

The Effect of Self-Concept and Self-Efficacy on Learning Engagement and Subsequent Reading Performance: The Difference Between L1 and L2 Reading in First-Grade Students

Abstract

Reading self-beliefs, comprising self-concept and self-efficacy, play a pivotal role in shaping students' learning engagement and learning outcomes. However, existing literature on the self-beliefs of school-entry students primarily originates from Western contexts, and the exploration of differences in self-beliefs, engagement in learning, and their impact on reading performance among L1 and L2 learners remains uncharted territory. This dearth of knowledge leaves us questioning whether self-concept and self-efficacy function uniquely in shaping the reading development of L1 and L2 children. *Research Findings:* By conducting multigroup SEM analysis, this study found no significant differences in self-efficacy or self-concept between L1 and L2 Chinese first-grade students. However, it did reveal distinct patterns in their impact: In L1 students, self-efficacy and self-concept predict learning engagement, with self-concept having a stronger influence on reading performance. Conversely, for L2 students, self-efficacy primarily affects their learning engagement, which indirectly impacts reading performance. *Practice or Policy:* This study enhances our understanding of different roles of self-beliefs in L1 and L2 learning and offers pedagogical insights for language teaching in countries with both ethnic minority and local populations.

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Due to Hong Kong's policy of bi-literacy (i.e., proficiency in both Chinese and English) and trilingualism (i.e., competence in Cantonese, Mandarin, and English), the linguistic milieu for Chinese language learning in Hong Kong is characterized by pronounced complexity. The principal intricacy stems from the intricately structured nature of the Chinese script (Chan et al., 2023; Loh et al., 2018), along with the conspicuous disjunction existing between the vernacular spoken Cantonese and the normative standards of written language (Li et al., 2022). These unique attributes create difficulties for native students' Chinese learning and substantial challenges for ethnic minority students' language acquisition in Hong Kong (Chan et al., 2023; Loh et al., 2018; Zhu et al., 2022). Recently, a notable proportion of ethnic minority students were integrated into public schools and study with native-speaking students (Lone & Chow, 2022). Therefore, reconciling the unique language learning characteristics of both first language (L1) and second language (L2) Chinese learners presents a significant challenge for Chinese language educators in Hong Kong. Meanwhile, it is worth noting that the development of reading abilities during the school-age years holds paramount importance (Liu et al., 2016). This impact extends to subsequent reading skills (e.g., Kanonire et al., 2022; Sparks et al., 2009) and even resonates in other subjects such as mathematics (Duncan et al., 2007). Ethnic minority students demonstrate discernible lags in their Chinese reading proficiency compared to their L1 peers (Leung, 2019). However, existing research on school-age Chinese learners has primarily centered on metalinguistic dimensions (e.g., Chan et al., 2023; Loh et al., 2018), resulting in a notable gap regarding the

link between psychological factors and reading performance, especially in the context of differences between the L1 and L2 language-speaking groups.

Self-belief, encompassing self-concept and self-efficacy, refers to an individual's unwavering trust in their abilities, skills, and capacity to achieve goals or overcome challenges (Bong & Skaalvik, 2003). This construct holds particular significance in language learning, as it is shaped by students' past achievements (Bandura, 1997) and enables to influence their learning motivation, emotions, behaviors, and outcomes (e.g., Jiang, 2023; Wang et al., 2021). Nevertheless, research exploring the role of reading self-beliefs as psychological factors in both local and immigrant student populations has been limited, with a primary emphasis on Western contexts (e.g., Hsin & Xie, 2014; McElvany et al., 2018; Niehaus & Adelson, 2013). Moreover, scholars believe that psychological elements might not exert a significant impact on academic performance unless channeled effectively (Dörnyei, 2005; Papi, 2010). This underscores the pivotal role of behavioral aspects in learning. Despite the significance of learning engagement in academic achievement (Oga-Baldwin, 2019), the intersection of learning self-beliefs (psychological elements) and engagement (behavioral aspect) in the reading field remains relatively unexplored.

Driven by the theoretical enhancement and practical demands of reading self-beliefs, this study focuses on investigating disparities in self-beliefs, learning engagement, and reading performance among both first-grade L1 and L2 Chinese learners. The distinctive structural relationships among these variables are also examined across different language-speaking groups.

Literature Review

Reading Self-beliefs and its Relationship with Learning Performance

Within self-beliefs, reading self-concept entails readers' articulations regarding their proficiency levels or encountered challenges in reading, as well as their emotional

inclinations toward the act of reading (Segerer et al., 2021). Reading self-efficacy is defined as an individual's conviction in their adeptness to competently grasp, interpret, and engage with texts (Bandura, 1997). These two conceptual frameworks exhibit noteworthy parallels. Specifically, they both hold integral positions within the broader framework of self-belief (Bong & Skaalvik, 2003), with the shared objective of enhancing students' adeptness in effectively navigating and adapting to academic demands (Wigfield et al., 1997). Moreover, they draw upon elements like past mastery experiences, social comparisons, and reflected evaluations as substantial sources of information to shape their respective self-perceptions (Bong & Skaalvik, 2003).

