2 persistence was not directly examined in these studies, both possibilities are likely and justifiable.

1.3. The 2 × 2 model of L2 self-guides

In the previous studies using the L2 Motivational Self System, Ideal L2 Self and L2 Learning Experience had generally been found to be strong predictors of L2 motivation (Csizér & Dörnyei, 2005; Csizér & Lukács, 2010; Kormos & Csizér, 2008; Papi et al., 2019; Papi & Teimouri, 2012, 2014) whereas some studies had revealed that Ought-to L2 Self was a weak predictor of L2 motivated behavior (Papi, 2010; Papi & Teimouri, 2012, 2014; Ryan, 2009) or not a predictor at all (Csizér & Lukács, 2010; Kormos & Csizér, 2008; Lamb, 2012). The unbalanced results of the studies and dissatisfaction the over-simplicity of the self-guides outlined in that model have recently led some researchers to propose revisions (e.g., Papi et al., 2019; Teimouri, 2017) based on the original proposal outlined in the Self-Discrepancy Theory (Higgins, 1987).

In a first attempt, Teimouri (2017) developed scales and tested a

revised model with four future L2 selves: Ideal L2 Self/Own, Ideal L2 Self/Other, Ought-to L2 Self/Own and Ought-to L2 Self/Other. The results of the Principal Components Analysis based on data collected from English learners in the context of Iran, however, yielded a three-component solution which included a unitary Ideal L2 Self, and two ought-to L2 selves, that is Ought-to L2 Self/Own and Ought-to L2 Self/Other. Multiple regression results showed that Ideal L2 Self was the strongest predictor of motivated behavior ($\beta = .46$, $p < .001$), followed by Ought to L2 Self/Own ($\beta = .15$, $p < .001$), and Ought to L2 Self/Other ($\beta = .10$, $p < .05$). The researcher argued that Ideal L2 Self/Own and Ideal L2 Self/Other fell into one Ideal L2 Self because "both social and personal aspects of learners' ideal L2 self are highly internalized and so desirable that they do not lend themselves to separation" (Teimouri, 2017, p. 20). Adapting and fine-tuning the existing measurement scales, Papi and his associates (2019) re-tested the complete model with four self-guides based on data collected from 259 university English language learners at a major university in the United States. Confirmatory Factor Analysis results confirmed the existence of four factors matching the hypothesized model. Multiple regression results showed that all the four future selves strongly predicted motivated behavior. Surprisingly, the strongest predictor was found to be Ought-to L2 Self/Own ($B = .37$, $p < .001$), followed by Ideal L2 Self/Own ($B = .19$, $p < .001$), Ought to L2 Self/Other ($B = .16$, $p < .05$) and Ideal L2 Self/Other ($B = .14$, $p < .05$). These findings provided empirical evidence suggesting that the revised model would be a more refined representation of L2 selves than the previous ones, and more suitable for future research on L2 motivation. In this study, therefore, Papi et al.'s 2×2 model is used to examine learners' future L2 selves in relation to their Grit, motivational intensity and L2 persistence. Given the ideal selves are typically considered maximal goals, they are expected to result in both motivational intensity and L2 persistence. Ought selves, on the other hand, are considered short-term and minimal goals and expected to result in motivational intensity but not persistence.

1.4. Grit

Research on academic achievement has been a thriving topic for a long time. Despite the widespread belief that talent is the key to achievement, Duckworth et al. (2007) have proposed that besides talent, distinguished individuals commonly share a personal quality called Grit that leads to their success. According to Duckworth et al. (2007), an individual with Grit approaches achievement and makes progress by maintaining effort and interest, overcoming challenges and failures, and remaining loyal to tasks despite setbacks and disappointments. Duckworth argues that a person strong in Grit not only completes at-hand work, but his/her pursuits extend over a long period.

According to Duckworth et al. (2007), Grit consists of two components: one is Consistency of Interests, which refers to a person's durable passion over a long period regardless of failures, disappointments or challenges; and the other one is Perseverance of Effort, which refers to a person's continued investment of energy in long-term pursuits. To measure the construct, Duckworth and her colleagues developed a 12-item Grit scale (Duckworth et al., 2007) and a 6-item Short Grit scale (Duckworth & Quinn, 2009), which they administered on various samples including employees, university students, military cadets, and participants in the National Spelling Bee competition. The results of those studies revealed that people with higher levels of Grit tended to change career less frequently, achieved higher SAT scores, gained better GPAs, sustained longer in trainings and performed better in competitions.

