ORIGINAL PAPER

The Effect of Language-specific Grit and Future Self-Guides on Willingness to Communicate in the Second Language

語言恆毅力和未來自我指引對第二語言溝通意願的影響

Hsing-Fu Cheng [1]

Abstract

Learning a second language (L2) is often analogous to an odyssey that is long and eventful. Therefore, it becomes immediately relevant and imperative to examine how L2 grit, defined by passion and persistence in working toward ultimate language learning goals and future L2 self-guides—that is, language learners' capacity to conjure up their desired future language self-images—may work in synergy in predicting motivated outcomes measured by willingness to communicate (WTC) in the L2. A total of 294 college English majors in Taiwan (ages 17–24) completed a questionnaire survey on L2 grit. Hierarchical multiple regressions showed that compared to its counterpart the consistency of interest (COI), the persistence of effort (POE) dimension of grit exhibited a superior predictive power over learners' intention to communicate in L2. Moreover, the effects of the two subscales of L2 grit decreased after the L2 self-motivational configurations were entered into the equation, suggesting that having grit as a personality characteristic alone may not guarantee L2 learners' hard work. Instead, learners' ability to articulate a clear mental representation of the kinds of language learners they would like to or are supposed to become also plays a prominent role in shaping their intention to initiate communication. Specifically, three types of L2 self-mindsets (ideal L2 self/own, ideal L2 self/other, and ought-to L2 self/own), along with grit, emerged as significant predictors of communicative intentions, whereas the most externally regulated facet of the L2 self (i.e., ought-to L2 self/other) appeared to exert no effect on L2 WTC. The findings point to the potential pedagogical utility of implementing intervention programs in educational contexts to harness language learners' gritty attitudes and envisage L2 selves to sustain motivation during the language learning process.

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摘要

學習第二語言(L2) 通常被比喻為一個漫長而艱辛的旅程。 因此，研究第二語言恆毅力(L2 grit) — 追求長期語言學習目標的熱情與毅力以及第二語言未來自我指引(future L2 self-guides) — 語言學習者對未來所勾畫的自我形象，如何協同預測第二語言溝通意願(L2WTC) 動機行為顯得至關重要。 共有294位台灣大學生英語系主修 (17至24歲) 參與此研究並完成問卷調查。 分層多元回歸分析(Hierarchical multiple regressions) 顯示，相較於持續熱情(COI), 持久耐力(POE)對於學習者第二語言溝通意願有較高的預測力。 此外，將第二語言自我形象放入回歸程式分析後，第二語言恆毅力的兩個分量表的影響隨即降低，這表明僅憑恆毅力人格特徵可能無法保證第二語言學習者會付出努力。 學習者是否能在腦中清晰地勾勒出他們想要成為或覺得應該成為的語言學習者形象，對其溝通意願亦有重要影響。 具體而言，三種學習第二語言自我心態(理想我/自身觀點，理想我/他人觀點以及必須我/自身觀點)和恆毅力，能顯著預測溝通意願，而最受外在調節的第二語言自我面向 (必須我/他人觀點)似乎對第二語言溝通意願沒有顯著影響。 研究結果建議在教育環境中實施介入方案以鍛鍊語言學習者堅毅不拔的態度，並增進其想像第二語言自我形象的能力，進而維持語言學習者於學習過程中的動機。

Keywords Language learning grit · Future L2 self-guides · Willingness to communicate · Positive psychology

關鍵詞　語言學習恆毅力 · 第二語言未來自我指引 · 溝通意願 · 正向心理學

Introduction

In recent years, increased efforts have been made to understand learners' psyche and action through the lens of positive psychology in the study of second language acquisition (SLA) [13]. Grit, defined as passion and persistent effort toward a specific end-goal [20], has been identified as an important predictor of performance and success in mainstream psychology [9, 10, 20]. In the field of applied linguistics, Khajavy, MacIntyre, and Hariri [30] have argued for the utilitarian value of grit in language learning in that "the malleability of grit can provide L2 teachers with a strong tool to prepare their students for the possible challenges and failures they might encounter during L2 process"(p. 5). In recent years, the construct of grit, which comprises two underlying components, i.e., COI and POE, is attracting research interests in the field of SLA. Specifically, grit has been examined in relation to a plethora of affective, cognitive, behavioral, and situational factors including classroom climate [60], English language proficiency [55], foreign language enjoyment [35, 58, 60], hope and flourishing [33], L2 willingness to communicate (WTC) [35, 36, 58], and the L2 self [22].

However, there remain some conceptual and methodological problems related to the factorial structures in grit research. With regard to grit, Credé et al.'s [10] meta-analysis challenges its predictive power of achievement. Also, the multidimensional concept of grit has been questioned as the correlation between COI and POE was found to approach zero [22]. In addition, while ideal L2 self/own and ought-to L2 self/own along with grit POE emerged as predictors of motivational intensity, surprisingly, grit COI failed to predict both learners' persistence in learning language and motivational intensity. Furthermore, Credé [9] criticized that the items measuring COI were mostly framed negatively; this may impose more cognitive difficulty on the respondents, which in turn

undercut reliability and validity. Finally, some concerns were raised with regard to applying a domain-general grit scale in SLA research, and many scholars have since called for a domain-specific L2 grit scale to capture the distinct traits of language learners within language learning contexts [30].

