From Motivated Reading to Global Competence: A Serial Mediation Model in University Language Students

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Abstract
This study examines how reading motivation relates to global competence among university language students in Indonesia through the mediating roles of intercultural sensitivity and cross-cultural communication. Grounded in the view that reading can function as both a literacy practice and an intercultural learning experience, the study tests a structural model linking motivated textual engagement to broader global readiness. A quantitative cross-sectional survey was conducted with 237 undergraduate students from English and German language programs at universities across western, central, and eastern Indonesia, selected through purposive sampling. We collected data using a structured questionnaire and analyzed them with partial least squares structural equation modeling (PLS-SEM). The results showed that reading motivation significantly predicted intercultural sensitivity, cross-cultural communication, and global competence. Intercultural sensitivity significantly predicted both cross-cultural communication and global competence, while cross-cultural communication was also a substantial predictor of global competence. All indirect effects were significant, showing that intercultural sensitivity and cross-cultural communication mediated the relationship between reading motivation and global competence, including through a serial pathway. Because the direct effect of reading motivation on global competence remained significant after the mediators were included, the pattern indicated partial mediation. The findings suggest that motivated reading may support global competence through interconnected affective and communicative processes, with implications for foreign language curriculum design in culturally diverse higher education settings within Indonesian universities.
Key words: mediation, PLS-SEM, text-based intercultural learning, internationalization at home, language education

1. Introduction

In an era of intensified mobility, digital interconnectedness, and increasingly diverse educational environments, global competence has become a central objective of higher education. Universities are expected not only to equip students with disciplinary knowledge but also to prepare them to engage effectively with cultural diversity, global challenges, and transnational forms of communication. Recent scholarship conceptualizes global competence as a multidimensional capacity involving the ability to understand global and intercultural issues, appreciate diverse perspectives, communicate across cultural differences, and act responsibly in complex social contexts (Costa et al., 2024; Rubene et al., 2024).

While previous research has primarily emphasized internationalization, mobility experiences, and intercultural interaction as pathways to global competence (Bartel-Radic & Cucchi, 2025; Hanley & Chankseliani, 2026; McRae & Ramji, 2017), considerably less attention has been devoted to the role of students' engagement with texts and, more specifically, the motivational factors that encourage learners to explore culturally diverse sources of knowledge. This omission is notable because reading remains one of the most accessible and sustained forms of engagement with global perspectives in higher education.

The importance of this issue is particularly evident among university language students. Foreign language learning extends beyond the acquisition of linguistic

knowledge and necessarily involves engagement with cultural meanings, identity construction, and communication across diverse communities (Xu et al., 2025; Zhou et al., 2025). Recent reviews indicate that intercultural communication has become a central concern in second and foreign language education, reflecting the growing significance of multilingual identities, digitally mediated interaction, and globally connected learning environments (Cong-Lem, 2025; D'Orazzi & Marangell, 2025; Xu et al., 2025). For students majoring in English and German, encounters with culturally embedded texts, discourses, and communicative practices constitute an integral component of their academic experience. Consequently, their educational development is shaped not only by language proficiency but also by their capacity to interpret cultural meanings, negotiate differences, and participate effectively in intercultural communication.

Within this context, reading represents a potentially important yet underexamined pathway to global competence development. Compared with study-abroad programs, intercultural exchanges, collaborative projects, or face-to-face interaction, reading has received relatively limited attention as a mechanism through which students develop intercultural understanding and global awareness. However, reading is far more than a cognitive process of decoding information. Through engagement with literary, academic, and media texts, learners encounter alternative worldviews, social values, ideological positions, and culturally situated representations of reality (Eybers, 2025). Such encounters require readers to interpret perspectives beyond their immediate sociocultural experience and may therefore contribute to the development of broader intercultural dispositions.

The extent to which reading can serve this developmental function is likely influenced by students' motivation to read. A growing body of research identifies reading motivation as a significant predictor of engagement, persistence, and achievement among university language learners, while studies of reading self-efficacy and language-learning motivation continue to demonstrate the importance of motivational factors in shaping depth of textual engagement (Aung & Nikolov, 2025; Hennebry-Leung & Lamb, 2024).