Given persistence and maintaining effort plays a profound role in the L2 learning process, L2 researchers have recently paid attention to the construct of Grit and have found it to be positively related to L2 performance (Kramer, McLean, & Shepherd Martin, 2018), motivation and emotions (Changlek & Palanukulwong, 2015; Teimouri et al., in

press), achievement (Changlek & Palanukulwong, 2015), and positive psychological variables in L2 learning (Lake, 2013). Among those studies, Lake (2013) was the only study that included both Grit and Ideal L2 Self in addition to a host of many other variables. Based on data collected from 539 Japanese female English learners, the study showed that both Grit and Ideal L2 Self correlated strongly with intended effort ($r = .51$, $p < .001$; $r = .76$, $p < .001$) and persistent effort ($r = .61$, $p < .001$; $r = 64$, $p < .001$). It has to be noted that Lake's (2013) examination did not focus on or even explore L2 Persistence in the manner that this study does. Lake's (2013) definition of persistent effort, "the amount of time and frequency one spends studying the L2 and persisting in the face of obstacles and difficulties" (p. 230), rather matches our conception of motivational intensity than L2 Persistence, which refers to the learners' intention to continue taking future L2 courses and study the L2 for a long period of time. In addition, Lake (2013) only used one self-guide, Ideal L2 Self, which is only one of the four self-guides presented in the latest reformulation of L2 selves framework (Papi et al., 2019).

In the present study, we aim to examine the role of Grit and L2 future self-guides in learners' L2 persistence and motivational intensity among learners of Chinese as a foreign language (CFL) in the context of the United States, who represent an underexplored population of foreign language learners in the field of SLA. In addition, according to the latest language enrollment data reported by the Modern Language Association of America enrollment in CFL classes in college in the year 2016 has dropped 13.1% compared with 2013, which is higher than the average enrollment reduction for other foreign languages (Looney & Lusin, 2018). Understanding students' motivation for learning CFL in the United States and continuing to enroll in CFL classes, therefore, appears to be more critical than before.

2. Research questions

In order to extend the scope of previous studies on L2 persistence (Kim & Kim, 2017; Lake, 2013; Matsumoto, 2009; Matsumoto & Obana, 2001; Yu, 2013), the present study examines the association between Grit, future L2 selves, L2 motivational intensity and L2 persistence among CFL learners at two major universities in the United States. The following research questions are examined in the current research study:

1. What are the relationships among Grit, future L2 selves and motivational intensity?
2. What are the relationships among Grit, future L2 selves and L2 persistence?

It is expected that Grit will predict both L2 motivational intensity and persistence. The ideal self-guides, which are maximal goals, are anticipated to predict L2 persistence more strongly than ought self-guides, which are minimal goals. It is also anticipated that the relationship between Grit and the outcome measures is mediated by ideal L2 selves. In other words, it is expected that individuals stronger in Grit set long-term ideal goals, which, in turn, motivate them to exert effort and persist in their effort to learn CFL.

3. Method

3.1. Participants

Ninety-four CFL learners (57 females, 37 males) studying at two major universities in the United States participated in the study. As presented in Table 1, most of the participants (89%) spoke English as their first language, and their age ranged from 17 to 32 years old. About 53% of the participants were from elementary-level CFL classes, 35.1% were enrolled in intermediate classes, and 17.9% were in advanced classes. The largest group of participating students (33%) assessed their

Table 1
Demographic characteristics of participants.

Characteristics		Percentage
Gender	Male	61.6%
	Female	39.4%
First language	English	89.4%
	Spanish	3.2%
	Others	6.4%
Enrolled classes	Elementary Chinese	53%
	Intermediate Chinese	35.1%
	Advanced Chinese	17.9%
Self-assessed CFL proficiency level	Beginner level	12.8%
	Post-beginner level	33%
	Lower intermediate level	24.5%
	Intermediate level	21.2%
	Upper intermediate level and over	8.5%
Length of learning CFL	1 year	34%
	2 years	26.6%
	3 years	22.3%
	4 years and more	17.8%
Time to start CFL	Middle school	11.7%
	High school	39.3%
	University or college	49%

own proficiency at the post-beginner level, followed by the lower intermediate (24.5%) and intermediate (21.2%) levels. Most of the participants were in their first (34%) or second year (26.6%) of studies and roughly half of them started learning Chinese in college (49%). The participants had learned Chinese for three years on average, ranging from three months to 20 years (M = 20.39, SD = 2.79).

Students in elementary and intermediate language courses were required to attend a 50-minute Chinese class per day from Monday to Thursday. Moreover, students who were enrolled in grammar courses came to class three times a week, and those in advanced levels or special topics, such as business or reading and conversation, attended class twice a week. Among the participants, 41.5% of them reported that taking Chinese courses was obligatory.