To respond to this call, Teimouri et al. [58] developed and validated a language-specific grit scale to measure L2 learners' grit. Notably, their findings showed that compared to global grit, L2 grit had a superior predictive power over learners' L2 WTC and intended effort. Nonetheless, their results also suggested that while grit's POE component was significantly and positively correlated to intended effort and L2 WTC, the COI scale had no relation with these outcome variables. Although they validated an L2 grit measure specifically, they were cautious about the generalization of their findings to language learners of other backgrounds and demographics with varying sociocultural situations and therefore called for more studies to corroborate both the construct validity and reliability of the two-factor structure of the L2 grit scale.

Although the marriage of positive psychology and SLA is only in its infancy, it has already shown tremendous and fruitful potential. The research on positive psychology has opened up an innovative and interdisciplinary avenue for further theorizing and empirical work. Still, many researchers have voiced their concerns about the potential drawbacks of applying a global personality measure derived from social psychology in personality research in SLA and attributed inconclusive findings to the global-local inconsistency existing throughout past literature [12, 17, 30, 58]. Therefore, there is certainly a need to validate language-specific measures that may better reflect language learners in their L2 contexts.

To this end, the purpose of this study is to validate a language-specific grit measure that can offer a more accurate appraisal of students' personality characteristics in L2 settings that are different from the context in which the original construct was developed. In addition, although scholars have explored the relationship among variables related to personality, motivation, and communication, their chief focus has been on the traditional Big Five personality traits [24, 38, 45] whereas the linkages between L2 grit, L2 WTC, and L2 selves have not yet been systematically examined within a single study. Therefore, this study also extends this line of research by adding empirical evidence on how personality traits such as L2 grit can shape language learners' motivational and communicative orientations. Specifically, it is expected that L2 grit will predict L2WTC directly, as well as indirectly through the mediation of different types of motivational L2 self-guides.

Grit

Recent years have witnessed a flowering of a non-cognitive personality trait variable, grit, which is defined as consisting of both perseverance and passion for long-term goals [20]. Grit was popularized by Duckworth after her much acclaimed TED Talk and later bestselling book entitled *Grit: The Power of Passion and Perseverance* published in 2017. Studies have examined the predictive power of grit on various motivational, affective, and behavioral variables such as academic and test emotions [11], achievement orientation goals [3], emotional stability [10], and success and performance [19–21].

In the field of SLA, grit has been under scrutiny and found to be positively related to behavioral, motivational, emotional, and cognitive factors including L2 performance [28], English language proficiency [55], language learning mindset [30], L2 WTC [35, 36, 58], affective variables [35, 58], and the L2 self [22, 33].

Lee and Hsieh [35] explored affective variables such as grit, L2 self-confidence, L2 anxiety, and L2 motivation by investigating 261 Taiwanese EFL undergraduate learners' WTC in different situational modes. The findings indicated that students with higher degrees of grit and L2 confidence exhibited higher levels of L2 WTC across three communicative situations. While the initial reports indicated that the interplay of the affective variables exerted various degrees of effect on learners' communication behavior in diverse communicative contexts [34–36], it is worthy of mention that the grit measure applied in these studies was domain-general and the dimensionality of the construct was not adequately addressed.

Teimouri et al. [58] developed and validated a language-specific grit scale to measure L2 learners' grit, which has also been found to exhibit a positive relation with students' language learning motivation and achievement. Importantly, their findings indicated a superior explanatory power of L2 grit compared to domain-general grit with regard to learners' motivational variables (e.g., L2 WTC and intended effort) and emotional state (e.g., language joy). However, their results showed that while POE was significantly and positively correlated to intended effort and L2 WTC, COI had no relation with these outcome variables.

Adopting a 4-factor L2 self-model, Feng and Papi [22] investigated the role of grit and L2 selves in motivational behavior in L2 learning in a group of 94 learners of Chinese as a foreign language who were studying in the USA. The results of multiple regression revealed that the POE component of grit coupled with two dimensions of the ideal L2 and ought-to L2 self from the "own" standpoint significantly predicted motivational intensity. In contrast, grit COI was not predictive of behavioral outcomes measured by learners' persistence in learning language and motivational intensity. This finding may indicate a need for the development and conceptualization of language-domain grit which is relatively contingent on contexts, whereas the general grit may be more of a personality trait which is comparatively stable in nature.

The validity and psychometric soundness of the grit construct has been called into question by many scholars [10, 22]. For instance, Feng and Papi [22] showed that whereas grit POE predicted L2 learners' motivational intensity and persistence, COI was not correlated with the POE component of grit and dependent variables, including the self-guides. The fact that POE does not even correlate with COI is rather disturbing since the two components are theoretically hypothesized to be subsumed under a unitary construct named grit.

In a similar vein, a meta-analysis by Credé et al. [10] challenged the validity pertaining to the multifaceted conception of grit. Through a critical synthesis of relevant literature in grit research, they concluded that current evidence does not lend sufficient empirical support for the claim that grit is a higher-order construct containing two lower-order facets. They further argued that original factor analytic studies appear to be problematic due to methodological constraints. Their findings showed that compared to its counterpart COI, POE was a much superior predictor of performance. Even more surprisingly, POE turned out to have more explanatory power over performance than the overall grit (that is, the combination of POE and COI). As a result, they proposed

that POE should be treated as a distinct and separate construct that is essentially different from COI.

Taken together, a critical review of relevant literature shows that there remain areas awaiting clarification. For instance, in both Lee and Hsieh [35] and Feng and Papi [22], the grit scale used was a generic measure that was not specifically developed to measure L2 students' perseverance and passion, and both called for further studies to examine the construct of grit by using a more domain-specific measurement to increase the content validity. Similarly, Teimouri et al. [58] advocated for the necessity to confirm the construct validity and reliability of the two-factor structure of the L2 grit scale they developed and examined its relationship with other L2 motivational variables (e.g., L2 self) in different groups and settings.

