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Investigating the relationship between linguistic competence, ideal self, learning engagement, and integrated writing performance: A structural equation modeling approach

## Abstract

Existing studies on L2 motivation have established a significant association between ideal self, learning engagement, and academic achievement, but few have examined the internal relationships between these variables in the L2 writing domain. In addition, students' linguistic competence, a fundamental element of writing achievement, remains underrepresented in most research on L2 integrated writing (IW). Considering that learner motivation and engagement may vary across different tasks, this study invited 589 Chinese secondary school students to complete tasks of story continuation (as an IW task) and linguistic competence, as well as a questionnaire relating to ideal writing self and engagement. Structural equation modeling results showed that: (a) linguistic competence was a significant direct predictor not only of students' writing achievement but also of their ideal L2 writing selves; (b) despite the significant contribution of ideal L2 writing selves to the three kinds of learning engagement, only behavioral engagement was a distinctive and unique mediator that materialized students' inner psychological drive towards writing performance. The pedagogical implications are discussed.

**Keywords**

linguistic competence; ideal L2 writing self; learner engagement; story continuation writing

## 1. Introduction

Second language (L2) writing, a process of meaning creation (Murray, 1980), is a sophisticated, multilayered problem-solving activity (Cumming, 1990). The role of linguistic competence in L2 writing has long been an object of research (Leki et al., 2008), and a proficient L2 writer

usually requires the ability to articulate ideas linguistically and coherently (Grabe & Kaplan, 1996; Hayes, 1996). Extant empirical studies concerning linguistic competence mainly focus on independent writing tasks (Lee, 2005; Ortega, 2015), while only a few investigate its relationship with integrated writing (IW) tasks (e.g., Cheong et al., 2018; Zhu et al., 2016). As a new type of IW task, the story continuation writing task (SCWT) is able to comprehensively examine students' reading and writing abilities. However, although the role of linguistic competence in SCWT is well worth exploring, few studies have as yet addressed it.

In addition to linguistic competence, ideal L2 self, a central concept of the L2 motivational self system (L2MSS) (Dörnyei, 2005, 2009), has evolved as the primary motivating component in the field of L2 acquisition. The ideal L2 self embodies "the attributes that someone would ideally like to possess" (Dörnyei, 2010, p. 78). According to the L2MSS framework, L2 learners' motivation to learn the target language will increase when they perceive the discrepancy between their ideal self and their actual self (Markus & Nurius, 1986). However, although scholars assume that clear future visions have a positive influence on L2 learners' motivation in daily learning behavior (e.g., Taguchi et al., 2009; You et al., 2016), only a few studies have investigated students' L2 motivation via the lens of their ideal selves in the field of L2 writing (Tahmouresi & Papi, 2021; Yu & Jiang, 2021). Moreover, concerning the relationship between linguistic competence and ideal L2 selves, actual linguistic competence is an objective dimension, reflecting the language knowledge that students have gained from their previous learning experiences, whereas the ideal L2 self, focusing more on future experiences, should potentially improve one's motivation and future achievement.

Nevertheless, limited research has been conducted on this potential link between the past and the future in the EFL writing field.

Additionally, while the ideal L2 self can theoretically have an effect on achievement, it is unclear how this projected image influences actual L2 writing learning behavior, such as engagement. Educational research has established that an individual's previous experience shapes their present attitudes toward learning and directly impacts their engagement with ongoing learning experiences (Nolen et al., 2015; Reschly & Christenson, 2012). Therefore, it is reasonable to believe that engagement plays an important role when the ideal writing self affects SCWT performance. However, this has not been demonstrated empirically, and the mechanism by which it operates is unclear.

Responding to all the above, this research was intended to investigate how linguistic competence, ideal L2 writing self, and learning engagement may affect SCWT performance through the use of a structural equation model (SEM). In what follows, we reviewed studies on these three learning factors before examining their relationships with Chinese 12th grade students' SCWT performance.

## 2. Literature Review

## 2.1 Linguistic competence in L2 writing

Linguistic competence (in both L1 and L2) refers to organizational knowledge (about how sentences and texts are organized) and pragmatic knowledge (about how sentences and texts are related to the communicative goals of the language user) (Bachman & Palmer, 1996, pp.

67–70). It is crucial to skilled L2 writing as it allows L2 writers to transform propositional thoughts into a readable form in L2 (Grabe & Kaplan, 1996; Kim & Crossley, 2018).

Existing empirical studies have confirmed the influence of language variables on writing quality from the perspectives of vocabulary, grammar, text cohesion, and reading comprehension (e.g., J. Lee, 2020; Sasaki & Hirose, 1996; Schoonen et al., 2003; Vögelin et al., 2019). For example, Sasaki and Hirose (1996) discovered that L2 competence (measured in terms of grammar, listening, and vocabulary) accounted for the majority of the variance in Japanese university students' EFL writing ability (52%), followed by L1 writing ability (18%) and metaknowledge (11%). Vögelin et al. (2019) discovered that lexical variables and grammar ability had an effect on teachers' judgments of writing quality. J. Lee (2020) used SEM to examine the English writing ability of 270 Korean students and found that, of the various linguistic and emotional factors, students' reading comprehension ability had the greatest impact on their English writing (path coefficient = .49, $p < .001$), followed by grammar knowledge (coefficient = .34, $p < .001$). In general, scholars have acknowledged that L2 writers with better linguistic competence generate higher-quality writing, and that vocabulary, grammar, and reading comprehension ability are the three vital predictors of L2 writing performance.