3.2. Instruments

The data were collected using a questionnaire that was developed based on scales from the previous studies. The questionnaire comprised of three parts. The first part measured participant's Grit using the 12-item scale developed by Duckworth et al. (2007). In the second part of the questionnaire, there were 25 items measuring learner's future L2 selves (Ideal L2 Self/Own, Ideal L2 Self/Other, Ought-to L2 Self/Own, & Ought-to L2 Self/Other), Motivational Intensity and L2 Persistence. The items for the four future L2 selves were adapted from Papi et al. (2019), and the items related to Motivational Intensity and L2 Persistence were adapted from three existing scales (Kim & Kim, 2017; Taguchi et al., 2009; Teimouri et al., in press). All the items were responded to on a 6-point Likert scale with 1 showing *Strongly Disagree* and 6 showing *Strongly Agree*. The third part of the questionnaire consisted of demographic questions about the participants' grade, gender, nationality, self-assessed proficiency and CFL learning background. The standards of the self-assessed proficiency were based on the Can-Do Statements (2017) developed by National Council of State Supervisors for Languages (NCSSFL) and the American Council on the Teaching of Foreign Languages (ACTFL, 2017), which are aligned with the ACTFL Proficiency Guidelines 2012 (Swender, Conrad, & Vicars, 2012) and the ACTFL Performance Descriptors for Language Learners (Sandrock, Swender, Cowles, Martin, & Vicars, 2012). Since the participants were adult learners who were able to perform more than basic memorization, the baseline was set at the level of Novice Mid. In general, the self-assessed proficiency levels were divided into five categories including Novice Mid, Novice High, Intermediate Low, Intermediate Mid and

Intermediate High, but were given more approachable labels, such as Beginner level, Post-beginner level or Intermediate level. For example, the most elementary level in the present scale is "Beginner" and learners' capability at this level was defined as *"Able to give simple greetings using set words and phrases. Able to read simple sentences, grasp the gist of short passages, and write a simple sentence in basic Chinese."*

In sum, the questionnaire included the following scales (for specific items, see Appendix A):

1. Ideal L2 Self/Own: Includes four items measuring the L2 attributes that learner desires to possess in future (Papi et al., 2019).
2. Ideal L2 Self/Other: Includes four items measuring the L2 attributes that learner believes his or her significant others (e.g., family and friends) hope for the learner to possess in future (Papi et al., 2019).
3. Ought to L2 Self/Own: Includes four items measuring the L2 attributes that learner believes he or she ought to possess in order to meet one's duties, responsibilities, and obligations and avoid negative consequences (Papi et al., 2019).
4. Ought-to L2 Self/Other: Includes two items measuring the L2 attributes that the learner believes he or she ought to possess in order to meet other peoples' expectations and avoid negative consequences (Papi et al., 2019).
5. Consistency of Interests (Grit COI): Includes six items measuring the tendency to have consistent interests and goals during one's academic pursuits (Duckworth et al., 2007).
6. Perseverance of Effort (Grit POE): Includes six items measuring the tendency to sustain effort in the face of adversity or setback during one's long-term academic pursuits. (Duckworth et al., 2007).
7. L2 Motivational Intensity: Includes five items measuring learner's intensity of cognitive and behavioral engagement in L2 learning activities.
8. L2 Persistence: Includes six items measuring learner's intention to continue learning an L2 for a long period of time.

3.3. Procedures

Before collecting data, an application of the participation of human subjects was submitted to the Institutional Review Board (IRB) at the authors' university. The IRB approval was granted on April 4th, 2018 and the procedure of data collection began right after receiving the approval. Initially, Chinese instructors were contacted and asked for collaboration. Subsequently, a link to the online questionnaire was emailed to the students of the instructors who agreed to participate. The questionnaire was administered through Qualtrics, which is an online survey platform. Before completing the questionnaire, students read and signed a consent form stating that 1) participation in this study was voluntary, confidential, and only for research purposes; 2) their instructors and advisors would not have access to the data; and 3) their responses would not influence their class evaluation. Students received one extra point toward their final course grade for their participation in this study.

3.4. Data analysis

Given the Motivational Intensity and Persistence scales were composed of items from other scales, the items were submitted to Exploratory Factor Analysis (EFA) to examine if they fall under two distinct motivational constructs, as anticipated. Maximum Likelihood was used as the extraction method, and direct Oblimin with Kaiser Normalization as the rotation method. The results confirmed the emergence of two factors matching our hypothesized constructs of Motivational Intensity, measuring the intensity of time and effort learners put in Chinese learning, and L2 Persistence, measuring the learners' intention to continue learning Chinese regardless of potential obstacles (see Table 2). The Cronbach's alpha for Motivational Intensity was .80 and the one for L2 Persistence was .91, suggesting that the

Table 2

Exploratory factor analysis on outcome variables with factor loading > .30 displayed.