In summary, in light of the immediate relevance of grit as a positive mindset to language learners in dealing with setbacks and negative emotional states, more research is called for to do this construct justice. Indeed, due to limited empirical endeavors in SLA and issues surrounding the conceptualization of grit as a unitary construct that explains people's propensity to remain resilient when confronting adversity, it is imperative to revisit the construct in the language learning field, examining its dimensions in groups of different sociocultural and educational background. To bridge the research gap, this study aims to validate a language-specific grit scale and examine how it may interact in relation to various motivational and communicative orientations in the Taiwanese L2 context.

Future L2 Self-Guides

Inspired by Higgins's [26] discrepancy theory from mainstream psychology and the L2 integrativeness construct, which has its root in SLA [23], Dörnyei [15] proposed the L2MSS to account for language learner motivation. Central to the fundamental theoretical conceptualization in the L2MSS is the notion that a perceived gap between a learner's present state and future ideal state operates as a driving force to close the dissonance. By and large, the consensus derived from this body of work provides robust evidence suggesting future self-guides can serve as an invaluable motivational construct to explain the motivational underpinnings of language learners in areas including motivational intensity [37], learners' intended learning efforts [56], L2 WTC [34, 43, 44, 46], and international posture [61].

Of particular interest is the ideal L2 self-dimension which has been validated as exhibiting strong power in accounting for learners' motivated behavior [2, 14, 48, 52]. By contrast, there is much less agreement with regard to the explanatory power of the ought-to L2 self in explaining learners' motivated and communication behavior with many studies revealing little or no meaningful effect in terms of explaining learners' intended efforts in learning language [7, 8, 32, 48, 56]. Meanwhile, others, especially in Asian EFL contexts, highlight the distinct role that the ought-to L2 self exerts in representing EFL learners' situational and culturally sensitive motivational configuration that has long been impinged by Confucianism, which values diligence and subservience that may, in turn, propel learners to work hard in order to conform to the social norm [4, 27, 37]. Importantly, a recent study of the L2 self-guides among a group of international students studying ESL in the USA showed that the ought-to L2

self/own emerges as the only and silent predictor of motivated learning behavior compared to other configurations of the self-dimension [49]. This surprising finding provides empirical support that is in alignment with Higgins's [26] original operationalization, suggesting ought-to domains also can exert motivating power. The implication is that the L2 self-guide is sensitive to the learner group and learning milieu.

The reason that may account for the lack of explanatory power of the ought-to self can be attributed to the less than desirable operationalization of the construct, which is evidenced by a rather unsatisfactory reliability of the scale pertaining to the ought-to L2 self [8, 32]. Teimouri [57] identified the methodological and conceptual flaw in the original item development process, where merely two aspects of the self (ideal L2 self/own and ought-to L2 self/other) were operationalized while the other two components (ideal L2 self/other and ought-to L2 self/own) failed to enter into the equation [15]. Indeed, this line of theorizing does not align with Higgins's [26] self-discrepancy theory, which emphasizes both domains of the self (ideal, ought-to) and the standpoint on the self (own, other) underlying the various self-state representations.

Employing factor analysis, contradictory to the theorizing, Teimouri [57] only extracted three factors: ideal L2 self, ought-to L2 self/own, and ought-to L2 self/other. That is, it is unable to distinguish the "own" from the "other" within the ideal L2 self-domain. Papi et al. [49] tested an improved version of the self-guides and delineated a four-factor model and showed that the fit was superior compared to Dörnyei's [15] two-factor model and Teimouri's [57] three-factor model. In contrast to Teimouri [57], where the ideal L2 self exhibited robust power in predicting intended effort, multiple regressions revealed that the ought-to L2 self/own exerted the most salient predictive power over motivated behavior as opposed to other constellations of domain and standpoint representations. Although the confirmative factor analysis (CFA) lends support to the overall fitness of the 2 × 2 model, several psychometric and instrumental limitations can be located in their study. For instance, compared to the ideal L2 self/own, ideal L2 self/other, and ought-to L2 self/own, which each consist of four items, the ought-to L2 self/other contains only two items, which calls into question the representativeness with regard to the construct of the ought-to L2 self/other.

To develop a more fine-tuned and rigorous model in order to properly reflect different types of discrepancies between self-state representations in the L2MSS model, Tseng, Cheng, and Gao [59] adopted CFA and a multidimensional Rasch model to examine hypothesized models and the item fit performance. The results of formal model testing verified the validity and reliability of a 4-factor correlated model which attests to Higgins's theory concerning the inner structure of future self-guides, that is, bifurcations of two separate standpoints (i.e., own and other) within the dimensions of both the ideal L2 self and the ought-to L2 self. They called for further study to test the validation of the quadro-component L2 self measure on different populations to explore how the four types of L2 self future representations may come into play with one another, or other individual differences (IDs) variables such as WTC.

Feng and Papi [22] explored the role of grit and future selves in motivational intensity and persistence in L2 learning. Multiple regression results showed that the POE subdomain of grit together with the ideal L2 self/own and ought-to L2 self/own significantly predicted the outcome variable motivational intensity. In addition, POE,

the ideal L2 self/own and ideal L2 self/other positively predicted persistence, whereas ought-to L2 self/other was a negative predictor of persistence. The findings suggest that different constellations of self-representations predict distinct motivated behaviors and lend empirical support for the claim of POE as exerting strong explanatory power in conjunction with future selves in predicting qualitatively different motivated behavior. However, this preliminary study does have its limitation. Due to the small sample in this study ($N = 94$) and the context in which it is conducted (i.e., CFL learners in the USA), doubt can be cast on the generalizability of the research findings to other contexts and populations. Notably, they adopted a global grit scale instead of an L2 grit measure in the study, which may partially account for the lack of explanatory power of one subcomponent of grit scale (COI). Given that a strong link exists between grit and the L2 self as both presuppose individuals' desires to project and pursue future plans and long-term goals [18, 42], an exploration of the relationship between these two constructs and how they may individually and collectively influence behavioral intention such as L2 WTC is of paramount importance.