Nevertheless, self-concept and self-efficacy presented distinct essences. Bandura (1986) once provided an example: when someone states, "I excel at high jumping and can clear six feet," it mirrors self-concept. Conversely, when someone says, "I expect to clear six feet" or "I have confidence to clear six feet," it signifies an efficacy judgment. In other words, self-concept revolves around evaluating general skills, while self-efficacy involves measuring the confidence in achieving a specific height within a particular context (Bong & Skaalvik, 2003). Building on this, during survey studies, the phrasing of self-concept items tends to guide respondents' focus on their past achievements, while the wording of self-efficacy items directs students' attention to their future expectations (Wigfield & Eccles, 2000). Moreover, despite the shared origins of self-concept and self-efficacy, they are impacted to varying degrees by the same influencing factors, and they exhibit differences in terms of stability. Self-concept, which is typically influenced by feedback from others and social comparison, once formed, tends to be resistant to change and can be seen as a personality trait (Bong & Skaalvik, 2003). Differently, self-efficacy is primarily influenced by past experiences in similar tasks and is more dynamic and malleable. Once established, it can withstand temporary failures (Bandura, 1997).

Relationship between self-beliefs and academic achievement

Scholars have previously posited that gaining insights into the associations between academic achievement and self-concept is most illuminating when examined within the context of social comparison groups or classroom settings (Bong & Skaalvik, 2003). Considering that reading self-concept has been identified as a contributing factor to the variation in reading skills among different ethnicities (Sewasew & Koester, 2019), several investigations have scrutinized the reading performance and self-concept of ethnic minority students in comparison to their local peers. Previous empirical investigations have revealed a noteworthy trend: despite manifesting lower reading achievement, students speaking a minority home language tend to exhibit elevated levels of reading self-concept, even surpassing their L1 counterparts. This phenomenon has been observed among Turkish-German students (e.g., Segerer et al., 2021), Latinx students in the United States (e.g., Niehaus & Adelson, 2013), as well as African (e.g., Eccleston et al., 2010), Hispanic, and Asian American students (e.g., Hsin & Xie, 2014). However, pertinent research in an Asian context remains scarce. Considering that self-concept is subject-specific and is heavily influenced by past experiences and sociocultural values (Bong & Skaalvik, 2003), investigating the interplay between reading self-concept and reading performance among L1 and L2 Chinese students within the Confucian cultural context could make a meaningful addition to current literature.

Empirical studies of reading self-efficacy rarely address both L1 and L2 student groups, often investigating them separately with a predominant focus on English. The relationship between students' self-efficacy and reading performance has been empirically discussed among university students in the UK (e.g., Prat-Sala & Redford, 2010), secondary school students in the US (e.g., Louick et al., 2016), and upper-grade primary students in

Finland (e.g., Peura et al., 2021). These studies have generally revealed a positive correlation between self-efficacy and reading performance, although variations persist across different age groups and ethnicities. In one of the few studies that jointly examined L1 and L2 students' self-efficacy, McElvany et al. (2018) found that self-efficacy was higher among Turkish-German secondary school students compared to native German-speaking students. This overly positive self-evaluation in self-efficacy among ethnic minorities parallels the scenario observed in the reviewed self-concept studies above.

Although conceptual disparities have been elucidated in existing literature, self-concept was still empirically indistinguishable from self-efficacy (Bong & Skaalvik, 2003). This observation is attributed to the limited number of studies that systematically address the two kinds of beliefs together, underscoring the need for further empirical investigations, particularly in the context of social comparison groups (Bong & Skaalvik, 2003; Segerer et al., 2021). Moreover, while age plays a significant role in self-beliefs (Wigfield et al., 1997), research on reading self-concept and self-efficacy remains limited in the initial stages of primary education (Peura et al., 2021).

Learning Engagement and its Relationships with Reading Self-beliefs and Learning Performance

Learning engagement, often characterized by actions (Hiver et al., 2020), is regarded as a fundamental precursor to achieving significant educational outcomes and accomplishing academic achievements (Oga-Baldwin, 2019). This behavioral variable typically plays a crucial role alongside psychological factors in influencing academic performance, as scholars suggest that psychological elements may not significantly impact academic performance unless channeled appropriately (Dörnyei, 2005; Papi, 2010). The significant role of self-beliefs in learning stems from their potential to predict subsequent behaviors that hinge on active choice and sustained effort (Bandura, 1997; Bong & Skaalvik, 2003). As such, positive

self-evaluations related to self-beliefs are likely to result in increased allocation of time to subject-related tasks such as homework and heightened engagement in subject-specific activities (Guay et al., 2003). In contrast, underestimating oneself may hinder approaching new tasks (Chiu & Klassen, 2010) and diminish pride in achievements, and learning activity (Zhao et al., 2019).

Previous investigations have unveiled the intimate interconnections existing between academic self-perceptions, learning engagement, and academic achievement. For example, Schnitzler et al.'s (2021) study employing a person-centered approach, where it was indicated that secondary German students with higher academic self-concept exhibited a pattern of moderate to high engagement and gained systematically in end-of-year achievement. Guo et al. (2022) also discovered that while academic self-concept notably predicted academic achievement, learning engagement functioned as a mediator between self-concept and achievement in the context of Chinese undergraduates. Such positive relationships have been discerned pertaining to self-efficacy and learning engagement, elucidated within the domain of both correlational designs (e.g., Liu et al., 2018; Sökmen, 2021) and experimental studies (e.g., Ouwenel et al., 2013; Salanova et al., 2011). In their study on L1 and L2 learners, Hsin and Xie (2014) discovered that Asian-American students outperform white students academically. They believe this phenomenon arises from cultural differences in self-beliefs about effort's link to achievement, highlighting the self-beliefs' potential in explaining the relationship between learning engagement and academic success.