Researchers have also demonstrated that the extent to which linguistic competence affects students' writing ability varies across task types and learner backgrounds. Previous studies have proven that writing quality in different task types depends on different sets of linguistic features (e.g., Beers & Nagy, 2011; Qin & Uccelli, 2016); thus, diverse writing tasks (e.g., independent vs. integrated) and genres (e.g., narrative, descriptive, argumentative) may require

different linguistic skills (Amini & Iravani, 2021; Crossley, 2020). In contrast to the conventional IW type of argumentative writing based on source reading, SCWT is narrative writing. The use of narrative source material sets up five critical situational dimensions for subsequent development, space, time, causality, intentionality, and protagonist (Ye & Ren, 2019), while also providing scaffolding for context, rhetorical structures, and language production (Hyland, 2003). This newly designed integrated task has been included in the *gaokao* (Nationwide Unified Examination for Admissions to General Universities and Colleges) in ten provinces of China, emphasizing its practical importance for investigations. However, although many studies have examined the relationships between linguistic features and various types of IW tasks (e.g., text-based analytical essays: Maamuujav, 2021; summary: Yu, 2013), little attention has been paid to the SCWT. Furthermore, an understudied demographic exists in the literature. Previous papers on linguistic ability and integrated writing performance have focused primarily on undergraduates; secondary school pupils remain scant, especially Chinese L2 adolescents. L2 adolescent learners have unique characteristics as they may constantly encounter constraints related to culture, cognition, language, communication, context, and emotion (Olson et al., 2015). The 12th-grade students in China generally face levels of examination pressure unmatched elsewhere, making them a relatively unique group in the Chinese education system. In other words, investigating the relationship between the linguistic competence of Chinese 12th grade students and their writing performance on the SCWT is a valuable but underexplored area of study.

## 2.2 Ideal self

### *2.2.1 Ideal self in L2 learning*

Along with linguistic competence, psychological elements such as motivation also play an important role in students' L2 learning (Al-Hoorie, 2017; Dörnyei & Ushioda, 2011). Dörnyei (2005, 2010) developed the L2MSS, a system which is based in the field of L2 motivation but draws on psychological concepts, including potential selves (Markus & Nurius, 1986) and self-discrepancies (Higgins, 1987). It holds that L2 learners' motivation will increase when they are driven by their future self-images as L2 users. In the general EFL context, studies involving the ideal self in L2MSS have been widely undertaken. These studies offer insight into the possible link between ideal self and emotional output (Teimouri, 2017), self-efficacy (Roshandel et al., 2018), and motivation to communicate (Öz, 2015), as well as how the ideal self influences language proficiency (Al-Shehri, 2009; Ghasemi et al., 2020). However, a detailed examination of the ideal self's effect on L2 writing performance has been overlooked (Jang & Lee, 2019; Tahmouresi & Papi, 2021).

In light of the paucity of research on ideal L2 writing selves, Jang and Lee (2019) explored the impact of ideal L2 selves on writing strategy use and quality among 68 Korean undergraduates with limited English proficiency. Regression analyses revealed that the ideal L2 writing self was a significant positive predictor of both planning strategy use ($\beta$ = .298, $p$ = .024) and writing quality ($\beta$ = .326, $p$ = .013). Tahmouresi and Papi (2021) focused on how future selves and emotions influence L2 writing performance. They investigated 85 undergraduate EFL learners in Iran, and their multiple regression results showed that L2 writing joy, motivation, and achievement were all positively influenced by the ideal L2 writing self. While the above literature demonstrates the significant role of ideal L2 writing selves on L2 writing quality and emotions, these studies focus on undergraduate students from South Korea and Iran. There is

a scarcity of studies on Chinese students, particularly Chinese middle school students. Moreover, most of the research concerning ideal L2 writing selves only applies independent writing tasks to investigate undergraduate students; few pay attention to IW tasks, especially SCWT.

*2.2.2 Relationship between linguistic competence and ideal L2 self*

Linguistic competence is mostly determined by the language knowledge that learners have collected over time, reflecting their prior experience, whereas the ideal L2 self directs one towards future acts. In this regard, these two variables may potentially have an indirect effect on one's future success (Çağatay & Erten, 2020). In addition, scholars believe ability to be a stable, internal, but uncontrollable attribute that may theoretically shape learners' future motivation, an internal, controllable, but unstable process (Erten & Çağatay, 2020). This is because individuals with greater competence may have a greater feeling of control over the learning process, thus forming a stronger belief in their ability to fulfill idealized self-images (Wong, 2018).

Empirical research has found the correlations between self-perceived proficiency and the ideal self (Liu & Thompson, 2018), and between actual literacy proficiency and the ideal self (Jang & Lee, 2019; Wong, 2018). Similar findings can also be seen in Al-Hoorie's (2018) meta-analysis. In addition, several studies have discovered that L2 learners' ideal selves vary with their level of language proficiency. For example, Thompson and Erdil-Moody (2016) revealed that an EFL group with greater proficiency had a greater ideal self than a group with lower proficiency (see similar findings in Yung, 2019; Çağatay & Erten, 2020). A recent study, Wong

(2020), further revealed that L2 language proficiency positively affected students' ideal L2 selves.

The above-mentioned research collectively indicates that language proficiency and ideal self are associated theoretically and empirically. However, the research on the influence of linguistic competence on ideal writing self is insufficient, and the way these two variables influence SCWT performance is not yet clear. Moreover, although scholars argue that the ideal L2 writing self does not always lead to quality performance if it is not mediated by appropriate learning pathways (Dörnyei, 2005; Norman & Aron, 2003; Papi, 2010), the channel by which the ideal writing self influences actual SCWT performance remains unknown. Here we argue that learning engagement may play an important role in mediating the effect of ideal L2 writing self on SCWT performance.

## 2.3 Engagement

### 2.3.1 Engagement (behavioral, emotional, and cognitive) in L2 writing research

Engagement is defined as a dynamic energy that enables students to take an active role in the learning process, hence constituting a fundamental requirement for any meaningful learning and instructional success (e.g., Hiver et al., 2020; Oga-Baldwin, 2019; Philp & Duchesne, 2016). In recent years, scholars who have conceptualized engagement as students' cognitive, social, and emotional involvement in their studies (e.g., Carini et al., 2006; Chapman, 2003; Kuh, 2009; Zepke et al., 2010) have devised a paradigm for engagement that incorporates behavioral, emotional, and cognitive components (Fredricks et al., 2004; Kahu, 2013). Specifically, behavioral engagement is conceptualized as active, observable involvement in

academic tasks; emotional engagement focuses on students' affective and emotional responses to their instructors, peers, and institutions; cognitive engagement is defined as students' mental and cognitive effort to comprehend material and concepts and complete assigned tasks (Bråten et al., 2022; Fredricks et al., 2004; Kahu, 2013; Yu et al., 2019).