L2 WTC

In the fields of SLA and applied linguistics, an increasing body of research has focused on L2 learners' WTC as part of the natural fulfillment of language learning goals and the process in which interaction occurs that further spurs the development of their communicative competence [15, 41]. In L2 WTC, adopting a dynamic approach, MacIntyre et al. [41] defined L2 WTC as "a readiness to enter into discourse at a particular time with a specific person or persons, using an L2" (p. 547). An array of various contextual, affective, and cognitive factors were found to work together either directly or indirectly exerting influences on learners' WTC and communication behavior. A large body of research has used structural equation modeling to validate the causal relationships between WTC and other important IDs variables such as perceived communication apprehension and competence [5, 40], personality [39], attitudes and motivation [25, 50], and classroom environment [51].

Dörnyei [15, 16] also hypothesized that linguistic self-confidence and the ideal L2 self may jointly contribute to a higher degree of L2 WTC. Given the potential conceptual linkages between L2 self-guides and L2 WTC, it is surprising to find that few addressed the possible interconnection between L2MSS and L2 WTC and communication behavior [29, 43, 47, 57, 61]. Worse, most of the studies along this vein only include the ideal L2 self-component at the expense of the ought-to L2 self in their investigation [6, 31, 33, 43, 61], which, although it validates the ideal L2 self's motivational power, may run the risk of failing to represent the motivational makeup comprehensively. Öz and Bursali [47] examined how both types of L2 self influence L2 WTC, and the results show that the ideal L2 self and L2 WTC were positively correlated, whereas the relationship between the ought-to L2 self and L2 WTC was not statistically significant. In Teimouri's [57] investigation of learners' emotions and L2 selves guide, multiple regression analyses showed that all three dimensions of L2 future selves (i.e., ideal L2 self, ought-to L2 self/own, and ought-to L2 self/other) predicted

learners' intended effort; however, only the ideal L2 self appeared to meaningfully predict L2 WTC.

A review of relevant literature shows a lack of understanding of the connection between L2MSS and L2 WTC due to the scant effort in scrutinizing the conceptual linkage between these highly important variables. In fact, Shirvan et al.'s [54] meta-analysis pointed out that the most researched correlates of L2 WTC have been perceived communicative competence and communication anxiety, whereas many other variables such as the ideal L2 self are understudied. Critically, the majority of the literature has used a 2-factor ideal L2 scale that does not fully do justice to the motivational representation when compared to the 4-factor measure [59].

As can been seen, preliminary data on grit in SLA has shown partial findings with regard to the relationship between L2 self and grit, with some studies showing a correlation between the ideal L2 self and grit ($r = .42$) [33], and others revealing the subcomponent POE is correlated with dependable variable L2 self-guides while COI shows no such connection [22]. However, in Lake's [33] investigation, the ought-to L2 self was left out and the ideal L2 self was not evaluated from two standpoints. In addition, it is necessary to point out that these two studies both adopt domain-general grit scale as the instrument, which may not be able to accurately capture L2 learners' persistence and passion in their language learning pursuit and how that may influence their L2 future self-guides.

To the author's knowledge, this study marks the first attempt to jointly examine the interconnection between non-cognitive grit, and motivational, and communicative orientations in L2 learning in a holistic fashion within one single study. To bridge the research gap, the current study aims at employing Tseng et al.'s [59] 4-factor model to examine how personality trait of L2 grit is related to learners' future L2 selves. A language-specific grit scale will be adopted to examine how POE and COI facets of L2 grit are associated with four different L2 self-representations and L2 WTC.

The following five research questions (RQs) are examined:

RQ1: How valid and reliable is the newly developed L2-grit scale in measuring learners' perseverance and passion in language learning?
RQ2: How is L2 grit related to the different subdomains of L2 selves?
RQ3: How is L2 grit related to L2 WTC?
RQ4: How are L2 future self-guides related to L2 WTC?
RQ5: How is L2 WTC predicted by L2 grit and L2 selves?

Method

Participants

A non-probability sampling technique was adopted to recruit a total of 294 Taiwanese EFL learners (195 female, 99 male) who were English majors at a higher institution located in Northern Taiwan. For the sake of convenience, the researcher invited students who are in close proximity and therefore allows more accessibility. Their ages ranged from 17 to 24 years, with an average of 19.37 years. Among them, 47.3 % were freshmen, 18.0 % sophomores, 22.8 % juniors and 11.9 % seniors.

Instruments

Most of the data were collected using questionnaires that were developed in previous studies. L2 grit was measured using the 9-item scale developed by Teimouri et al. [58] with two subscales assessing POE and COI, respectively. Sample items (POE) are as follows: *I will not allow anything to stop me from my progress in learning English*; (COI): *I was obsessed with learning English in the past but have lost interest recently.*

L2 selves were gauged by adopting Tseng et al.'s [59] 16-item scale measuring four different L2 self-configurations (i.e., ideal L2 self/own, ideal L2 self/other, ought-to L2 self/own, ought-to L2 self/other). Sample items (ideal L2 self/own) are as follows: *I imagine a day that I converse in English with international friends online*; (ideal L2 self/other): *I imagine a day people around me will be impressed with my ability to watch movies without English subtitles;* (ought-to L2 self/own): *I think that I should be able to easily understand English TV news/programs without problems*; (ought-to L2 self/other): *People around me think that I should talk in English with international friends online.*

With regard to L2 WTC, a 12-item scale was adopted from Lee and Hsieh [35] to measure students' communicative intention. Sample item is as follows: *When you have a discussion with a small group of friends*. All the items were responded to on a 6-point Likert scale from 1 "strongly disagree / not like me at all / not willing at all" to 6 "strongly agree / very much like me / very much willing."