Notably, scholars have underscored the task-specific nature of self-beliefs, further emphasizing that their interplay with learning engagement is also subject to modulation by contextual elements, such as socio-environmental and social support (Zhao et al., 2019). Notwithstanding the above scholarly endeavors that encompassed broad academic contexts, limited attention has been directed towards reading, especially in the case of early-stage

Chinese learners. Additionally, there is currently no empirical research that concurrently investigates whether differences exist between L1 and L2 learners in the relationship between the two self-belief variables' impact on learning engagement and reading performance.

Present study

The aforementioned review primarily presents three main research gaps. Firstly, within empirical investigations, the two integral components of self-belief, namely self-concept and self-efficacy, have rarely been concurrently examined, leading to an absence of discussion regarding their distinctive impact on learning and academic achievement. Secondly, despite the origin of self-beliefs from individuals' past experiences and their susceptibility to environmental and societal influences, comparative studies on self-beliefs among L1 and L2 learners have predominantly focused on Western countries, with limited attention given to immigrant populations in East Asian regions. Thirdly, although the relationship between self-beliefs, learning engagement, and performance has been suggested, most empirical research has centered around general academic performance, neglecting specific domains such as reading. More importantly, whether such relationships differ between L1 and L2 young learners remains unexplored. Therefore, this study is led by three research questions:

- (1) Are there differences in reading self-beliefs (i.e., self-concept and self-efficacy), learning engagement, and reading performance between L1 Chinese and L2 Chinese students?
- (2) What is the relationship between self-beliefs, learning engagement, and reading performance for L1 Chinese and L2 Chinese students, respectively?
- (3) Do the structure relationships significantly differ between L1 Chinese and L2 Chinese students?

Method

Participants

Employing a purposive sampling method, a sample of 477 L2 students ($M_{age} = 6.68$, $SD = .591$) and 459 L1 Chinese students ($M_{age} = 6.85$, $SD = .706$) from first grade were recruited from 13 public schools in Hong Kong. The participants in the L2 group demonstrated a wide variety of native languages, with Asian languages (such as Urdu, Hindi, Tagalog, and Indonesian) being the most predominant, while English, African, and European languages were less frequently observed. Prior to data collection, we obtained both parental consent and student assent to ensure their participation in the study.

Instruments

Self-report questionnaires

The questionnaire for reading self-concept was adapted from Segerer et al.'s (2021) study, consisting of five positively worded items assessing students' ability to read silently and aloud, rated on a 4-point Likert-type scale (e.g., In reading, I am...; rated from 1 = the worst to 4 = very good). Four items measuring reading self-efficacy were adapted from Joët et al.'s (2011) research. Example statements included: "I am capable of getting good grades in Chinese," rated on a 4-point scale from "totally disagree" to "totally agree". Regarding learning engagement, four items were adapted from PIRLS (2006). Example statements included: "I am working hard at learning Chinese." Rated on a 4-point scale from "Never" to "Always or almost always." All items were bilingual, presented in both English and Chinese.

Chinese Reading Tasks

The Chinese reading test consisted of 30 items and was designed based on the List of Chinese Lexical Items and the List of Chinese Grammatical Usage Items (Chan, 2007). Each correct item is 1 point, for a total of 30 points. The test assessed the students' comprehension and application of Chinese vocabulary, phrases, and sentences, using various question types

such as true-false and matching questions. The students' total scores on the test were used to determine their Chinese reading ability.

The questionnaires and Chinese reading task underwent review by a focus group consisting of representatives from participating schools to assess their suitability.

Data Collection

Sampling was conducted at the conclusion of the first-grade second semester. Initially, students were allotted 30 minutes to complete the Chinese reading test. During this phase, teachers provided verbal instructions and exemplars without offering any further assistance. Subsequently, the students spent 15 minutes completing the questionnaire. Considering the difficulties students may face in understanding the bilingual questionnaire, two teachers and research assistants were available to provide explanations and assistance as needed.

Data Analysis

The initial analyses, which included descriptive statistics, Cronbach's alpha coefficients, and bivariate correlations among the primary variables, were conducted using SPSS 22. Subsequently, we examined group differences in reading self-concept, reading self-efficacy, learning engagement and Chinese reading performance between L1 and L2 groups using an independent t-test.

Furthermore, using Mplus 8.7, we employed measurement invariance (MI) analyses to ensure that the same questionnaire hold equivalent meaning and functionality for both groups. Three models were compared: the configural invariance model (i.e., no constraints), the weak invariance model (i.e., equal factor loadings across the two groups), and the strong invariance model (i.e., equal factor loadings and intercepts across the two groups). Changes in CFI and TLI were equal to or smaller than .01, indicating no significant differences (Cheung & Rensvold, 2002).

Moreover, to assess the construct validity of the instrument, we conducted Confirmatory Factor Analysis (CFA) for each group, considering the distinction between L1 students and L2 students. The model fit indices included the chi-square statistic (χ^2), comparative fit index ($CFI > .95$ indicating good fit), Tucker-Lewis's index ($TLI > .95$ indicating good fit), root-mean-square error of approximation ($RMSEA < .06$ indicating good fit), and standardized root-mean-square residual ($SRMR < .05$ indicating good fit), following the guidelines recommended by Meyers et al. (2016).