Nevertheless, reading motivation is typically examined in relation to literacy outcomes rather than broader intercultural or global capacities. This narrow focus overlooks the possibility that motivated readers may engage more deeply with culturally diverse texts, become more receptive to alternative perspectives, and gradually develop dispositions that support intercultural understanding and global engagement (Ma & Zhao, 2025; Yang & Gan, 2024; Bartel-Radic & Cucchi, 2025).

Recent classroom-based studies provide further support for this argument. Research on culture-based language instruction, interculturalized reading pedagogies, and digitally mediated collaborative reading has shown that reading activities can promote not only comprehension but also intercultural understanding and perspective-taking (Hicham et al., 2025; Muhria et al., 2025). These findings suggest that texts function as mediating spaces where learners compare viewpoints, challenge assumptions, and engage in interpretive processes that are fundamental to intercultural learning. For university language students, whose academic experiences are closely connected to textual engagement across linguistic and cultural traditions, reading may therefore represent an important bridge between literacy development and global competence formation.

If reading motivation provides an initial foundation for intercultural development, intercultural sensitivity and cross-cultural communication may represent two key mechanisms through which this influence unfolds. Intercultural sensitivity reflects individuals' openness, attentiveness, and affective readiness to engage with cultural differences, whereas cross-cultural communication refers to the ability to communicate effectively and appropriately across cultural boundaries. Recent studies have linked

intercultural sensitivity to cognitive flexibility, adaptive learning, and positive educational outcomes in higher education contexts (Huang et al., 2025).

Similarly, research on intercultural communication among university students highlights the importance of interactional skills in fostering mutual understanding, negotiating meaning, and managing cultural differences in increasingly internationalized learning environments (Alzoubi & Alsalhi, 2025; D'Orazzi & Marangell, 2025; Long et al., 2025; Yang et al., 2025). Taken together, these findings suggest a developmental sequence in which motivated engagement with culturally diverse texts may foster greater intercultural sensitivity, which subsequently enhances students' capacity for cross-cultural communication and ultimately contributes to stronger global competence.

Despite growing interest in global and intercultural learning, the existing literature remains theoretically fragmented. Studies of reading motivation have predominantly focused on literacy-related outcomes, whereas research on global competence has tended to emphasize international experiences, intercultural contact, institutional internationalization, or mobility-based learning. Meanwhile, investigations of intercultural sensitivity and cross-cultural communication are often conducted independently from studies of reading and literacy. As a result, limited attention has been paid to how everyday academic practices such as reading may contribute to global competence through interconnected cognitive, affective, and communicative processes.

Recent reviews of intercultural competence research have similarly highlighted the need for more theoretically integrated models capable of explaining how different dimensions of learning jointly contribute to intercultural and global development (Bartel-Radic & Cucchi, 2025; Jin & Sercu, 2025; Poort et al., 2023; Yang & Li, 2024; Zuo, 2025). This limitation is particularly significant for university language students, whose learning experiences are inherently situated at the intersection of text, culture, and communication.

To address this gap, the present study proposes and tests a cognitive–affective–communicative model of global competence development among university students majoring in English and German. The model examines whether reading motivation is associated with global competence directly and through intercultural sensitivity and cross-cultural communication. The study extends prior work in three ways. First, it examines reading motivation beyond conventional literacy outcomes by testing its relationship with intercultural and global learning outcomes. Second, it integrates motivational engagement with texts, affective openness toward cultural difference, and enacted communication within one structural model. Third, it evaluates direct, specific indirect, and serial indirect effects simultaneously. The contribution is therefore not that culturally enriched reading is entirely new, but that these relationships are tested together as an integrated explanatory sequence among university language students.

2. Literature Review and Hypothesis Development

2.1 Conceptual Boundaries and the Proposed Developmental Mechanism

The model distinguishes three closely related but non-equivalent intercultural constructs. Intercultural sensitivity refers to an affective orientation toward cultural difference, including openness, attentiveness, respect, and comfort in intercultural encounters (Chen & Starosta, 2000). Cross-cultural communication refers to enacted interactional capability: the ability to adapt, manage, and communicate appropriately across cultural boundaries (Matveev & Nelson, 2004). Global competence is treated as the broader outcome, encompassing the capacity to interpret global and intercultural issues, consider multiple perspectives, collaborate across differences, and engage responsibly in an interconnected world (Liu et al., 2020). Thus, sensitivity concerns orientation, communication concerns performance, and global competence concerns broader integrative readiness.