Procedure

Prior to the administration of the questionnaire during the 2020 academic year, the students were assured that their participation in the study was voluntary. In addition, they were told that all the data would be kept confidential and used only for research purposes. Since the survey was not an exam, they were informed that their responses would in no way influence their grades or academic assessment. Sweets were distributed to the participants as a token of appreciation for taking the time to fill out the questionnaire.

Table 1 Descriptive statistics and Cronbach's alpha values and for the scales used

Variables	Subscales	No. of items	M (SD)	α
Grit		9	3.95 (.71)	.84
	COI	4	4.05 (.88)	.78
	POE	5	3.84 (.78)	.85
L2 self	Ideal L2 self/own	4	4.42 (.84)	.85
	Ideal L2 self/other	4	4.26 (.93)	.85
	Ought-to L2 self/own	4	4.57 (.83)	.87
	Ought-to L2 self/other	4	3.98 (.72)	.70
L2 WTC		12	4.23 (.72)	.90

Data analysis

To answer RQ1, CFA was performed to test the extent to which the implied model fit the empirical model using IBM *AMOS* 20. A couple of criteria were employed for the fit analysis including the chi-square difference test, comparative fit index (CFI), the Tucker-Lewis Index (TLI), and the root mean square error of approximation (RMSEA), and standardized root mean square residual (SRMR). A general principle suggests that fit indices larger than .90 are indicative of a good model. With regard to RMSEA and SRMR, the value below .08 and .05 is considered acceptable, respectively.

SPSS 12 was run to yield descriptive statistics such as means, standard deviations, as well as Cronbach's alpha of the scales used in the study. As shown in Table 1, the grit scale has a satisfactory Cronbach's coefficient ($\alpha = .84$). In addition, both subscales of grit, COI ($\alpha = .78$) and POE ($\alpha = .85$), have good reliability. With regards to the L2 self-scale, while the three dimensions of the ideal L2 self/own, ideal L2 self/other, and ought-to L2 self/own had desirable reliability with Cronbach's coefficients above .85, the ought-to L2 self/other ($\alpha = .70$) had a relatively lower alpha, showing its weaker internal consistency. Finally, the L2 WTC scale had a high Cronbach's coefficient ($\alpha = .90$), indicating it was a reliable measure.

To answer RQs 2-4, a two-tailed Pearson product-moment correlation was conducted to test the relationships among variable factors under scrutiny (i.e., L2 grit, L2 selves, and L2 WTC). Finally, to respond to RQ5, hierarchical multiple regression analyses were employed to examine the predictive power of independent variables L2 grit, L2 selves over the dependent variable L2 WTC.

Results

The first research question intends to verify the extent to which the newly developed L2-grit scale can adequately measure participating EFL learners' language learning grit. To examine how the factorial structure consisting of POE and COI could be empirically corroborated, CFA was performed. Based on the theorizing of grit, a single-factor model and a two-correlated factor model were tested. As Table 2 shows, all goodness-of-fit indices indicated a superior fit for the 2-factor model, indicating that the 2-factor measurement model could be considered adequate in operationalizing the latent construct of L2 grit. The factor loadings are presented in Fig. 1. In accordance with Teimouri et al. [58], the findings support a L2-grit model comprising two interconnected yet unique subcomponents: POE and COI.

Table 3 presents the intercorrelations between the two components underlying L2 grit, L2 self-guides from the "own" and the "other" standpoints and the "ideal" and the

Table 2 Goodness-of-fit indices for the CFA models

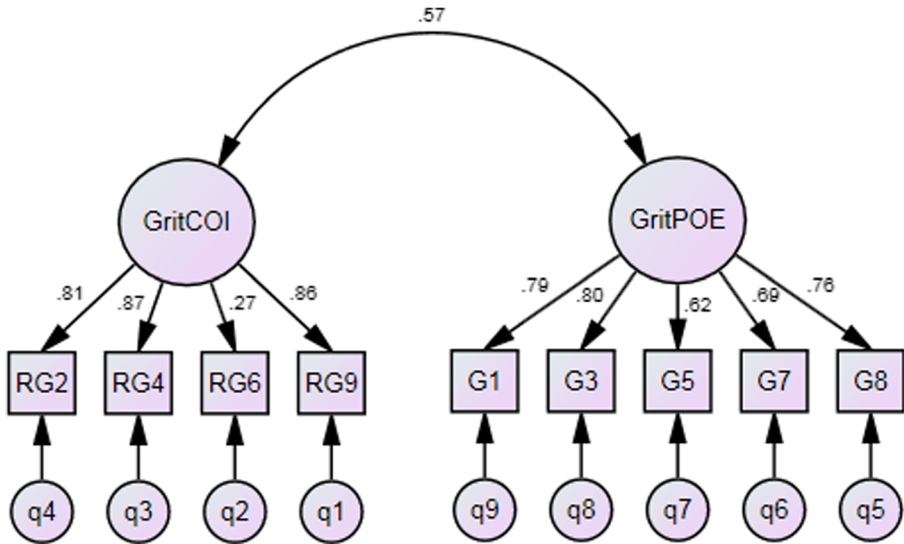|	x^2	df	CFI	TLI	RMSEA	SRMR
Single-factor L2 grit	3420.048	27	.720	.626	.207	.109
Two-factor L2 grit	479.327	26	.963	.948	.077	.047

$p < .001$

Fig. 1 Two-correlated factor model of L2 grit with standardized coefficients (*n*=294) Note. COI consistency of interest, POE perseverance of effort

"ought-to" domains, and L2 WTC as an outcome criterion. As can be seen, most of the paired correlations were statistically significant to varying degrees. The only exception was that COI, which refers to learners' consistency of interest over the course of language learning was found to be unrelated to the ought-to L2 self/other (*r* = −.03).