In the field of L2 writing, research has primarily focused on how L2 writers engage with peers' and teachers' feedback. For instance, using qualitative methods, Fan and Xu (2020) examined how 21 EFL university students engaged with peer feedback on L2 writing from an affective, behavioral, and cognitive perspective. They found that students' engagement on emotional, behavioral, and cognitive dimensions varied according to the type of feedback received. Similar findings can also be seen in Koltovskaia (2020) and Shi (2021). While these studies shed light on student engagement with instructor and peer evaluation in the context of L2 writing, empirical research is warranted to further explore L2 writers' engagement with other motivational variables (e.g., ideal L2 writing self) and at different educational levels (e.g., secondary level students). This will contribute to the literature on learning engagement through a new lens, revealing the different impacts of three kinds of engagement on IW, and providing voices of learners from different learning contexts.

*2.3.2 Relationship between ideal self and engagement in the EFL context*

When discussing the relationship between motivation and engagement, Martin (2009) stated that individuals' energy and inner drive to learn, work productively, and reach their full potential were characterized as motivation, while behaviors aligned with this energy and drive were defined as engagement. Other scholars also believed that engaged students are perceived

to give time and attention to L2 learning, persist actively, and self-regulate their behavior towards goals (e.g., Henry & Thorsen, 2020; Lambert et al., 2017). This view is supported by general EFL literature: a solid correlation between ideal L2 self and learning behavior has been found among Saudi Arabian and Arabic-speaking students in the UK ($r = .78$) (Al-Shehri, 2009); and Kormos and Csizér (2008) showed the significant influence of ideal self on learning behavior in different learner groups, comparing secondary school students ($\beta = .32, p < .01$), university students ($\beta = .29, p < .01$), and adult learners ($\beta = .37, p < .01$) in Chile.

However, although the positive relationship between the ideal L2 self and student-engaged learning behavior is well supported by empirical research evidence, the findings are mixed when academic performance is considered. For example, Wong (2018) found that the ideal L2 self can only affect 6th-grade NCS students' Chinese reading comprehension through motivated learning. Kim & Kim (2014) discovered that Korean students' ideal L2 selves contributed to their English competence both directly and indirectly through motivated behavior, despite its modest direct influence. In contrast to the above-mentioned two studies, Moskovsky et al. (2016) observed a modest, negative link between ideal L2 self, motivated effort, and L2 accomplishment. One possible explanation for these inconsistent findings is that the measurement of the mediation variable only emphasizes the behavioral participation dimension of engagement (e.g., spending more effort). Nevertheless, beyond behavior, the ideal L2 self may generate emotional and cognitive engagement that also have a cumulative effect on L2 performance. Therefore, learning engagement might be a more appropriate mediator between the ideal L2 self and L2 achievement, however, research in this regard is extremely limited.

At the same time, considering that students' ideal selves and engagement are linked to the content of particular learning tasks and differ across various disciplines (Baralt et al., 2016; Svalberg, 2009), scholars believe it is critical to examine students' ideal selves and engagement in specific disciplines or courses (Plenty & Heubeck, 2011). However, there is a paucity of research in L2 writing (Yu et al., 2019). As writing is distinct from other language skills, students are required to use a variety of linguistic and cognitive abilities throughout the writing process, particularly in IW tasks (Gebril & Plakans, 2016; Spivey & King, 1989). Thus, it is worth investigating how the ideal L2 writing self influences L2 IW performance via engagement.

## 2.4. Research Gaps and Present Study

### 2.4.1 Research gaps

Thus far, we have identified the following research gaps that should be addressed. First, linguistic competence is an essential predictor of L2 writing performance, and its influential effects vary across different writing tasks and learners' backgrounds. Thus, its impact on SCWT among Chinese L2 adolescent learners should be further investigated. Second, despite fruitful discussions on the correlation between language proficiency and the ideal L2 self under a general EFL background, research on L2 writing is still insufficient. Third, although the positive relationship between the ideal L2 self and engaged learning behavior is well supported by the literature, the mediation effect of engaged learning behavior between the ideal L2 self and learning performance is inconclusive. We expect that learning engagement, which contains

behavioral, emotional, and cognitive involvement, may be a more comprehensive mediator in this process.

*2.4.2 Present study*

Given the importance of linguistic competence in L2 writing, we believed it to be a strong predictor that directly impacts students' SCWT performance. In addition, as a previous study (Wong, 2020) proved the positive effect of L2 proficiency on ideal L2 selves, we hypothesized that linguistic competence, an important component of language proficiency, also has a direct effect on students' ideal L2 writing selves. Moreover, considering that students' ideal selves may indirectly impact their L2 performance via learning engagement (Dörnyei, 2005; Kormos & Csizér, 2008; Norman & Aron, 2003), we further hypothesized that linguistic competence directly impacts students' ideal writing selves, which is then mediated by engagement before contributing to their writing performance.

Therefore, the present study, which endeavors to explore the mechanism underlying linguistic competence, ideal L2 self, engagement, and SCWT performance in the context of Chinese secondary students, is driven by two research questions (RQs):

RQ1) To what extent does Chinese 12th grade students' linguistic competence impact their ideal L2 writing selves and SCWT performance?

RQ2) Can ideal L2 writing selves determine students' SCWT performance via the three kinds of engagement (*behavioral, emotional, and cognitive*)?