The proposed mechanism is a motivational-engagement sequence. Stronger reading motivation is expected to sustain attention and persistence in textual engagement. When texts contain unfamiliar perspectives, such engagement may create repeated opportunities for perspective comparison and reflection, which are theoretically relevant to intercultural sensitivity. Sensitivity may then facilitate more adaptive and respectful communication, while cross-cultural communication provides the behavioral channel through which intercultural orientations are enacted. This yields the proposed sequence of motivational engagement → affective orientation → communicative enactment → global competence. The model therefore specifies a directional explanatory hypothesis rather than claiming that these constructs are interchangeable.

This ordering is theoretically plausible but not necessarily exclusive. Intercultural communication experiences may also strengthen sensitivity over time, producing reciprocal development. Because the present study uses cross-sectional data, the hypothesized direction should be interpreted as theory-driven statistical ordering rather than definitive temporal causation. Longitudinal and experimental research is needed to test reciprocal or alternative sequences.

A further boundary concerns reading exposure. The study measures motivation to read, not actual exposure to culturally rich texts, reading frequency, text type, or the diversity of materials encountered. Accordingly, the model tests whether reading motivation is associated with intercultural and global outcomes; it does not establish that particular culturally rich texts caused those outcomes. This distinction is important when interpreting the structural paths and the pedagogical implications.

Against this conceptual background, the hypotheses below evaluate the direct and mediated relationships among the four constructs within one PLS-SEM model. The specific indirect effects and the serial indirect effect are estimated simultaneously rather than as separate mediation models.

2.2 Hypothesis Development

2.2.1. Reading Motivation as an Antecedent of Intercultural and Global Learning

Although reading motivation has more often been studied in relation to comprehension and academic engagement, recent work in language education suggests that it also has broader intercultural implications. In a university-level digital language exchange study, students who participated in interculturally enriched learning experiences showed significant gains in motivation alongside improvements in intercultural competence, indicating that motivation is not merely a background variable but part of a wider developmental process in language learning. Similarly, a recent study on multicultural short stories among Chinese EFL learners found that sustained text-based engagement fostered empathy, openness, interpretive skill, and critical cultural reflection, eventually contributing to the formation of more reflective and globally competent communicators. A recent systematic review of cross-cultural communicative competence in undergraduate English instruction likewise emphasizes that language learning in higher education increasingly requires the integration of cross-cultural awareness, communication, and knowledge of global challenges. Taken together, these findings support the argument that students with stronger reading motivation are more likely to engage deeply with culturally embedded texts, become more sensitive to cultural difference, communicate more confidently across cultures, and ultimately develop stronger global competence.

H1. Reading motivation positively affects intercultural sensitivity.
H2. Reading motivation positively affects cross-cultural communication.
H3. Reading motivation positively affects global competence.

2.2.2 Intercultural Sensitivity, Cross-Cultural Communication, and Global Competence

Intercultural sensitivity may be positioned as a crucial affective precursor in the development of cross-cultural communication and global competence. A recent systematic review of digital approaches to intercultural competence in higher education identifies cultural sensitivity and cultural awareness as affective–cognitive precursors, while intercultural communicative competence is described as the communication-focused subset that enables appropriate and effective interaction across differences (Genkova & Schreiber, 2025). This sequence is also reflected in recent higher education studies showing that sustained interaction with international peers supports the development of intercultural communication competence through curiosity, rapport-building, proactive adaptation, and accumulated cultural knowledge (Taguchi, 2026).In addition, recent evidence from Collaborative Online International Learning demonstrates that structured intercultural learning experiences improve empathy, curiosity, and knowledge of cultural worldview frameworks, all of which are central to students' ability to interact globally and responsibly (Hanley & Chankseliani, 2025). On this basis, students who are more sensitive to cultural differences should be better prepared to communicate across cultural boundaries, and both intercultural sensitivity and cross-cultural communication should contribute positively to global competence.

H4. Intercultural sensitivity positively affects cross-cultural communication.
H5. Intercultural sensitivity positively affects global competence.
H6. Cross-cultural communication positively affects global competence.