RQ2 explores the interrelations between L2 grit and future L2 self-guides and the results show that the relationships between POE and the four types of L2 self-representations (*r* = .14–.53) were larger than those between COI and the four types of L2 self-guides (*r* = −.03–.31). When taking into account the effects of the differences, the former set of relationship were moderate effects; by contrast, the latter set of relationships were small to moderate.

With regard to research RQ3, in terms of the relationships between L2 WTC and the L2 grit, while both POE (*r* = .56) and COI (*r* = .38) correlated significantly with

Table 3 Correlations between the independent variables and the dependent variables

	1	2	3	4	5	6	7
1. Ideal L2 self$_{own}$							
2. Ideal L2 self$_{other}$	.74**						
3. Ought-to L2 self$_{own}$	.76**	.62**					
4. Ought-to L2 self$_{other}$	.34**	.34**	.33**				
5. COI	.31**	.27**	.27**	-.03			
6. POE	.53**	.41**	.46**	.14*	.45**		
7. L2 WTC	.59**	.52**	.54**	.22**	.38**	.56**	

*p <.05

**p<.01

communicative intention in the L2, the former was moderately correlated with L2 WTC whereas the latter showed a weak correlation. This result suggested that the dimension of POE within L2 grit had a stronger association with L2 WTC, whereas the other subcomponent of L2 grit, namely, COI, appeared to be less related to L2 WTC.

RQ4 investigates the associations between different manifestations of L2 selves and L2 WTC. The four configurations of L2 self-guides including the ideal L2 self/own ($r = .59$), ideal L2 self/other ($r = .52$), ought-to L2 self/own ($r = .54$), and ought-to L2 self/other ($r = .22$), were correlated significantly with learners' L2 WTC. However, although the ideal L2 self/own, ideal L2 self/other, and ought-to L2 self/own had a moderate relation with L2 WTC, ought-to L2 self/other was only weakly related to learners' intention to communicate in the L2.

Finally, in order to answer RQ5 and examine the interconnections between L2 grit, L2 self, and L2 WTC, hierarchical multiple regression analyses were employed. In all the analyses, the dependent variable was L2 WTC. Variables were added to the regression equation in three steps to evaluate the unique variance explained by L2 grit and the L2 self, respectively. In the first step of the analysis, only one control variable COI was entered as the first covariate, and it is followed by the second step, where POE was then inserted as the second covariate. The results derived from the first two steps show how the interplay of two different components making up classic L2 grit exerts power in accounting for WTC in language learning. The third step of the analysis introduced the covariates that are related to the motivational variables L2 self, including ideal L2 self/own, ideal L2 self/other, ought-to L2 self/own, and ought-to L2 self/other. By controlling for the two covariates of language learning grit, the purpose of the third step was to explore the percent of variance explained by the four different types of motivational configurations in language learning.

Table 4 Hierarchical multiple regression: predicting L2 WTC from L2 grit and L2 future self

Variables	Step 1					Step 2					Step 3				
	B	SE	β	t	p	B	SE	β	t	p	B	SE	β	t	p
COI	.31	.19	.39	6.88	.00	.14	.05	.18	3.09	.00	.11	.04	.13	2.56	.00
POE						.42	.05	.47	8.32	.00	.24	.05	.27	4.67	.00
Ideal L2 self/own											.15	.07	.18	2.07	.00
Ideal L2 self/other											.11	.05	.14	2.06	.00
Ought-to L2 self/own											.14	.06	.16	2.27	.00
Ought-to L2 self/other											.02	.05	.02	.32	.31
R^2			.15					.33					.47		
Adj R^2			.15					.33					.47		
SE			20.31					21.95					10.36		
F			47.38					64.48					37.71		
df_n, df_d			1477					2699					4170		
p			<.001					<.001					<.001		

As can be seen in Table 4, the R^2 for model 1 was .15, which suggested that COI with a statistically significant standardized multiple regression coefficient ($B = .39$) single-handedly explained 15% of the variance in L2 WTC ($F_{1, 477} = 47.38$, $p < .001$). In step 2 after the other subcomponent of grit POE was added to the model, the R^2 expanded to .33, showing the two grit subscales jointly accounted for 33% of the variance in L2 WTC ($F_{2, 699} = 64.48$, $p < .001$). In model 2, both grit POE ($B = .47$) and COI ($B = .18$) were shown to significantly and positively predict L2 WTC. Notably, POE was responsible for adding extra variance ($\Delta R^2 = .18$), which indicated that it had superior predictive over L2 learners' communicative intention as opposed to its COI counterpart.

Model 3 went one step further by integrating the four dimensions of L2 self-guides into model 2. The R^2 was further increased to .47, meaning 47% of the total variance of L2 WTC could be accounted for by perseverance and passion in combination with a vision of desired future language selves. A closer scrutiny shows that beta values for most components of the L2 self were significantly different from zero ($p < .05$), except for the ought-to L2 self/other, which was not a significant predictor of L2 WTC.