Based on the above hypotheses and research questions, we created an SEM model (Figure 1) in which the two observed variables are linguistic competence (predictor) and writing

performance (outcome variable); the latent variables are the ideal L2 writing self and the three kinds of engagement.
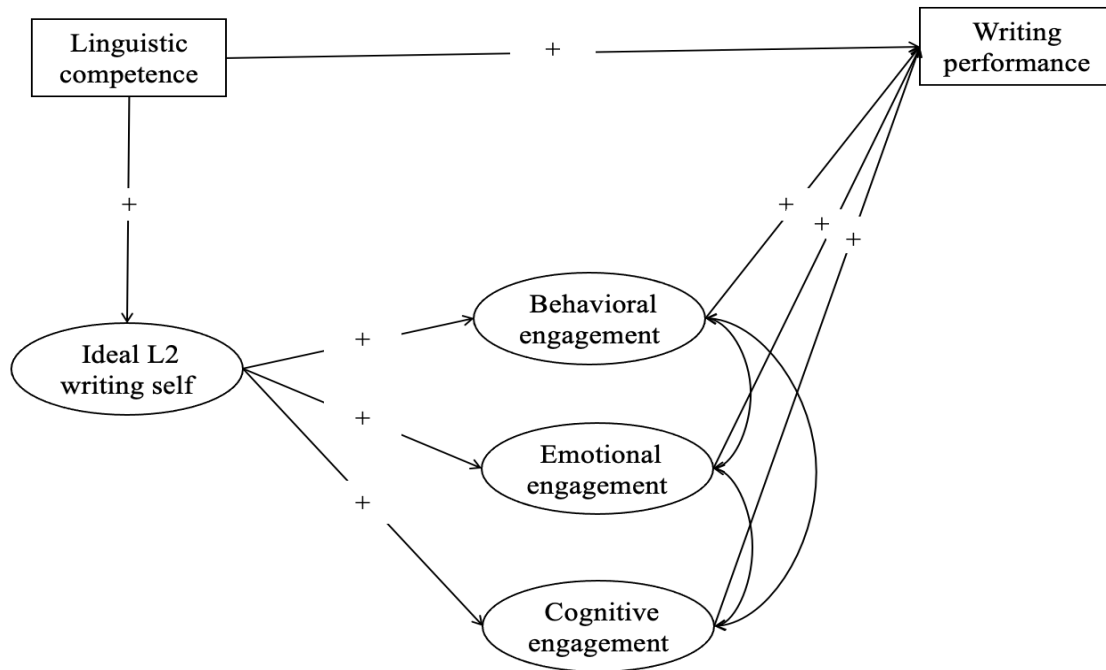


**Fig. 1** The postulated relationships between linguistic competence, ideal L2 self, engagement (cognitive, emotional, and behavioral), and SCWT performance.

## 3. Research Method

## 3.1 Context and participants

The study was undertaken at two public high schools in a major city in southwest China with 589 volunteer participants (Mean$_{age}$ = 17.60, SD = .57; 59.4% female). These students were in grade 12 and were preparing for the *gaokao* national college entrance examination. In order to prepare for the *gaokao*, our research subjects received five to seven 45-minute English classes per week, with English writing instruction accounting for roughly 30 percent of the teaching volume. Before data collection, we obtained consent from both the institutions and the

individual students, and the latter were informed that their results in the experiment would not affect their academic performance.

## 3.2 Instruments

### 3.2.1 Story continuation writing task

The student's writing performance was measured by the story continuation task. It was developed based on the *gaokao* principles for English and in accordance with the national standardized teaching syllabuses. The task included a 334-word piece of source material titled "Kirstie and her step-brother," as well as two introductory sentences for two paragraphs (see Appendix A). Students were required to write two consecutive paragraphs of at least 150 words in total, based on the reading material and the opening sentences provided at the beginning of each paragraph.

To ensure the reasonableness of the task, we consulted three experienced local English teachers on the task's difficulty and the appropriateness of the text topic, as well as the clarity of the task statement. Regarding the assessment of writing quality, two experienced raters were given two hours of training before rating the writing independently. In line with the local assessment criteria of *gaokao* English writing, raters followed a holistic-marking scheme from 0 to 25 (Cheong et al., 2022) (see Appendix B), and the final mark for each piece of writing was calculated by averaging the two raters' independent ratings. A Pearson correlation coefficient of the two raters was calculated ($r = .944$, $p < .001$), indicating a good interrater reliability.

### 3.2.2 Linguistic competence task

The linguistic competence test was a cloze passage intended to assess students' ability to comprehend and reason with missing words (Shanahan et al., 1982). Each missing word was replaced by a blank space, requiring students to select the most appropriate of four alternatives. The test consisted of ten items, five of which were vocabulary-related and five of which were grammar-related, and all of which were contextualized within a 334-word narrative excerpt. Students were already familiar with this task since it is one of the mandatory question types on the *gaokao* English test. In addition, this was a standard test of inter-sentential reading comprehension, which was not only strongly linked to writing ability, particularly IW ability (Schoonen et al., 2003), but also could measure two fundamental aspects of linguistic knowledge: grammar and vocabulary (Grabe & Kaplan, 1996).

*3.2.3 Questionnaires*

The questionnaire was divided into three components: the first was the demographic section, collecting name, gender, and date of birth; the following two sections presented the research questions. All items were translated into Chinese from the original English version and were reviewed by an expert in translation. Items were scored on a 5-point Likert scale (1 = strongly disagree; 5 = strongly agree).

To investigate the students' ideal L2 writing selves, six items (Cronbach's alpha = .95) of the questionnaire were adapted from (Tahmouresi & Papi, 2021). Items included "I imagine a day where I am easily writing emails in English."

To measure the students' writing engagement, we designed 14 items based on Martin's (2009) questionnaire for high school students, including six behavioral engagement items (Cronbach's

alpha = .85), four emotional engagement items (Cronbach's alpha = .83), and four cognitive engagement items (Cronbach's alpha = .83). In this scale, behavioral engagement included participation and time spent on task (e.g., "I keep trying in my English writing class even if something is hard"); emotional engagement was defined as the sense of connection to an activity (e.g., "I look forward to my English writing class") and cognitive engagement reflected learners' attention and mental effort in learning (e.g., "In my English writing class, I think about different ways to solve a problem").