Item no.	M (SD)	Pattern matrix		h^2
		Motivational intensity	L2 persistence	
41. I put much time and effort into improving my Chinese language weaknesses.	4.34 (1.05)	.87		.63
23. I am a diligent Chinese language learner.	4.62 (1.06)	.77		.70
15. I spend lots of time studying Chinese.	4.36 (1.18)	.74		.56
28. I can break through any distractions when having important Chinese assignments to do immediately.	4.02 (1.38)	.44		.28
27. I concentrate on studying Chinese more than any other topic.	3.50 (1.53)	.40		.32
17. I will not allow anything to stop me from my progress in learning Chinese.	4.86 (1.24)		.86	.74
34. I want to keep on learning Chinese as long as possible.	5.14 (1.12)		.80	.79
16. I will continue registering for the next Chinese course(s).	5.12 (1.36)		.78	.50
39. I am prepared to expend a lot of effort in learning Chinese.	4.89 (1.14)		.70	.85
40. I intend to stop learning Chinese.[a]	5.32 (1.09)		.63	.42
29. Now that I have decided to learn Chinese, nothing can prevent me from reaching this goal.	4.63 (1.25)		.59	.63

[a] Item was reverse coded.

Table 3

Cronbach's alpha values and descriptive statistics for the scales used.

Variables	M (SD)	α
Grit	4.11 (.63)	.76
Perseverance of effort (6 items)	4.80 (.78)	.81
Consistency of interest (6 items)	3.41 (.91)	.79
Ideal L2 self/own (4 items)	4.90 (1.17)	.93
Ideal L2 self/other (4 items)	4.31 (1.26)	.87
Ought-to L2 self/own (4 items)	2.99 (1.22)	.82
Ought-to L2 self/other (2 items)	2.64 (1.32)	.75
Motivational intensity (5 items)	4.17 (1.57)	.80
Persistence (6 items)	4.99 (1.45)	.91

scales had internal consistency. There was also a correlation to .66 between the scales, which supports the discriminant validity of the scales. In addition, as presented in Table 3, both the 12-item general Grit scale (α = .76) and its POE (α = .78) and COI (α = .79) subscales were reliable. Similarly, the Cronbach's coefficients for the self-guide scales ranged from .75 to .93, confirming their internal consistency.

To answer the two research questions we posed, we employed multiple regression analyses. G Power analysis showed that our sample size was adequate for running such analyses with a large statistical power and for a large effect size. Multiple regression analyses were thus conducted to examine the relationships between Grit and future L2 selves on one hand and learner's Motivational Intensity and Persistence on the other (see Table 4 for intercorrelations).

As demographic factors such as age and proficiency are considered to play important roles in L2 learning, they were used as covariates to control for their potential effects in the regression analyses.

4. Results

The regression model ($F^{(4,89)}$ = 5.99, p ≤.001, R^2 = .21) with Motivational Intensity as the outcome variable, Grit components as predictors (Research Question 1), and age and proficiency as covariates, accounted for 21% of the variance in the outcome variable. The model (Table 5) showed that when controlling Age and Proficiency, only Grit POE was a significant predictor of Motivational Intensity. Moreover, proficiency significantly predicted Motivational Intensity.

The regression model ($F^{(6,87,)}$ = 11.09, p < .001, R^2 = .43) with the future self-guides as predictor variables, and Age and Proficiency as covariates accounted for a remarkable 43% of the variance in Motivational Intensity. As presented in Table 6, Proficiency, Ideal L2 Self/Own and Ought-to L2 Self/Own strongly and positively predicted Motivational Intensity, whereas Ideal L2 Self/Other and Ought-to L2 Self/Other were not significant predictors. Among the significant predictors, Ideal L2 Self/Own emerged as the strongest predictor of Motivational Intensity, followed by Proficiency and Ought-to L2 Self/Own. To examine if the relationship between Grit POE and Motivational Intensity was mediated by the selves, the bias-corrected method of bootstrapping was performed using AMOS version 25 (IBM). The results showed the Ideal L2 Self/Own mediated the relationship between Grit POE and Motivational Intensity (p < .01, 95% CI = .11, 1.70).

The results of the multiple regression analyses with L2 Persistence as the outcome variable and Age and Proficiency as covariates are presented in Tables 7 and 8. With the Grit components entered as predictor variables ($F^{(4,87)}$ = 2.19, p = .08, R^2 = .09), only Grit POE predicted learner's L2 Persistence (Table 7). When the future self-guides were entered as predictor variables (Table 8), the model accounted for a remarkable 67% of the variance in L2 Persistence ($F^{(6,87)}$ = 29.51., p < .001, R^2 = .67). In addition, Ideal L2 Self/Own and Ideal L2 Self/

Table 4

Intercorrelations among the measured variables.

Scale	1	2	3	4	5	6	7	8	9
1.Age	–								
2. Proficiency	.04	–							
3. Grit POE	.01	− .01	–						
4. Grit COI	.20*	.15	.10	–					
5. Ideal L2 self/own	.01	.10	.30**	.04	–				
6. Ideal L2 self/other	− .00	.18	.13	− .02	.54**	–			
7. Ought L2 self/own	− .07	.20	.26*	− .03	.41**	.31**	–		
8. Ought L2 self/other	.03	.04	.12	− .03	.25*	.60**	.34**	–	
9. Motivational intensity	.06	.30**	.28**	.09	.57**	.44**	.38**	.18	–
10. L2 persistence	.06	.09	.34**	.03	.80**	.50**	.39**	.16	.66**

* Denotes p < .05.