Finally, we performed Multigroup-SEM (MG-SEM) to explore the relationships among reading self-concept, reading self-efficacy, learning engagement across the two language-speaking groups. We compared unconstrained model, which fixed factor loadings and intercepts across groups, with constrained model, which fixed factor loadings, intercepts, and regressions across groups. Significant differences between these models suggested significant variations in the regression coefficients across the two groups.

Results

Descriptive Statistics and Independent t-test

Table 1 and Table 2 present descriptive statistics and bivariate correlations among the primary variables. The results of the independent t-tests (see Table 3) revealed that there were no significant differences in reading self-concept ($t(923) = .225, p = .822$) and reading self-efficacy ($t(919) = .065, p = .949$) between the two groups. However, significant differences were found in learning engagement ($t(918.790) = -3.139, p = .002$, Cohen's $d = .206$, indicating a small effect size), and Chinese reading scores ($t(927.44) = 2.349, p < .001$, Cohen's $d = 1.33$, indicating a large effect size) (Cohen, 1988). Specifically, L1 Chinese students reported spending less effort on Chinese reading compared to L2 Chinese students (mean difference = $-.160$). As expected, L1 Chinese students achieved significantly higher Chinese reading scores than L2 Chinese students (mean difference = 7.734).

Table 1*Descriptive Statistics*

Variable	L1 students					L2 students					All students				
	<i>a</i>	Mean	<i>SD</i>	Skewn ess	Kurtosis	<i>a</i>	Mean	<i>SD</i>	Skewness	Kurtosis	<i>a</i>	Mean	<i>SD</i>	Skewness	Kurtosis
RSC	.821	2.935	.711	-.495	.045	.829	2.924	.742	-.497	-.190	.822	2.30	.726	-.497	-.086
RSE	.764	2.912	.759	-.604	-.008	.683	2.909	.735	-.405	-.259	.721	2.911	.746	-.505	-.134
LE	.727	2.991	.768	-.586	-.104	.727	3.151	.783	-.649	-.437	.729	3.076	.779	-.603	-.300
Score	-	25.801	5.436	-.181	2.934	-.058	18.058	6.20	.035	-.832	-	21.851	7.00	-.545	-.875

Note. ** $p < .01$; RSC=reading self-concept; RSE=reading self-efficacy; LE=learning engagement.

Table 2*Bivariate Correlation Between Primary Variables*

Variable	L1 students				L2 students				All students			
	1	2	3	4	1	2	3	4	1	2	3	4
1 RSC	-				-				-			
2 RSE	.566**	-			.566**	-			.565**	-		
3 LE	.531**	.460**	-		.494**	.522**	-		.507**	.489**	-	
4 Score	.226**	.337**	.238**	-	.189**	.289**	.249**	-	.174**	.259**	.143**	-

Note. ** $p < .01$; RSC=reading self-concept; RSE=reading self-efficacy; LE=learning engagement.

Table 3*Independent t-test Results*

Variable		Levene's Test		t-test for Equality of Means				
		F	p value	t	df	p value	Mean differences	Cohen's d
RSC	Equal variances assumed	1.292	.256	.225	923	.822	.010	.002
RSE	Equal variances assumed	.027	.870	.065	919	.949	.003	.004
LE	Equal variances not assumed	5.137	.024	-3.139	918.790	.002	-.160	.206
Score	Equal variances not assumed	25.001	.000	2.349	927.44	.000	7.734	1.33

Note. ** $p < .01$; RSC=reading self-concept; RSE=reading self-efficacy; LE=learning engagement.

Table 4*Measurement Invariance Results*

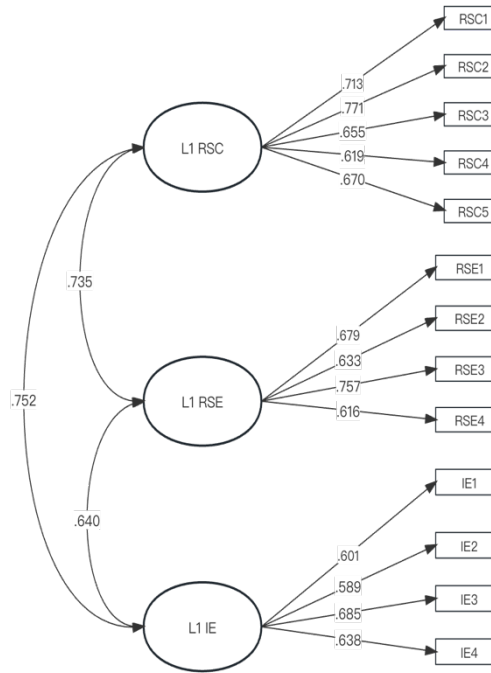
Model	S-B χ^2	df	TLI	CFI	AIC	RMSEA (90% CI)	Δ TLI	Δ CFI
Configural invariance	38.941	196	.952	.961	36439.477	.045 [.038, .052]	-	-
Metric invariance	397.470	208	.954	.960	36432.006	.044[.038, .051]	-.001	-.001
Scalar invariance	448.474	220	.947	.951	36459.010	.047[.041, .053]	-.007	-.009

Measurement Invariance Analyses

The results of multiple-group measurement invariance tests for reading self-concept, reading self-efficacy, learning engagement across L1 Chinese and L2 Chinese groups are presented in Table 4. The findings show that changes in the TLI and CFI were less than .01 among the three models, indicating that the items in the questionnaire were equivalently measured for both L1 Chinese and L2 Chinese groups.