The data were collected during a 75-minute after-class session at the two high schools in a paper-based format. The students completed three tasks: a cloze passage (15 minutes), followed by a SCWT (40 minutes), and a questionnaire (20 minutes).

## 3.3 Data analysis

We used Mplus 8.3 (Muthén & Muthén, 2017) to analyze the data, employing a robust maximum likelihood estimator for all parameters. Confirmatory factor analysis (CFA) was first applied to analyze the constructs' factor structure before using SEM to address research questions following the process outlined in Figure 1. Chi-squared statistic ($\chi^2$), comparative fit index (CFI; good > .95), root mean square error of approximation (RMSEA; good < .06), and standardized root mean square residual (SRMR; good < .05) (Kline, 2016) were checked to measure the model fit.

## 4. Results

### 4.1 Descriptive results and bivariate correlations between variables

Table 1 presents descriptive statistics including means, standard deviations, Cronbach's alpha values, skewedness and kurtosis, and bivariate correlations. The mean scores of the ideal writing self and three forms of engagement (behavioral, emotional, and cognitive) were 3.59, 3.42, 3.23, and 3.23, respectively. The normal distribution of our data was also checked through absolute values of skewness (range 0.043–0.360) and kurtosis (range 0.184–0.868) (Kline, 2016) and Cronbach's alpha values for the four variables supported sufficient reliability for language research (Dörnyei, 2007).

**Table 1**
Descriptive statistics, Cronbach's alpha, and bivariate correlations among key variables

|  | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| 1. Ideal L2 writing self | – | | | | | |
| 2. Behavioral engagement | 0.364** | – | | | | |
| 3. Emotional engagement | 0.401** | 0.718** | – | | | |
| 4. Cognitive engagement | 0.352** | 0.628** | 0.707** | – | | |
| 5. Linguistic competence | 0.139** | 0.191** | 0.107** | 0.165** | – | |
| 6. Writing performance | 0.071 | 0.201** | 0.096* | 0.153** | 0.418** | – |
| Mean (SD) | 3.59 (1.02) | 3.42 (0.68) | 3.23 (0.74) | 3.23 (0.74) | 4.65 (2.57) | 12.44 (4.075) |
| Skewness | -0.360 | 0.144 | 0.169 | 0.092 | 0.043 | 0.127 |
| Kurtosis | -0.414 | 0.184 | 0.349 | 0.438 | -0.868 | -0.537 |
| α | 0.95 | 0.85 | 0.83 | 0.83 | – | – |

*Note.* ** $p < .01$, * $p < .05$.

To ensure the construct validity of the three kinds of engagement, we first checked the CFA result of the selected model, in which items of behavioral, emotional, and cognitive engagement were loaded onto three different variables. Fit indices indicated that this model fit

the data well (Table 2), and the factor loading for 20 items ranged from .570 to .936, with most

above 0.70 (all *ps* < .001). The correlations between the three engagement factors were

relatively high (emotional with behavioral $r = .807$ $p < .001$; cognitive with behavioral $r = .660$

$p < .001$; cognitive with emotional $r = .822$ $p < .001$). Therefore, we ran the four other

alternative models to rule out the possibility that the three kinds of learning engagement might

converge into one or two factors. As shown in Table 2, all four alternative models had

significantly different model-data fit (the Chi-squared changes were all significant on their

respective degrees of freedom), confirming that behavioral, emotional, and cognitive

engagement were three distinct factors.

**Table 2**
Comparisons of model fit indices for the confirmatory factor analysis

| Model | $x^2$ | $df$ | CFI | RMSEA | SRMR | $\Delta x^2(df)$ |
|---|---|---|---|---|---|---|
| Selected model | 557.507 | 162 | .938 | .073 [.066, .079] | .054 | |
| Alternative model 1 | 891.052 | 167 | .887 | .097 [.091, .103] | .058 | 333.545 (5)*** |
| Alternative model 2 | 720.207 | 165 | .914 | .085 [.079, .092] | .056 | 162.700 (3)*** |
| Alternative model 3 | 661.446 | 165 | .923 | .081 [.074, .087] | .057 | 103.939 (3)*** |
| Alternative model 4 | 844.117 | 165 | .894 | .094 [.088, .101] | .059 | 286.610 (3)*** |

*Note.* *** $p < .001$
*df* = degree of freedom; CFI = comparative fit index; RMSEA = root mean square error of
approximation; SRMR = standardized root mean square residual.
Selected model: the ideal L2 writing self and the three kinds of engagement items loaded onto
their respective factors.
Alternative model 1: all the three kinds of engagement items loaded onto one single factor.
Alternative model 2: the behavioral and emotional engagement items loaded onto the same
factor.
Alternative model 3: the emotional and cognitive engagement items loaded onto the same
factor.
Alternative model 4: the behavioral and cognitive engagement items loaded onto the same
factor.