** Denote p < .01 (2-tailed).

Table 5
Multiple regression results with motivational intensity as the outcome variable.

	B	Std. error	Beta	*t*	Sig.	95% CI	Collinearity statistics	
							Tolerance	VIF
[constant]	1.23	.88		1.404	.164	[−.51, 2.96]		
Age	.01	.03	.04	.41	.69	[−.05, .08]	.96	1.04
Proficiency	.24	.08	.31	3.20	< .01	[.09, .39]	.98	1.02
Grit POE	.41	.11	.34	3.63	< .001	[.19, .64]	.99	1.01
Grit COI	.00	.10	.00	.04	.97	[−.20, .20]	.93	1.08

Overall model: R^2 = .21.

Other positively and Ought-to L2 Self/Other negatively predicted L2 Persistence. To test the mediation, another bias-corrected bootstrapping test of indirect effects was performed, which showed that Ideal L2 Self mediated the relationship between Girt POE and L2 Persistence ($p < .01$, 95% CI = .20, 3.09), whereas Ideal L2 Self/Other and Ought L2 Self/Own did not.

5. Discussion

The purpose of this study was to explore how Grit and L2 future self-guides predict motivational intensity and persistence in learning CFL. Multiple regression results showed that out of the Grit components POE was the only one that emerged as a significant predictor of Motivational Intensity ($B = .34$, $p < .001$) and L2 Persistence ($B = .20$, $p = .01$). The findings suggest that a learner's POE, representing how hard-working a learner is in the face of setbacks or adversity, motivates him/her to both invest effort and persist in his/her L2 learning pursuit. Grit COI, on the other hand, did not predict either of the outcome variables, suggesting that learners' tendency to exert effort and persist in L2 learning is not related to how frequently learners change their interests. Similar results were reported by Changlek and Palanukulwong (2015), who found that POE, but not COI, significantly correlated with L2 motivation ($r = .31$, $p < .01$). The lack of predictive power for COI is not specific to L2 studies and confirms the results of a previous meta-analysis study by Credé, Tynan, and Harms (2017), which highlighted the same problem with the construct and questioned its validity. Credé et al. (2017, p. 29) suggested that perseverance "should therefore probably be treated as a construct that is largely distinct from consistency in order to maximize its utility". The lack of correlation between the two constructs in our study also supports the distinctiveness of the two constructs and questions the existence of Grit as a unitary personality construct. Learners' motivated behavior and persistence in learning CFL is, thus, more relevant to their personality characteristic of perseverance, representing how much learners are able to work hard and concentrate on the task without being discouraged by difficulties or adversity. These results are not surprising given previous findings have supported the motivational power of POE (e.g., Duckworth et al., 2007; Lake, 2013; Teimouri et al., in press) or personality factors which are similar in content but different in labeling (e.g., Conscientiousness). In

other words, perseverant CFL learners seem to take advantage of their industrious personality to work hard and persist at studying this language. Similar results were found by Kim and Kim (2017) in the EFL context of South Korea, where "L2 learners' capacity to persist in doing what they think is important and solving problems that they face would lead them to engage more enthusiastically in L2 learning" (p. 11).

Besides Grit POE, future L2 selves with the own standpoint also predicted Motivational Intensity. In multiple regression analyses, Ideal L2 Self/Own ($B = .39$, $p < .001$) and Ought-to L2 Self/Own ($B = .20$, $p = .03$) were found to be significant predictors whereas Ideal L2 Self/Other and Ought-to L2 Self/Other did not predict Motivational Intensity. The results indicate that engaging in L2 learning could be associated with both L2 learner's hopes and desires and their self-determined obligations rather than the influence of their families, friends or teachers. Similar results have been found in previous studies. Many studies have shown Ideal L2 Self to be a strong predictor of motivated behavior (e.g., Csizér & Kormos, 2009; Kormos & Csizér, 2014; Papi, 2010; Papi & Teimouri, 2012, 2014; Ryan, 2009; Taguchi et al., 2009; Teimouri, 2017; You & Dörnyei, 2014). Similar results were found in the study by Lake (2013) who found both Grit and Ideal L2 Self to be strongly associated with intended effort. Ought Self/Own has also been found to strongly predict motivated behavior among learners of English as a second language in the United States (Papi et al., 2019). In the present study, Ideal L2 Self/Other and Ought L2 Self/Other did not emerge as significant predictors, confirming the validity of the stand-point distinction among the selves. The emergence of Ideal L2 Self/Own as the strongest predictor further confirms that for the adult learners of Chinese in the individualistic culture of the United States, one's own internalized aspiration to learn CFL might be the most critical factor driving L2 learners to engage in the L2 learning pursuit.