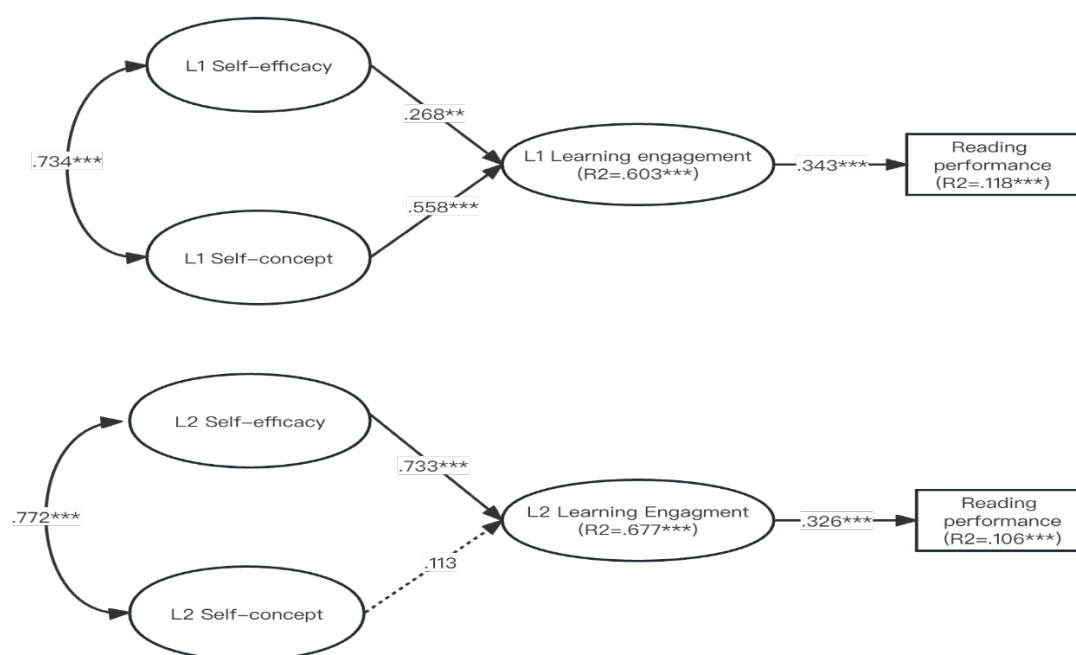
CFA Results

Both the L1 Chinese and L2 Chinese groups' data fit the CFA model well, as indicated by the fit indices for L1 Chinese: χ^2 (62) = 139.566, $p < .001$, CFI = .957, TLI = .946, RMSEA [90% CI] = .052 [.041 – .064], and SRMR = .037, and for L2 Chinese: χ^2 (62) = 102.863, $p < .001$, CFI = .977, TLI = .972, RMSEA [90% CI] = .037 [.024 – .050] and SRMR = .03. Specific results including factor loadings and correlations between three latent variables, are visually presented in Figure 1 and Figure 2.

Figure 1
CFA Results for L1 Chinese Student

Figure 2
CFA Results for L2 Chinese Student


Multigroup-SEM Results

The unconstrained model exhibited good model fits, with $\chi^2(168) = 355.678$ (199.549 for L1 and 156.129 for L2), $p < .001$, CFI = .950, TLI = .945, RMSEA [90% CI] = .049 [.042 – .056], and SRMR = .047. Specific results of the MG-SEM are shown in Figure 3. For L1 Chinese students, all direct paths were significant as hypothesized. L1 self-efficacy ($\beta = .268, p < .001$) and self-concept ($\beta = .558, p < .001$) significantly predicted L1 learning engagement, which in turn predicted Chinese reading performance ($\beta = .343, p < .001$). Regarding L2 Chinese students, L2 self-efficacy strongly influenced learning engagement ($\beta = .733, p < .001$), while no association was found between L2 self-concept and learning engagement. Additionally, L2 students' learning engagement significantly impacted L2 Chinese reading performance.

Figure 3*Multigroup SEM Results*

Note: Indicators for each latent variable and their corresponding factor loadings have been omitted for visual simplicity.

Concerning the indirect paths, all indirect paths in the L1 Chinese students' group were significant, with learning engagement mediating the relationship between L1 self-efficacy and Chinese reading performance and relationship between L1 self-concept and Chinese reading performance. However, the only significant indirect path in the L2 Chinese students' group was from L2 self-efficacy to Chinese reading performance through learning engagement.