## 4.2 SEM results

The result of our hypothesized model is shown in Fig. 2 and fit indices reached an acceptable level: $x^2(199) = 703.507$, $p < .001$, CFI = .923, RMSEA [90% CI] = .074 [.068, .080], and SRMR = .055. As we expected, linguistic competence directly influenced writing performance ($\beta = .398$, $p < .01$) and ideal L2 writing self ($\beta = .133$, $p < .01$). In addition, ideal L2 writing self was associated with behavioral, emotional, and cognitive engagement, with $\beta$ = .391, .450, .387, $p < .01$, respectively. However, among the three engagement factors, only behavioral engagement was significantly associated with writing performance ($\beta = .225$, $p < .01$). The $R^2$ for writing performance, behavioral engagement, emotional engagement, and cognitive engagement was 0.186, 0.153, 0.202, and 0.150, respectively ($p < .01$), indicating the model could account for approximately 18.6 percent, 15.3 percent, 20.2 percent, and 15.0 percent of the variance in these variables.
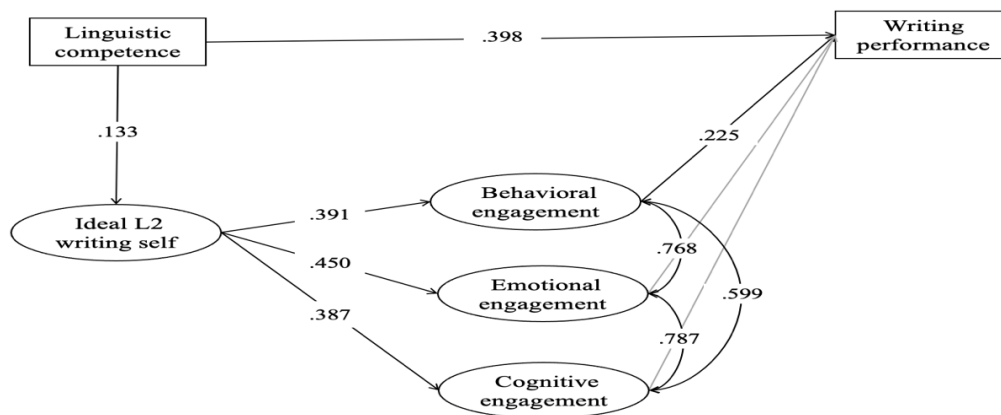


**Fig. 2** SEM results of the selected model with standardized estimates

The bootstrap approach with 5,000 samples was used to examine the mediating effect in the model, and 95% CIs not including zero indicated a significant mediation effect. As shown in Table 3, among the three indirect paths only that from ideal L2 writing self to writing performance via behavioral engagement was statistically significant ($\beta = .088$, $p < .01$).

**Table 3.** Standardized estimations, standardized errors, and 95% confidence intervals of indirect paths

| Indirect path | $\beta$ | S.E. | 95% CI |
|---|---|---|---|
| Ideal L2 writing self–behavioral engagement–writing performance | .088* | .040 | [.009, .167] |
| Ideal L2 writing self–emotional engagement–writing performance | -.091 | .075 | [-.237, .056] |
| Ideal L2 writing self–cognitive engagement–writing performance | .036 | .045 | [-.053, .125] |

*Note.* $\beta$ = standardized estimation, S.E. = standardized error, CI = confidence interval

$p^* < .05$.

## 5. Discussion

The purpose of this study is to untangle the complex relationship between linguistic competence and writing performance in L2 writing and their interaction with students' ideal L2 writing selves and learning engagement among high school EFL students in mainland China. Our investigation revealed three core findings: (a) of all the variables, linguistic competence was the most significant predictor of SCWT performance and also uniquely predicted ideal L2 writing selves; (b) ideal L2 writing self was a positive predictor of all three kinds of learning engagement, and (c) ideal L2 writing self can only exert an indirect effect on SCWT performance through the mediator of behavioral engagement.

## 5.1 Effects of linguistic competence on SCWT performance and the ideal L2 writing self

In response to the first research question, as shown in Figure 2, the most significant variable in the path that has a direct effect on writing performance in this model is linguistic competence.

This finding is in alignment with the literature (e.g., Grabe & Kaplan, 1996; Weigle, 2002; Kim & Crossley, 2018), indicating that students with better linguistic competence may easily produce higher-quality writing outcomes.

Scholars have acknowledged that IW tasks involve multiple linguistic competences. For instance, Zhu et al. (2021) discovered that single-text reading comprehension represented as a positive predictor in both L1 IW ($\beta = .20$ $p < .01$) and L2 IW ($\beta = .30$, $p < .01$). Similar findings were also presented by Maamuujav (2021) and Gebril and Plakans (2013). Despite the important role of linguistic competence in IW, these previous studies exclusively discussed general reading-to-write tasks, not SCWT. Ye et al. (2021) proved that similar to conventional reading-to-write tasks, language skill factors (correctness and variety of vocabulary, grammar) and language strategies (e.g., connecting-and-generating, task planning, selecting-and-mining, etc.) are still the two underlying categories of SCWT. However, as SCWT requires students to write a narrative story rather than an argumentative essay, it puts more emphasis on source-continuation, highlighting the significance of key characters, given storylines, and the accuracy of continuation (Ye et al., 2021). These characteristics distinguish SCWT from typical IW tasks. Therefore, the present findings further confirm that the predictive role of the aforementioned linguistic competence can also be applied to the newly developed IW task of SCWT.

As for the path from linguistic competence to ideal L2 writing self, researchers such as Abdolahzadeh and Rajaee Nia (2014) and Busse (2013) established the effect of self-beliefs about competence on motivation, and the present study extends these findings by applying the students' linguistic task performance and the concept of ideal L2 writing self in the L2 writing field. Wong (2020) identified the positive effect of language proficiency on ideal L2 self. The

present study has further specified that basic linguistic skills contribute to the ideal L2 writing self. A possible explanation for this can be related to the sensitivity of the ideal self to the existence of positive learning outcomes (Dörnyei, 2005, 2009). Strong linguistic competence enables students to cope more effectively with writing challenges and achieve higher grades on writing tasks, which allows them to recognize their ability to succeed and then motivates them to do so in the future.

It is worth noting that in the Chinese context, linguistic competence is given emphasis in the *gaokao* (He & Ng, 2013). More specifically, vocabulary, grammar, and reading comprehension are the three key components, which combine to account for about 53% of the total score of the *gaokao* English examination.[1] Twelfth grade students may gradually identify their writing ability based on previous mock exam performance that to large extent reflects their linguistic competence, through daily intensive training. Such identification may assist them in molding their ideal L2 writing self.

## 5.2 The multifaceted impact of ideal self on learning engagement

As hypothesized, the three types of engagement are directly predicted by the ideal L2 writing self. This makes sense as motivation and engagement are strongly intertwined (Martin et al., 2017; Yin, 2018). This research further reveals the relationship between future-related motivation in L2MSS and engagement in L2 writing. The ideal self with a promotion-focused orientation (Higgins, 1998) is an internal psychological element, while engagement is made up of publicly observable actions exhibited via a person's participation in an activity (Ainley, 2012;

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[1] According to the New National College Entrance Examination (2021) sample: listening = 30 points; reading comprehension = 50 points; use of language knowledge = 30 points (15 points for cloze, 15 points for word filling); writing = 40 points.