The relationship between Grit POE and Motivational Intensity was mediated by Ideal L2 Self. These results suggest that learners with high levels of perseverance tend to set long-term goals, which in turn further motivate them to invest in and work hard at studying the language. These results also suggest that just having a certain type of personality does not necessarily guarantee working hard at learning a new language. Rather, it is only when learners value the goal of language learning that their perseverant personality starts playing a role in motivating them to work hard at learning the language. In other words, not

Table 6
Multiple regression results with motivational intensity as the outcome variable.

	B	Std. error	Beta	*t*	Sig.	95% CI	Collinearity statistics	
							Tolerance	VIF
[constant]	.87	.66		1.31	.20	[−.45, 2.18]		
Age	.020	.03	.06	.74	.46	[−.03, .07]	.99	1.01
Proficiency	.18	.07	.23	2.78	.01	[.05, .31]	.96	1.04
Ideal L2 self/own	.31	.08	.39	3.81	< .001	[.15, .47]	.62	1.61
Ideal L2 self/other	.14	.09	.19	1.60	.11	[−.03, .32]	.46	2.16
Ought L2 self/own	.15	.07	.20	2.16	.03	[.01, .29]	.77	1.31
Ought L2 self/other	−.08	.07	−.11	−1.03	.31	[−.23, .07]	.59	1.71

Overall model: R^2 = .43.

Table 7
Multiple regression results with L2 persistence as outcome variable.

	B	Std. error	Beta	t	Sig.	95% CI	Collinearity statistics	
							Tolerance	VIF
[constant]	2.72	1.00		2.73	.01	[.74, 4.71]		
Age	.02	.04	.06	.56	.58	[−.05, .10]	.96	1.04
Proficiency	.08	.09	.09	.88	.38	[−.10, .25]	.98	1.02
Grit POE	.36	.13	.28	2.78	.01	[.10, .62]	.99	1.01
Grit COI	−.03	.12	−.03	−.27	.79	[−.26, .20]	.93	1.08

Overall model: $R^2 = .09$.

every perseverant person invests in learning CFL; rather, only the perseverant learners who have a CFL learning goal are motivated to do so. Supporting this position, Loh (2019) argued that learners' perceived value of language learning and their expectancy of success in it could lead to their persistence in language learning.

Similar to the results for Motivational Intensity, POE, but not COI, significantly predicted L2 Persistence. These results again confirm the motivational advantage of the former over the latter. Conceptually speaking, one would expect someone with a perseverant personality to be persistent in doing anything they embark on including learning a new language. One's consistency of interests, on the other hand, does not seem to be much related to how persistent L2 learners are. In other words, just being used to following the same interests over a long period of time does not necessarily mean that the person is going to be motivated and persistently work hard to achieve mastery in learning CFL.

In terms of future selves, Ideal L2 Self/Own ($B = .69$, $p < .001$) and Ideal L2 Self/Other ($B = .20$, $p = .03$) positively and Ought L2 Self/Other ($B = −.18$, $p = .03$) negatively predicted L2 Persistence, whereas Ought L2 Self/Own did not emerge as a significant predictor. These results confirm the findings of the previous studies which showed that Ideal L2 Self (own) was a significant predictor of L2 learning persistence (Lake, 2013; Matsumoto & Obana, 2001) and L2 proficiency (Kim & Kim, 2017; Papi & Teimouri, 2012, 2014). The results also imply that individuals can be persistent in L2 learning only if they are motivated to reduce the discrepancy between their current L2 attributes and the L2 attributes that they would like to ideally possess. Ideal selves are inherently maximal goals concerned with achieving ideal levels of L2 proficiency whereas the ought selves are minimal goals and concerned with satisfying short-term expectations and responsibilities to the extent that negative outcomes are avoided (Higgins, 1987; Papi et al., 2019). In other words, ideal selves are by nature long-term goals that require persistent efforts whereas ought selves are inherently short-term goals that do not require long-term persistence. When oughts and obligations are set by the learner's significant others (ought/others), these factors can even have negative effects on the learner's persistence originated from ideal selves.

The Ought-to L2 Self/Own predicted Motivational Intensity but not L2 Persistence. These results suggest that requirements, duties and obligations can influence learners' short-term motivational intensity (Papi et al., 2019) but may not be an effective driving force for persistent and long-term learning behavior. These results again reflect the maximal-versus-minimal distinction related to the ideal and ought future selves. Ideal selves are pursued as long as one reaches one's long-term vision of who they want to be in future, a vision that can be a moving target and last forever; ought selves, on the other hand, are short-lived because they are pursued as long as there is external pressure and threat of negative outcomes. As soon as such risks are avoided, the learning behavior is also likely to stop. Ought selves are, therefore, set to meet the realities of learning situations and may not require the personality characteristic of perseverance given their short life span.