Discussion

The aim of this study is to examine the degree to which L2 grit and L2 future self-guides work together in predicting learners' L2 WTC. First, in order to test the factor structure of L2 grit, CFA was run. The findings confirmed the superiority of the two-factor model over the single-factor model of language-related grit. In addition, POE and COI were found to be significantly correlated ($r = .45$). This is in disagreement with Feng and Papi's [22] finding that there was no significant relationship between the two subscales of grit. Furthermore, they found that COI was not successful in predicting any variables such as L2 persistence and motivational intensity. They also challenged the construct validity of grit as a unitary construct that was made up of two dimensions. The finding of this study indicates that, contrary to this speculation, COI and POE both exert explanatory power for behavioral intention measured by L2 WTC. It is important to bear in mind that Feng and Papi [22] used global grit measure in their study, which may not be sensitive to language learners' grit. The finding here also validates Teimouri et al. [58], who found a two-factor solution for L2 grit scale, and therefore, the multidimensionality of the grit construct is upheld. Importantly, in accordance with Teimouri et al. [58] who reported a comparatively higher mean for COI in L2-specific grit scale compared to POE component, this study yielded similar result. This could imply that the nature of general and L2-specific grit constructs is fundamentally different. In line with Khajavy et al. [30], the multidimensionality of grit suggests that instead of treating grit as a composite scale, we should investigate the two subdomains of grit separately.

In addition, the results of hierarchical multiple regression showed that although both subcomponents of grit, COI ($B = .18$, $p < .001$) and POE ($B = .47$, $p < .001$) predicted L2 WTC, the former had a far less predictive power compared to the latter. This finding differs from that of Lee's [34] investigation of Korean students, which showed that POE as well as classroom enjoyment predicted L2 WTC, whereas COI exerted no predictive power over L2 WTC. Within the domain of SLA, COI is operationalized simply as one's potential changes of interest during L2 learning, whereas POE refers to

how persistent learners are in pursuing their language learning goals. It appears that although displaying enthusiasm about learning a particular language over a long period of time is a worthy trait that language teachers should cultivate in their students, demonstrating an unwavering interest in a subject matter may not in and of itself implies that a learner is inclined to dedicate unceasing and constant effort toward realizing the learning goals.

This finding lends support to the claim that for communicative intention to be materialized, learners should first harbor a passion in language learning for some time; however, a strong drive to expend continuous effort toward realizing the goals may very well need to be in place to sustain that passion. In other words, it is quite sensible to imagine a learner's interest in a specific language learning task may undergo some wax and wane during the often prolonged and tedious learning language process (e.g., one finds memorizing vocabulary an exciting learning objective but does not feel the appeal of the same activity after a few weeks or months); nevertheless, the same learner may still be persistent in working industriously toward the ultimate goal of learning L2 despite potential setbacks.

In addition to L2 grit, future L2 self-guides appeared to add to the predictive power over L2 WTC. Specifically, both ideal L2 selves with the "own" standpoint ($B =. 18, p < .001$) and ideal L2 selves with the "other" standpoint ($B =. 14, p < .001$) accounted for learners' communicative intention in L2. The fact that the ideal L2 self can explain motivated outcomes is supported by previous studies [34, 43, 46, 57]. The ideal L2 self proves once again that a positive motivational mindset can instigate one's intention to initiate interaction in L2. In addition, this study is in accordance with that of Feng and Papi [22], who found that the ideal L2 self/other, which is representative of language-associated goals that individual learners believe people surrounding them (friends, family, and teachers) would ideally wish them to pursue, also act as a motivational force. They argued that ideal L2 self is intrinsically long-term goal-oriented and, therefore, is aligned with learning endeavor that may demand long-term engagement and effort.

More importantly, the ought-to L2 self/own ($B = .16, p < .001$) was found to significantly predict L2 WTC. Similar results were obtained from Feng and Papi [22], who found the ideal L2 self/own ($B= .39, p < .001$), and ought-to L2 self/own ($B= .20, p =.03$) both emerged as significant predictors of motivational intensity. In addition, this finding is partially backed up by Papi et al. [49], who showed that all the four future self-representations were significant predictors of motivated behavior. Specifically, the ought-to L2 self/own ($B= .37, p = .03$) was the strongest predictor of the outcome criterion compared to the ideal L2 self/own ($B= .19, p = .01$), ideal L2 self/other ($B= .14, p = .03$), and the ought-to L2 self/other ($B= .16, p = .01$). In our study, the ought-to L2 self/own ($B= .16, p < .001$), ideal L2 self/own ($B= .18, p < .001$), and ideal L2 self/other ($B= .14, p < .001$) had equal amounts of predictive power for L2 WTC, while the ought-to L2 self/other ($B= .02, p= .31$) failed to exhibit any explanatory power. However, it is important to note that in both studies [22, 49]), L2 motivated learning behavior was measured by gauging the learner's effort and investment in the L2 learning, whereas language learners' L2 WTC was the outcome measure in this study. However, this study differs from Teimouri [57] in that only the ideal L2 self emerged as the sole significant predictor of Iranian secondary school students' L2 WTC.

This result is supported by Lee and Lee [34], who investigated how the L2 motivational self system may influence L2 WTC among Korean EFL students. Their findings showed that secondary students who are subject to high-stakes English tests seem to endorse the ought-to L2 self, and those who exhibited a higher ideal L2 self and ought-to L2 self tended to report higher levels of L2 WTC.