Reeve, 2012). Thus, the desire to be a proficient writer in the future is an energizing impetus that motivates students to engage more in writing-related activities behaviorally, emotionally, and cognitively.

## 5.3 Behavioral engagement: The bridge between imagination and reality

Despite the direct effect of ideal L2 writing self on the three engagement dimensions, ideal L2 writing self can only influence writing performance through the mediator of behavioral engagement. We attribute this to the reciprocal, temporal, and changeable nature of the interactions between the components of learner engagement (Pekrun, 2006) and the bilateral, contextual, and dynamic linkages between the different domains of learner engagement (Kim & Kim, 2020).

*The central role of behavioral engagement*

First, unlike emotional and cognitive engagement, behavioral engagement is an observable dimension typified by time, effort, persistence, and productivity (Reeve, 2012; Sinatra et al., 2015). Csizer and Dörnyei (2005) stipulated that ideal selves are predictive of learner behavior, which serves as a mediator between L2 ideal selves and achievement. Empirical studies (e.g., Kim, 2012; Wong, 2018, 2020; Yashima et al., 2017) largely support this relationship. In other words, learners' identification with being, or desiring to be, fluent L2 users is materialized through behavioral engagement. Second, despite the strong correlation between these three dimensions, their significance for learning achievement varies due to their distinct natures. Bråten et al. (2022) stated that students' cognitive and emotional resources may be regarded as inactive without behavioral engagement, having little impact on learning and performance – emotional engagement especially, because its nature is more malleable and fluid than

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behavioral engagement, and emotions are unstable and may often generate contradicting outcomes (Schutz & Lanehart, 2002).

*The context-related factor inherent in engagement*

The effect of learner engagement on learning performance should be discussed in specific contexts. Given the large population of China and the examination-oriented selection system of the college entrance examination, 12th grade students constitute a unique group of students in the Chinese educational system. Undoubtedly, the *gaokao* provides a strong incentive for students to compete and achieve their goals within a one-year preparation period (Xu & Huang, 2021). They have a clear future vision of themselves in the *gaokao*, which motivates them to put in more effort and time to narrow the gap between their ideal and actual selves. Perhaps due to their overwhelming drive, students focus exclusively on their behavioral involvement (e.g., devoting more time to practice, overcoming obstacles) in the writing task, ignoring their emotional participation. This is justified, as in such a competitive and intense setting, questions such as whether they "like English writing class" and "enjoy the writing process" are less important to them.

Furthermore, contrary to previous studies that show higher cognitive engagement corresponding to higher achievement, cognitive engagement is not significant to writing performance in our results. We believe this is attributable to our measurement perspective. The cognitive engagement in the present study is measured by general cognitive engagement in writing class, items such as "I try to connect what I have learned in English writing class with what I have learned before," rather than cognitive engagement in specific writing strategies. Using video-recorded verbal reports and stimulated recalls, C. Lee (2020) found that cognitive

engagement in writing was demonstrated through various writing strategies (including considering what to write and how to write it, reading, reasoning, and planning, making evaluative comments) and problem-solving strategies. The literature that asserts the importance of cognitive engagement in facilitating writing performance also primarily focuses on the involvement of writing strategies (e.g., Bai et al., 2014; Chien, 2012). Together, these findings suggest that the effect of cognitive engagement on writing performance is sensitive to the measuring dimension: cognitive engagement with writing classes may not predict writing achievement, while cognitive engagement with specific writing strategies may.

## 6. Conclusion and Implications

The present study has not only revealed the significant effect of linguistic competence on SCWT performance in Chinese Grade 12th EFL students but also identified the contribution of linguistic competence in shaping learners' ideal L2 writing selves. Meanwhile, our investigation has proved a highly positive association between future motivation in L2SMM and learner engagement and identified behavioral engagement as the only mediator that enables the materialization of intrinsic psychological motivation for L2 writing achievement, implying that it is a central component in learner engagement.

The current study contributes theoretically to the literature and benefits teaching instruction empirically. On a theoretical level, this study is one of the first to reveal the extent to which linguistic competence influences students' attitudes towards their future writing ability. It also extends the literature that combines linguistic competence, ideal selves, learner engagement, and L2 writing performance, showing how future motivation shapes and can affect writing

performance. Although the strength of that influence was modest, it was statistically significant and established that future motivation did affect writing achievement. From a research standpoint, an overall positive motivation-linguistic association may be regarded as a positive indicator of the motivation measure's validity.

Additionally, the findings of the present study should be of high pedagogical value for L2 teachers. They indicate that it is essential for teachers to assist students in developing a realistic awareness of their linguistic competence. Effective L2 teachers' motivational strategies, such as assigning linguistic competence tasks with an appropriate level of difficulty, and providing prompt and informative feedback, are conducive to this. Objective recognition of their abilities enables students to identify their strengths and weaknesses, thus enhancing the feeling of control in learning and forming a proper ideal L2 writing self. Such clear recognition may also inform students' behavioral engagement, as it allows them to compensate for their weak spots more precisely and effectively by investing additional time and effort. Likewise, an optimistic view of the future encourages students' emotional and cognitive involvement in the learning process. Although these two variables do not directly influence writing performance in the model, there is a high correlation between all three types of learning engagement, and interaction may occur. In other words, when the ideal self positively influences emotional engagement and cognitive engagement, students may enjoy writing more and take it more seriously, thereby enhancing their behavioral engagement and contributing favorably to their writing performance.