2.2.3 Indirect and Sequential Pathways from Reading Motivation to Global Competence

Recent structural studies indicate that intercultural and global outcomes can emerge through indirect pathways rather than through a single direct relationship (Zhou et al., 2026; Liu, 2025; Lu et al., 2024). In the present study, H7 and H8 represent two specific indirect effects estimated simultaneously within the same full structural model: RM → IS → GC and RM → CC → GC. H9 represents the serial specific indirect effect RM → IS → CC → GC. Testing these effects together allows the study to distinguish parallel mediation from the proposed sequential pathway while retaining the direct RM → GC path.

H7. Intercultural sensitivity mediates the relationship between reading motivation and global competence.
H8. Cross-cultural communication mediates the relationship between reading motivation and global competence.
H9. Intercultural sensitivity and cross-cultural communication sequentially mediate the relationship between reading motivation and global competence.

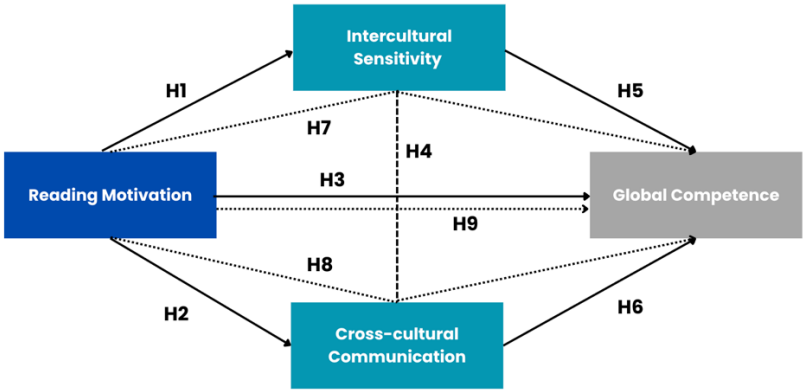


Figure 1. Conceptual framework and direct/indirect hypotheses

3. Method

3.1 Research Design

This study employed a quantitative explanatory design with a cross-sectional survey approach to examine the structural relationships among reading motivation, intercultural sensitivity, cross-cultural communication, and global competence among university language students. This design was chosen because the study aimed to test theoretically specified direct, indirect, and sequential indirect relationships among latent constructs measured at one point in time. Given the model's predictive orientation and its inclusion of multiple mediated paths, partial least squares structural equation modeling (PLS-SEM) was selected as the main analytical technique, as it is widely recommended for education and applied language studies involving complex latent-variable models (Hair & Alamer, 2022).

3.2 Participants and Sampling

The target population of this study comprised undergraduate students majoring in English and German at the university level. These participants were considered appropriate because their academic experiences are closely related to reading practices, intercultural exposure, and language-mediated communication. The inclusion criteria were as follows: students had to be actively enrolled in an English or German language program, have completed at least one semester of study, and have had exposure to courses involving reading, culture, communication, or intercultural content. The study used purposive sampling, as the model was designed specifically for language students whose disciplinary formation is tied to text interpretation and intercultural engagement. For sample adequacy, the study followed current PLS-SEM guidance and considered model-based estimation principles, including the inverse square root and gamma-exponential approaches proposed for minimum sample size estimation in PLS-SEM (Kock & Hadaya, 2018).

3.3 Measures and Instrument Development

Data were collected using a structured questionnaire with responses recorded on a five-point Likert scale, ranging from 1 = strongly disagree to 5 = strongly agree. The questionnaire was developed by adapting established instruments to the context of higher education language students. Item wording was contextualized to reflect students' experiences of reading foreign-language texts, engaging with cultural difference, and participating in globally oriented academic learning (see Table 1).

Reading motivation was operationalized as students' internal drive, interest, perceived competence, persistence, and perceived value in engaging with academic and culturally meaningful reading. Items were adapted from the Motivation for Reading Questionnaire tradition developed by Wigfield and Guthrie. Intercultural sensitivity was operationalized as affective openness, attentiveness, confidence, and positive orientation toward cultural difference, drawing on Chen and Starosta's Intercultural Sensitivity Scale. Cross-cultural communication was operationalized as the ability to communicate clearly, adapt behavior, manage interaction, and act appropriately across cultural boundaries, drawing on Matveev and Nelson. Global competence was operationalized as readiness to understand global and intercultural issues, consider multiple perspectives, collaborate across cultures, and engage responsibly, drawing on Liu, Yin, and Wu.