This finding has both theoretical significance and practical relevance, especially in EFL educational settings. Theoretically, the finding further reinforces the importance of validating the four-factor L2 self-guides based on the theorizing of Higgins [26] and suggests the need to take into account both the "own" and "other" standpoints in order to understand learners' motivational makeup comprehensively and accurately. In practical terms, learners in Asian FFL contexts may be more sensitized to the ought-to L2 self-mindset, which places emphasis on fulfilling one's duty, obligations, or responsibilities, because that is what is usually expected from ideal students, which, in educational contexts, is highly linked with whether one is able to perform academically [4, 27, 37].

Perhaps not surprisingly, the ought-to L2 self/other emerged as the only factor that had no predictive power over L2 WTC in this study. In contrast, this is not borne out in Papi et al. [49], who found the ought-to L2 self/other (B= .16, p < .001) a weak but significant predictor of motivated behavior as measured by intended effort. Conceptually speaking, learners' ought-to L2 self/other stands for the most extrinsically motivated L2 self-configurations in which one is extremely controlled and anticipated to perform by external variables (e.g., school demands, societal norms, and parental constraints). The results suggest that agency may play a key role in motivating learners toward end-states, whereas the outward influence of significant others (e.g., family members, friends, or teachers) does not seem to work as well, especially when learners' sense of self-determination is stripped away from their identity as a language learner. Indeed, Feng and Papi's [22] results showed that the ought-to L2 self/other ($B = -.18$, $p = .03$) negatively predicted L2 persistence, which implies that this type of L2 self-configuration may be motivationally detrimental for language learners in the long run and should not be encouraged. Furthermore, Teimouri [57] showed that the ought-to L2 self/other was strongly related to L2 learners' shame reaction.

Finally, this study is significant as the first to examine how grit in language learning may, through the mediation of L2 future self-guides, shape language learners' L2 WTC. The regression model indicates that the addition of the three factors of L2 self increased R^2 to .47, three times more than the variance explained by Model 1. This indicates that language learners' desire to close the gap between their existing language-related self-image that is ideal or considered necessary for them to acquire add a unique and accumulating force in terms of explaining L2 learners' intention to communicate beyond learners' perseverance and passion for accomplishing long-term goals. Conceptually, POE inherently entails one's intended investment in pursuing language learning-related goals (e.g., the questionnaire item "Now that I have decided to learn English, nothing can prevent me from reaching this goal"). Nonetheless, according to Dörnyei [15], L2 learners are more likely to invest in goal-oriented activity only when they are able to envisage vivid, clear, achievable, and specific images of what they aspire to become as a language learner in the not too distant future (e.g., "I imagine a day people around me will be impressed with my ability to watch movies without English subtitles"). As such, this finding also implies that being endowed with

a propensity to be able to pursue interests on a regular basis and display sustained effort toward end-state goals even in the face of obstacles can explain learners' communicative intention to a certain extent; however, such learners have a lot more to gain from capitalizing and harnessing their ability to envision future goals and consistently work hard toward achieving them.

Conclusion

In conclusion, this study marks one of the few preliminary attempts in the SLA domain to systematically examine the potential links between personality traits (L2 grit), motivational variables (future L2 self-guides), and communicative variables (L2 WTC). The findings point to the relatively superior role of POE compared to COI in accounting for learners' communicative intention in L2. The weaker predictive power of COI may be attributed to its operational definition (i.e., consistency of interests) bearing more resemblance to emotion which is ever-shifting in nature and, hence, more difficult to capture. By contrast, POE was more akin to purposive action geared toward end goals and therefore turns out to carry more weights in explaining goal-oriented behavior. That is, it seems that how consistent one displays focused interest on specific language learning over time is less relevant to motivated learning outcome than how unflaggingly one shows dedication and engagement in language tasks even in the face of difficulty. However, the effects of the two subscales of L2 grit reduced after the L2 self-motivational mindsets were entered into the equation. Therefore, it can be argued that having a gritty personality characteristic alone does not guarantee L2 learners will necessarily work hard to achieve their learning aims; rather, learners' ability to articulate a clear vision of why they were learning a language along with the contexts which they will likely use the language also play a crucial role in shaping learners' intention to initiate communication. The finding also suggests that, in addition to the ideal L2 self, a learner's ought-to L2 self/own can and should also be leveraged in EFL contexts where obligations one would like to perform serves as an incentive that propels goal-directed action.

The present study has some limitations. First, as convenience sampling was used in this study, population was therefore selected in a non-random manner, which may result in the selection bias, thereby compromising the generalizability and representativeness of the findings. In addition, the participants of this study are English majors, who may endorse motivational self-images or display gritty attitudes more robustly due to their strong interests in the L2 in the first place. Therefore, there is a need to examine L2 grit and L2 self-guides in different groups of learners. Second, all measures were made up of self-reported items and as such may subject to social desirability bias, which may render data not reflective of the real behavior. Subsequent research should consider gathering data through multiple methods by which objective achievement outcomes can be obtained. Furthermore, as the construct of grit inherently aligns itself with perseverance and passion for long-term goals, longitudinal studies need to be conducted to examine how L2 grit may fluctuate over time. Also, mixed-method studies should be carried out with triangulation of observational field notes and interview narratives to unravel situational factors that may influence learners' language learning grit. Future research in this line is warranted to examine how positive

psychology and motivational interventions can be implemented in the classroom to facilitate real and positive changes in student behavior [1, 44, 53]. Finally, further studies should adopt an interdisciplinary perspective to explore how more IDs factors in positive psychology might be readily translated and applied to SLA, thus enriching our understanding of how emotion, attitudes and personality traits may work in synergy to regulate language learning processes and communication orientations both inside and out of immediate educational contexts.

Declarations

Conflict of Interest   The author declares no competing interests.

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