Despite these promising and significant results, questions remain. First, linguistic competence is an abstract concept, the language skills of vocabulary, grammar, and reading comprehension

cannot fully reflect it. In addition, since the instrument we used to measure linguistic competence combined vocabulary, grammar, and reading comprehension together, it remains unclear which specific linguistic competence has the greatest influence on SCWT performance. Further studies focusing on the detailed measurement of more linguistic skills' effect on SCWT are therefore suggested. Second, as students' motivation and engagement should be discussed in specific disciplines and contexts, more studies on other grades of secondary students in L2 writing can be considered and compared in the future. Third, to understand the students' writing engagement, this cross-sectional study operationalized a self-reported questionnaire; a better method would be to employ a longitudinal investigation that tracks students' writing engagement diachronically using observation records and interviews. Finally, in other scenarios (e.g., reading comprehension, language courses), multiple dimensions of engagement may interact (Bråten et al., 2022; Kim & Kim, 2020): their internal relationship in L2 writing and their link to future motivation and writing performance need to be clarified further.

# Appendix A．Story continuation writing task

Read the following material and create two paragraphs based on its content and the first sentence of the given paragraphs to form a brief essay. 阅读下列材料，根据其内容和所给段落开头语续写两段，使之构成一篇完整的短文。

I was in my room, unwilling to head to the community theatre with "my brother" Henry. He was just adopted by my parents recently. I was not in the mood for being onstage with him. "Kirstie, come here," my mom called. Following her voice, I found her outside the bathroom, holding a wet book. She gave the book a shake. "Henry's book was in the bathtub. Did you put it there?" She glared at me, something she never did before Henry came to our home. I didn't wet his book on purpose. Tears of hurt clouded my eyes. Worse still, she promised to buy him a new copy. My heart ached. Henry was stealing my mother's love. He was ruining my life. Meanwhile, Henry was just nearby, absorbed in working on a complicated rope knot（绳结）as usual. Why did a boy like him do the girly work? Far from manly! Soon, it was time to have to set off to the community theatre. As Henry walked ahead of us to the car, my mom took me aside and said in a low voice, "It's the first time for Henry to be onstage. Be kind to him, Honey." I nodded but sighed. Being kind didn't use to be hard. But after Henry moved in, everything felt different. The theatre used to be a special place for my parents and me. With Henry involved, it didn't seem so special anymore. Finally, it was our stage time. My heart beat wildly. I forgot my annoyance at Henry for a while. As we kids lined up, ready to act out our short play, I realized how loosely I had tied the drawstring（束带）on my skirt. Sure enough, my skirt began to drop. Laughter from the audience could be heard, and even though I was wearing shorts under my skirt, I could feel my face burst into flames. However, my hands were full. If only someone could help me out!

Notice: 1. The number of words in the continuation should be approximately 150.

注意：1.续写词数应为 150 左右；

Paragraph 1: Right then, Henry sensed my embarrassment.

Paragraph 2: After the performance, I found Henry and tapped him on the arm gratefully.

## Appendix B．Rubrics for marking

| Band (score range) | Descriptors |
| --- | --- |
| Band 5 (21–25) | • The continuation is well-connected to the main ideas of the source text.<br>• The continuation develops the story with rich content and completely fulfills all task requirements.<br>• The continuation uses accurate and diverse grammatical structures and vocabulary, with occasional errors that do not affect comprehensibility.<br>• The continuation is well-structured and coherent. Sentences within paragraphs are effectively connected to each other with appropriate, well-selected, and varied transition words and other cohesion devices. |
| Band 4 (16–20) | • The continuation is connected to the main ideas of the source text.<br>• The continuation develops the story with adequate content and adequately fulfills the task requirements.<br>• The continuation uses relatively accurate and diverse grammatical structures and vocabulary with few errors that do not affect comprehensibility.<br>• The continuation is structured and coherent. Sentences within paragraphs are effectively connected to each other with appropriate and varied transition words and other cohesion devices. |
| Band 3 (11–15) | • The continuation is largely connected to the main ideas of the source text.<br>• The continuation develops the story with some relevant content and roughly fulfills the task requirements.<br>• The continuation uses a variety of grammatical structures and vocabulary with some errors that do not affect comprehensibility.<br>• The continuation is largely structured and coherent. Sentences within paragraphs are connected with simple transition words and other cohesion devices. |
| Band 2 (6–10) | • The continuation is somewhat relevant to the source text.<br>• The continuation contains limited content and partially fulfills the task requirements.<br>• The continuation uses a limited range of grammatical structures and vocabulary with some errors that may affect comprehensibility.<br>• The continuation lacks structure and coherence. Sentences within paragraphs use limited transition words and other cohesion devices. |
| Band 1(1–5) | • The continuation demonstrates limited or no relevance to the source text.<br>• The continuation contains limited content and fails to fulfil the task requirements.<br>• The continuation uses a limited range of simple grammatical structures and vocabulary with many errors that affect comprehensibility.<br>• The continuation is not structured or coherent. Transition words and other cohesion devices are inappropriate or missing. |

## Appendix C. Estimates and Confidence Intervals (2,000 Bootstrap Samples) for the Path Effects in the SEM model

| Parameter | Estimate | SE | 95% C.I. Lower 2.5% | 95% C.I. Upper 2.5% |
|---|---|---|---|---|
| linguistic competence → writing score | 2.508 | 0.283 | 1.952 | 3.063 |
| linguistic competence → ideal self | 0.047 | 0.016 | 0.015 | 0.079 |
| ideal self → emotional engagement | 0.363 | 0.048 | 0.269 | 0.458 |
| ideal self → cognitive engagement | 0.29 | 0.045 | 0.202 | 0.379 |
| behavioral engagement → writing score | 5.412 | 2.378 | 0.75 | 10.073 |
| emotional engagement→ writing score | -4.44 | 3.545 | -11.389 | 2.509 |
| cognitive engagement → writing score | 2.196 | 2.761 | -3.216 | 7.607 |
| ideal self → behavioral engagement → writing score | 1.568 | 0.714 | 0.168 | 2.968 |
| ideal self → emotional engagement→ writing score | -1.613 | 1.33 | -4.22 | 0.995 |
| ideal self → cognitive engagement→ writing score | 0.637 | 0.808 | -0.946 | 2.221 |

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