Intercultural sensitivity is measured as students' affective openness, attentiveness, and positive orientation toward cultural difference. The items may be adapted from the Intercultural Sensitivity Scale developed by Chen and Starosta, which remains one of the most established instruments for measuring the affective dimension of intercultural competence. Cross-cultural communication is operationalized as the ability to communicate appropriately, effectively, and confidently across cultural boundaries. The measurement of this construct may draw on the cross-cultural communication competence framework developed by Matveev and Nelson, which has been used to assess communication-related competence in intercultural settings. Global competence is defined as students' readiness to understand global and intercultural issues, appreciate multiple perspectives, and interact constructively in interconnected academic and social contexts. The corresponding items may be adapted from the Global Competence Scale developed by Liu, Yin, and Wu, which is grounded in the dimensions of knowledge, skills, and attitudes.

Because the present analysis relies on adapted self-report measures, the measurement model was evaluated explicitly for indicator reliability, internal consistency, convergent validity, and discriminant validity before testing the structural relationships. This step was especially important because intercultural sensitivity, cross-cultural communication, and global competence are conceptually adjacent constructs.

Table 1. Construct Indicator

Variable	Code	Indicator	Indicator Statement	Source Adaptation
Reading Motivation	RM1	Intrinsic reading interest	I enjoy reading texts in English or German even when they are not assigned by my lecturer.	Adapted from Wigfield & Guthrie (1997)
	RM2	Reading self-efficacy	I am confident in my ability to understand culturally rich texts in English or German.	
	RM3	Persistence in reading challenge	I continue reading even when the text contains unfamiliar cultural ideas or difficult language.	
	RM4	Perceived value of reading	Reading texts in foreign languages helps me broaden my cultural	

			understanding and academic knowledge.	
Intercultural Sensitivity	IS1	Respect for cultural differences	I respect viewpoints and cultural values that are different from my own.	Adapted from Chen & Starosta (2020)
	IS2	Interaction attentiveness	I pay close attention to cultural nuances when interacting with people from different backgrounds.	
	IS3	Interaction confidence	I feel comfortable engaging with people whose cultural backgrounds differ from mine.	
	IS4	Openness and enjoyment	I enjoy learning from intercultural encounters and differences in perspective.	
Cross-Cultural Communication	CC1	Communicative clarity	I can express my ideas clearly when communicating with people from different cultural backgrounds.	Adapted from Matveev & Nelson (2004)
	CC2	Behavioral adaptability	I can adjust the way I communicate to suit people from other cultures.	
	CC3	Interaction management	I can maintain effective communication even when cultural misunderstandings arise.	
	CC4	Interpersonal appropriateness	I try to communicate in ways that are respectful and appropriate across cultures.	
Global Competence	GC1	Awareness of global issues	I try to understand social, cultural, and global issues from more than one perspective.	Adapted from Liu et al. (2020)
	GC2	Perspective-taking	I am able to consider how people from other cultures may view the same issue differently.	

	GC3	Intercultural collaboration	I am prepared to work with people from different cultural backgrounds in academic settings.	
	GC4	Responsible global engagement	I feel ready to participate responsibly in a culturally diverse and globally connected world.	

3.4 Data Collection Procedure

The questionnaire was administered online. At the beginning of the survey, participants received an informed-consent statement explaining the purpose of the study, the voluntary nature of participation, confidentiality and anonymity, expected completion time, and the right to withdraw without penalty. Procedural remedies were used to reduce common method bias, including anonymity, neutral wording, concise items, and separation of construct blocks where appropriate. Common method bias was therefore treated as a design concern rather than being addressed through a single post hoc test (Podsakoff et al., 2024).

3.5 Data Analysis

Data analysis was performed using SmartPLS in two stages: measurement-model assessment and structural-model assessment. The reflective measurement model was evaluated using indicator loadings, Cronbach's alpha, composite reliability, average variance extracted (AVE), and the heterotrait–monotrait ratio (HTMT). The structural model was then assessed through collinearity diagnostics, path coefficients, coefficient of determination (R^2), effect sizes (f^2), predictive relevance (Q^2), and the significance of direct and indirect effects. Hypothesis testing used bootstrapping with 5,000 resamples. The two specific indirect effects (H7 and H8) and the serial specific indirect effect (H9) were estimated within the same full model (Ringle et al., 2023).