The Ideal L2 Self/Own mediated the relationship between Grit POE and L2 Persistence. This result confirms the argument presented above that whereas having a perseverant personality could help learners be persistent in their L2 learning efforts, this happens only through the medium of such long-term goals as Ideal L2 Self/Own. In other words, perseverant individuals can be persistent in learning a second language only if they are motivated to reduce the discrepancy between their current L2 attributes and the L2 attributes that they would like to ideally possess.

The regression results also showed that Proficiency positively predicted Motivational Intensity and did not predict L2 Persistence. These results suggest that when learners are not proficient enough they are more motivated to engage in learning the language whereas when they reach a desirable proficiency level, they naturally lose the motivation to continue learning the language because they think they already have the skills that they need. Their L2 learning behavior, therefore, may stop soon. Our second covariate, Age, also emerged as a significant or near-significant predictor of both outcome variables. It seems that the older the college students are, the higher would be their motivational intensity and persistence in CLF study. Given the strong correlation between age and year of study in this study ($r = .52$, $p < .001$), it could also be speculated that college students in their later years of studies might have a clearer idea of their goals and might be more motivated to work hard and persist in learning the target language.

Table 8
Multiple regression results with L2 persistence as the outcome variable.

	B	Std. error	Beta	t	Sig.	95% CI	Collinearity statistics	
							Tolerance	VIF
[constant]	1.06	.54		1.97	.05	[−.01, 2.15]		
Age	.02	.02	.07	1.11	.27	[−.02, .07]	.99	1.01
Proficiency	−.02	.05	−.02	−.28	.78	[−.12, .09]	.96	1.04
Ideal L2 self/own	.59	.07	.69	8.87	< .001	[.46, .72]	.62	1.61
Ideal L2 self/other	.16	.07	.20	2.21	.03	[.02, .30]	.46	2.16
Ought-to L2 self/own	.09	.06	.11	1.59	.12	[−.02, .20]	.77	1.31
Ought L2 self/other	−.13	.06	−.18	−2.20	.03	[−.25, −.01]	.59	1.71

Overall model: $R^2 = .67$.

6. Conclusion

The results of the present study provided preliminary evidence for the influence of the perseverance component of Grit but found no evidence supporting the second component, consistency of interest. Only Grit POE significantly predicted L2 learners' Motivational Intensity and Persistence. COI did not predict any of the outcome variables, did not correlate with any of the self-guides, and did not even correlate with the POE component of Grit. If one component of Grit does not even correlate with the other component, how can we consider Grit to be a unitary personality construct? This was a question raised by researchers who found similar results in a recent meta-analysis of studies on Grit (Credé et al., 2017). If POE is to be considered the only valid construct representing Grit, then there seems to be no need to even have a construct named Grit because perseverance has already been investigated in the field of psychology for a long time and under different labels such as Conscientiousness, a personality traits that not only has a longer scholarly history behind it but it has been shown to be a better predictor of school success than Grit (Ivcevic & Brackett, 2014). In other words, whereas there is both evidence and agreement among researchers confirming that perseverant learners tend to work hard and persist in learning, Duckworth conceptualization of Grit POE, or Grit in general, and by extension the construct of L2 Grit (Teimouri et al., in press), do not substantially add anything to our knowledge of personality and L2 learning, and might only be considered examples of old wine in new bottles (Credé et al., 2017).

Furthermore, the present study provided preliminary evidence for the important distinction between the intensity and persistence dimensions of motivation, which was revealed through the associations between these two outcome variables and qualitatively different future selves. Motivational Intensity was predicted by future selves with the "own" standpoint, namely Ideal L2 Self/Own and Ought L2 Self/Own; on the other hand, L2 Persistence was positively predicted by ideal L2 selves (Ideal L2 Self/Own and Ideal L2 Self/Other) and negatively predicted by Ought L2 Self/Other, confirming that different future self-guides lead to qualitative differences in the learning behavior (Papi, 2016, 2018; Papi et al., 2019). The results were attributed to the fact that ideal self-guides represent maximal long-term goals, which necessitate persistence in L2 learning whereas minimal goals such as oughts require motivational intensity but not persistence.

Finally, the POE component of Grit predicted the two outcome variables through the mediation of Ideal L2 Self/Own. Learners with high levels of POE seem to be more likely to develop their own Ideal L2 Self ($r = .30$, $p < .05$), which in turn, generates high levels of motivation to engage in and persist in the language learning process. The more perseverant a learner is, the more likely they are to set a long-term goal; and the more strongly they endorse a long-term goal, the more engaged and persistent they are in their language learning pursuit.

These findings suggest that learner behavior can be better understood if different dimensions of learner psychology, in this case their personality and future selves, are examined together rather than as isolated factors.