Table 5

Standardized Estimations, Standardized Errors, and 95% Confidence Intervals of Indirect Paths

Indirect path	β	SE.	95% CI
L1 RSC–L1LE–Scores	.192*	.051	[.110, .304]
L1 RSE–L1LE–Scores	.092**	.049	[.000, .206]
L2 RSE–L2 LE–Scores	.036**	.061	[.131, .365]

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

Furthermore, we conducted the constrained model, which showed significant differences from the unconstrained model ($\Delta\chi^2(3) = 12.834, p < .001$, indicating variations in regression coefficients between L1 Chinese and L2 Chinese students. Specifically, L1 students' self-efficacy had a weaker influence on learning engagement compared to L2 students ($\Delta\beta_{(L1-L2)} = -.530, p = .001$), while no significant difference existed in the path from learning engagement to Chinese reading performance ($\Delta\beta_{(L1-L2)} = -.165, p = .807$). Additionally, the indirect pathway from L1 self-efficacy to Chinese reading performance through learning engagement differed significantly from the corresponding pathway in L2 students ($\Delta\beta_{(L1-L2)} = -1.730, p = .008$).

Discussion

Differences in self-beliefs, learning engagement and reading performance among L1 and L2 Chinese learners

The above results show that L1 Chinese learners exhibited superior reading performance and less engagement in Chinese learning when compared to their L2 peers. This phenomenon is rational, considering that native language learners usually possess inherent advantages in acquiring their mother tongue, such as earlier

immersion in the target language environment, access to a wider range of social resources and more parental support (Lone & Chow, 2022). L2 students' higher learning engagement compared to native speakers may stem from the added difficulty they encounter in memorizing and recognizing Chinese characters (Liu et al., 2007). A possible explanation may be their limited oral language proficiency, leading to unfamiliarity with the Chinese phonological system. Early reading skills are tightly linked with oral language development (Van Den Boer et al., 2014). Most of the Chinese Characters are compound characters, made up of semantic radicals and phonological components. Semantic radicals offer clues to the character's meaning, while phonological components provide hints to its pronunciation (Chan et al., 2023; Loh et al., 2018). Although understanding the regularities of semantic radicals and phonological components in Chinese characters may aid novice learners in more effectively memorizing and retrieving the semantic or phonological representations of characters, L2 students, due to their insufficient oral language proficiency, need to invest more effort in learning and recognizing phonological components compared to native speakers. Moreover, the Cantonese-medium instruction used in Hong Kong classrooms also demands greater effort from L2 students to actively participate in Chinese lessons than their L1 peers.

However, contrary to studies in Western settings that L2 students have higher levels of self-beliefs (e.g., Niehaus & Adelson, 2013; Segerer et al., 2021), no significant distinctions emerged in terms of reading self-concept and self-efficacy in our study. This can be attributed to a confluence of East cultural norms and the distinctive landscape of Chinese language learning in Hong Kong. East Asian cultures, influenced by Confucian values, prioritize introspection and modesty (Jackson & Park, 2023), potentially discouraging L2 individuals from overtly

confident in assessing their language abilities. Furthermore, unlike ethnic minorities in the West, L2 students in Hong Kong are challenged with the mastery of not only their native language but also English, Standard Mandarin, and spoken Cantonese (Chan et al., 2023; Loh et al., 2018; Zhu et al., 2023). The latter diverges significantly not only in pronunciation but also to some extent in vocabulary and grammar from Mandarin (Zhu et al., 2023). Most schools employ Cantonese as an instructional language for teaching reading materials composed in standard modern Chinese (Lone & Chow, 2022). Moreover, the intricacies of the Chinese script, as opposed to phonetic alphabets, introduce additional challenges (Chan et al., 2023). These complexities render the process of learning Chinese reading notably demanding for L2 students, potentially preventing them from forming overly optimistic assessments of their Chinese reading proficiency. However, while not as pronounced as seen in Western minority groups, biases in their self-perception of Chinese reading ability persist among L2 students in Hong Kong. However, L2 students tend to have generally positive self-beliefs, considering their significantly lower Chinese reading proficiency compared to their L1 peers. Qualitative research is needed to provide in-depth information on this issue.

The differential effect self-concept and self-efficacy on Chinese learning engagement among L1 and L2 students

For L1 students, both self-efficacy and self-concept exert an influence on learning engagement, which subsequently impacts academic performance. This result is consistent with previous studies in the general academic field (Liu et al., 2021; Schnitzler et al., 2021; Sökmen, 2021). However, it should be noted that self-concept demonstrated a more pronounced effect. In the case of L2 students, only self-efficacy exhibited a significant impact on learning engagement, and its influence was notably

greater than the impact of L1 self-efficacy on learning engagement ($\Delta\beta_{(L1-L2)} = -.530$, $p = .001$). These findings imply that self-efficacy and self-concept exhibit group-specific characteristics in the context of reading learning for both L1 and L2 school-aged learners.

Regarding the lack of significant influence of self-concept on L2 students' Chinese learning engagement, several factors could contribute. First, as the 'reading self-concept' involves the evaluation of one's own reading abilities, students often tend to express this self-concept by reflecting on past evaluations of their reading proficiency from others. This inclination arises from individuals' tendency to adopt an external perspective on themselves (Rosenberg, 1979). As such, the development of students' academic self-concept significantly hinges on how they perceive evaluations of their academic abilities by parents, teachers, and peers (Bong & Skaalvik, 2003). However, it is worth noting that reading is a metacognitive-intensive task, and inflated reading self-concepts could lead to unforeseen outcomes (Segerer et al., 2021), such as a reduced effort or decreased engagement due to a perception of already being proficient enough. Educators and parents who, aware of the diverse linguistic backgrounds of L2 Chinese student, might have more lenient expectations regarding reading proficiency (Segerer et al., 2021). This can lead to increased praise and support for L2 students, contributing to a potentially mismatched self-concept. Second, social comparisons (Bong & Skaalvik, 2003) also play a role. Research has found that minority students in language learning are more inclined to compare themselves within their own ethnic group rather than with local students (Stipek, 2004). This phenomenon was also observed among L2 students in Hong Kong. Due to weaker Chinese language proficiency, L2 students are often separated from local students during Chinese classes, limiting opportunities for comparison with L1