This study used self-report measures of L2 learning persistence, which has its own limitations. In future research, examining the actual persistence, or lack thereof, of learners through documenting the length of their studies can be more eye opening. The present study investigated CFL learning at two universities in the context of the United States. Exploring the topic in other L2 learning contexts could further our understanding of the dynamics of personality, motivation, and persistence in language learning. Moreover, there were only 94 participants in the study. Even though the statistical analyses had sufficient power, the small sample size of the study limits the generalizability of the research findings. Using larger samples would also afford the possibility of using more sophisticated statistical analyses such as structural equation modelling. The current research study only focused on the L2 learners who were studying CFL at the time of data collection. Including the learners who have discontinued their L2 studies could help understand the issue of L2 motivation and persistence from a different angle.

L2 learning is usually a long process, and people could not complete the learning process without sufficient motivation (Dörnyei & Ushioda, 2011). The findings of the current study suggest that L2 learners' future selves function significantly during the learning process. In the context of the United States, it seems that CFL learners' Ideal L2 Self/Own and to some extent Ideal L2 Self/Other should be emphasized while Ought-to L2 Self/Own and especially Ought-to L2 Self/Other should be de-emphasized in order to optimize persistent learning behavior. A few studies have been conducted in the field to enhance learners' ideal selves. For instance, Magid and Chan (2012) conducted an intervention program to help learners visualize their Ideal L2 self among participants in England and Hong Kong. The programs lasted for three to four months and included workshops on setting goals, developing timelines and plans for future career and use of English at work and in personal life. The results of their study showed that helping students develop ideal L2 selves effectively motivates them to study English and build linguistic confidence. Similarly, Sampson (2012) used an introspective free-writing activity and ten sessions of an Ideal L2 Self enhancement program that connected English learners' learning process to their future selves. The researchers found that such activities help students develop rich ideal selves. The techniques used by Magid and Chan (2012) and Sampson (2012) have not been rigorously tested in controlled experiments but they represent initial attempts at enhancing Ideal L2 Self as a powerful motivation construct. Developing controlled experiments to examine more precise effects of such interventions on motivational, behavioral and learning outcomes could further our understanding of the potentials of such techniques and contribute to L2 research and instruction.

Appendix A

Questionnaire items, Cronbach's alpha values and descriptive statistics for the scales used.

Variables	M (SD)	α
Grit: Perseverance of effort	4.80 (.78)	
1. I have achieved a goal that took years of work.		
2. I have overcome setbacks to conquer an important challenge.		
3. I finish whatever I begin.		
4. Setbacks don't discourage me.		
5. I am a hard worker.		
6. I am diligent.		
Grit: Consistency of interest[a]	3.41 (.91)	.79
7. I often set a goal but later choose to pursue a different one.		
8. New ideas and new projects sometimes distract me from previous ones.		
9. I become interested in new pursuits every few months.		
10. My interests change from year to year.		

11. I have been obsessed with a certain idea or project for a short time but later lost interest.

12. I have difficulty maintaining my focus on projects that take more than a few months to complete.

Ideal L2 self/own   4.90 (1.17)   .93

13. I can imagine a day when I speak Chinese as a native speaker.

19. I can imagine a day when I speak Chinese fluently with international friends/colleagues.

25. I can imagine a day when I write effectively and read fluently in Chinese.

31. I can imagine a day when I use Chinese effectively to communicate with Chinese speakers from all over the world.

Ideal L2 self/other   4.31 (1.26)   .87

37. My family hopes that one day I would speak Chinese fluently.

42. My family will be proud of me if one day I master the Chinese language.

44. It is my parents' hope that one day I will speak Chinese fluently.

45. The people who are important to me hope that one day I will master the Chinese language.

Ought-to L2 self/own   2.99 (1.22)   .82

14. If I don't improve my Chinese, it will have a negative impact on my future.

20. If I don't work on my Chinese, I will fail in my future career.

26. If I don't work on my Chinese, I will fail in my social life.

32. If I don't work on my Chinese, I will fail in school/university.

Ought-to L2 self/other   2.64 (1.32)   .75

38. If I don't learn Chinese, I will disappoint my parents/teachers.

43. My family puts a lot of pressure on me to learn Chinese.

Motivational intensity   4.17 (1.57)   .80

15. I spend lots of time studying Chinese.

23. I am a diligent Chinese language learner.

27. I concentrate on studying Chinese more than any other topic.

28. I can break through any distractions when having important Chinese assignments to do immediately.

41. I put much time and effort into improving my Chinese language weaknesses.

L2 persistence   4.99 (1.45)   .91

16. I will continue registering for the next Chinese course(s).

17. I will not allow anything to stop me from my progress in learning Chinese.

29. Now that I have decided to learn Chinese, nothing can prevent me from reaching this goal.

34. I want to keep on learning Chinese as long as possible.

39. I am prepared to expend a lot of effort in learning Chinese.

40. I intend to stop learning Chinese.[a]

[a] Items were reverse coded.

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