Chinese peers, thus reflecting the “big-fish–little-pond effect” (Bong & Skaalvik, 2003). Meanwhile, L2 students may compare their Chinese proficiency with that of their parents (Segerer et al., 2021). Given that L2 parents often exhibit lower Chinese language proficiency (Lone & Chow, 2022), these students might attain higher language status within their families regardless of negative feedback from teachers or low scores, fostering a positive self-concept (Segerer et al., 2021). These factors contribute to the L2 students’ self-concept being excessively positive beyond their actual reading abilities, and they provide a potential explanation for the disconnect with learning engagement.

Moreover, based on our findings, L1 students are more influenced by their reading self-concept, while L2 students are more inclined to enhance their learning engagement and subsequent reading performance through the mobilization of self-efficacy. An explanation rests in the distinction between self-concept, which emphasizes personal skills and abilities, and self-efficacy, which revolves around the conviction that individuals can harness their latent skills and capabilities (Wigfield & Eccles, 2000). Although self-efficacy still plays a role throughout the learning process, native speakers, benefiting from their inherent linguistic environment, are more likely to the formation of a more stable self-concept. Meanwhile, relatively mature language skills may influence L1 students’ learning engagement based on existing competence perception. In contrast, self-efficacy predominantly draws upon a person’s previous encounters with similar tasks (Bong & Skaalvik, 2003), representing personal expectations and beliefs regarding their capacity to accomplish specific tasks under certain circumstances (Bong & Skaalvik, 2003). Among first-year L2 students, due to their objectively limited ability to cope with Chinese reading (Leung, 2019), and the presence of over positive self-concept (Segerer et al., 2021),

their past experiences of reading Chinese in class shape their expectations and confidence in completing tasks, becoming pivotal factors affecting their learning behavior and subsequent reading performance. In fact, in other domains such as writing, scholars have also discovered that self-efficacy has a greater impact on L2 students compared to their L1 counterparts (Sun et al., 2021). Certainly, the observation of a more pronounced influence of L2 self-efficacy in comparison to L1 self-efficacy is an intriguing finding. Nevertheless, elucidating the nuanced underlying factors necessitates future qualitative research endeavors.

Cross-group consistency: mediating role of learning engagement between self-beliefs and Chinese reading performance

While L1 and L2 learners differ in terms of the relationships between self-beliefs and learning engagement, the impact of learning engagement on reading performance remains consistent. Moreover, learning engagement consistently mediated the relationship between self-beliefs and reading performance in both L1 and L2 groups. In accordance with the theoretical hypotheses posited by Bandura (1997) and Bong and Skaalvik (2002), these findings not only empirically emphasize the essential role of behavioral factors in conjunction with psychological factors in reading, but also unveil that learning engagement's pivotal role appears to extend beyond the learners' language and ethnic backgrounds. It implies that, at least for younger learners, even if L2 students do not have the natural advantages of L1 students in learning reading, learning engagement produces the same effectiveness on reading performance as for native speakers.

Pedagogical implication

Based on our findings, parents and educators should mobilize learning engagement based on the distinct self-belief characteristics of young L1 and L2

learners, thereby enhancing students' reading performance. For L1 students, their learning engagement is more influenced by self-concept, which once formed, tends to remain stable and resistant to change (Bong & Skaalvik, 2003). Therefore, spanning both preschool and school-age phases, it is crucial for educators and parents to proactively encourage a sense of confidence in reading by providing positive and constructive feedbacks. Moreover, enhancing students' self-concept involves shifting the focus from altering self-images directly to reducing students' preoccupation with normative ability comparisons in educational settings (Bong & Skaalvik, 2003; Wigfield et al., 1997). It is suggested that schools, teachers, and parents should prioritize guiding students in developing a balanced perspective on their abilities and the potential competitive dynamics among peers. In the context of L2 students, it is worth considering that an excess of encouragement and evaluation that does not align with their actual capabilities might not yield the desired outcomes of enhancing their learning engagement and reading performance. Over time, such approaches could potentially lead to unintended negative repercussions (Segerer et al., 2021).

In contrast to the potentially more demanding and time-consuming efforts required to adjust self-concept, interventions targeting self-efficacy are comparatively more straightforward due to their inherent dynamism and adaptability (Bong & Skaalvik, 2003). This attribute undoubtedly carries positive implications for L2 students. It is suggested that even in the absence of the innate linguistic advantages and familial support enjoyed by their L1 peers, the malleable nature of self-efficacy makes it more amenable to enhancement for L2 learners. As a result, increasing their learning engagement becomes more feasible, subsequently facilitating improvements in their reading performance. Educators are encouraged to consider the potential benefits of tailoring the difficulty levels of reading tasks to help shape students' self-

efficacy. This approach is rooted in the understanding that individuals often place more weight on their own past successes when assessing their self-efficacy, compared to relying on observations or verbal encouragement from others (Bandura, 1997). Moreover, although self-efficacy is less susceptible to social comparison than self-concept, students still look to teachers and peers for efficacy cues when encountering new tasks (Wigfield et al., 1997). To address this, teachers can establish clear task evaluation standards, creating environments that reduce students' tendency to compare abilities (Bong & Skaalvik, 2003). Certainly, these approaches to fostering positive self-efficacy are equally applicable to L1 students, even though the impact of self-efficacy might not be as pronounced as that of self-concept.

Conclusion

This study provides empirical evidence for the distinct roles of self-concept and self-efficacy in the learning of Chinese reading of school-age L1 and L2 students, while also emphasizing the consistent and significant role of learning engagement in reading across both groups. Moreover, the investigation conducted in the Hong Kong context not only offers a cross-cultural lens to comprehend reading self-belief but also provides pedagogical insights for countries and regions with ethnic minorities by comparing both L1 and L2 young learners concurrently.

However, limitations still exist and require further studies. First, while L1 and L2 students share similar self-beliefs, the underlying causes of this phenomenon may vary. For instance, within the current research design, it proves challenging to delve deeply into the reasons behind why L2 self-efficacy exerts a significantly greater influence on learning engagement when compared to the impact of L1 self-efficacy. Therefore, it is worth considering incorporating qualitative data for further research. Second, due to the influence of age on self-beliefs and the differing stability

of self-concept and self-efficacy (Bong & Skaalvik, 2003), the developmental characteristics of reading self-beliefs in both L1 and L2 learners, as well as the long-term relationships between self-efficacy, learning engagement, and reading performance, require further investigation through longitudinal studies. Finally, considering the limited Chinese proficiency of L2 Chinese learners, even with the assistance provided by teachers and research assistants, we cannot guarantee that students fully and correctly understood the questionnaires. Therefore, using a one-on-one questionnaire administration method may be more suitable for younger students.

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Appendix

Self-concept questionnaire

你認為自己的中文學習得如何？(每行圈一个数字)

How do you think your Chinese is learning? (Circle a number in each row)

A. 在學習中文時，我認為我是：

When learning Chinese, I think I am:

1. 很差的 / The Worst
2. 不太好的 / Not Good
3. 不錯的 / Good
4. 非常好的 / Very Good

B. 在學習中文時，我認為我是：

When learning Chinese, I think I am:

1. 完全沒有天賦的 / Totally Ungifted
2. 沒有天賦的 / Ungifted
3. 有天賦的 / Gifted
4. 非常有天賦的 / Very Gifted

C. 在大聲朗讀中文時，我認為我是：

When read aloud Chinese, I am:

1. 很差的 / The Worst
2. 不太好的 / Not Good

3. 不錯的 / Good
4. 非常好的 / Very Good

D. 大聲念中文故事對我來說是：

To read Chinese story aloud is:

1. 很難的 / Very hard
2. 比較難的 / Hard
3. 簡單的 / Easy
4. 非常簡單的 / Very Easy

E. 我多大程度喜歡閱讀？

I ...to read Chinese:

1. 完全不喜歡 / Total don't like
2. 不喜歡 / Don't like
3. 喜歡 / Like
4. 非常喜歡 / Like Very Much

Self-efficacy Questionnaire

你多大程度同意以下關於自己中文學習的說法？(每行圈一個數字)

How do you describe your learning of Chinese? (Circle a number in each row)

A. 我可以獲得優異的中文成績：

I am capable of getting good grades in Chinese:

1. 非常不同意/Totally Disagree
2. 不同意/Disagree
3. 同意/Agree
4. 非常同意/Totally Agree

B. 我能解決在閱讀中文中遇到的問題：

I am capable of solving problems when reading Chinese:

1. 非常不同意/Totally Disagree
2. 不同意/Disagree
3. 同意/Agree
4. 非常同意/Totally Agree

C. 我可以完成中文閱讀練習

I can complete Chinese reading exercises

1. 非常不同意/Totally Disagree
2. 不同意/Disagree
3. 同意/Agree
4. 非常同意/Totally Agree

D. 我能夠正確地書寫中文

I am capable of writing Chinese correctly

1. 非常不同意/Totally Disagree
2. 不同意/Disagree

3. 同意/Agree
4. 非常同意/Totally Agree

Learning Engagement Questionnaire

你多大程度同意以下關於自己中文學習的說法？(每行圈一個數字)

How do you describe your learning of Chinese? (Circle a number in each row)

A. 即使在中文閱讀課堂難以理解的情況下，我也保持專注。

I stayed focused even when it was difficult to understand.

1. 從不/Never
2. 間中/Sometimes
3. 經常/Often
4. 總是或幾乎總是/Always or almost always

B. 我參與中文課堂所有的活動。

I participated in all the activities.

1. 從不/Never
2. 間中/Sometimes
3. 經常/Often
4. 總是或幾乎總是/Always or almost always

C. 即使中文課很難，我也一直努力做到自己的最好。

I kept trying my best even when it was hard.

1. 從不/Never
2. 間中/Sometimes
3. 經常/Often
4. 總是或幾乎總是/Always or almost always

D. 我一直學習直到我完成了中文閱讀作業。

I continued studying until I completed my Chinese reading homework.

1. 從不/Never
2. 間中/Sometimes
3. 經常/Often
4. 總是或幾乎總是/Always or almost always