4. Results

4.1 Respondent Characteristics

The empirical dataset comprised 237 undergraduate students enrolled in English and German language programs at universities in western, central, and eastern Indonesia. The sample was obtained purposively according to the study's inclusion criteria. The regional distribution was 31.2% from western Indonesia, 41.8% from central Indonesia, and 27.0% from eastern Indonesia. These figures describe the composition of the sample and should not be interpreted as evidence of regional representativeness.

The sample included 151 female students (63.7%) and 86 male students (36.3%). Most respondents were aged 21–23 years (53.6%), followed by 18–20 years (33.8%) and 24 years or above (12.7%). English-program students accounted for 66.2% of the sample and German-program students for 33.8%. Third-year students formed the largest group (39.2%), followed by fourth-year (34.6%) and second-year students (26.2%). Household-income categories were lower-middle income (21.5%), middle income (50.6%), and upper-middle income (27.8%). Table 2 summarizes the participant characteristics. These demographic statistics are presented descriptively and are not used to infer differences in the latent constructs.

Table 2. Demographic Profile of Participants (n = 237)

Variable	Category	Frequency (n)	Percentage (%)
Gender	Male	86	36.3
	Female	151	63.7
Age	18–20 years	80	33.8
	21–23 years	127	53.6
	24 years and above	30	12.7
Study Program	English	157	66.2
	German	80	33.8
Academic Year	Second year	62	26.2
	Third year	93	39.2
	Fourth year	82	34.6
University Region	Western Indonesia	74	31.2
	Central Indonesia	99	41.8
	Eastern Indonesia	64	27.0
Household Income	Lower-middle income	51	21.5
	Middle income	120	50.6
	Upper-middle income	66	27.8

4.2 Descriptive Statistics and Correlations

Before assessing the measurement and structural models, descriptive statistics and zero-order correlations among the four study constructs were examined. As shown in Table 3, the mean scores ranged from 3.78 to 4.02 on the five-point response scale. Intercultural Sensitivity showed the highest mean score (M = 4.02, SD = 0.57), followed by Global Competence (M = 3.91, SD = 0.59), Reading Motivation (M = 3.84, SD = 0.61), and Cross-Cultural Communication (M = 3.78, SD = 0.63). The observed scores also showed sufficient variability across the constructs. Reading Motivation scores ranged from 2.00 to 5.00, Intercultural Sensitivity from 2.25 to 5.00, Cross-Cultural Communication from 1.75 to 5.00, and Global Competence from 2.00 to 5.00. All four constructs were positively correlated. The correlations ranged from r = 0.41 to r = 0.62. The strongest bivariate relationship was observed between Cross-Cultural Communication and Global Competence (r = 0.62), followed by Intercultural Sensitivity and Cross-Cultural Communication (r = 0.58) and Intercultural Sensitivity and Global Competence (r = 0.54). Reading Motivation was moderately correlated with Intercultural Sensitivity (r = 0.49), Cross-Cultural Communication (r = 0.44), and Global Competence (r = 0.41). The descriptive patterns suggested positive associations among motivational, intercultural, communicative, and global-competence dimensions. Nevertheless, these zero-order correlations were used only as preliminary descriptive evidence; the hypothesized relationships were subsequently evaluated through PLS-SEM.

Table 3. Descriptive Statistics and Correlations among Study Constructs

Construct	Mean	SD	Min	Max	RM	IS	CC	GC
Reading Motivation (RM)	3.84	0.61	2.00	5.00	1.000			
Intercultural Sensitivity (IS)	4.02	0.57	2.25	5.00	0.49	1.000		
Cross-Cultural Communication (CC)	3.78	0.63	1.75	5.00	0.44	0.58	1.000	

Global Competence (GC)	3.91	0.59	2.00	5.00	0.41	0.54	0.62	1.000

4.3 Measurement Model Assessment

The measurement model was first assessed to examine indicator reliability, internal consistency reliability, and convergent validity. All constructs in the model were specified as reflective constructs. The results showed that all item loadings exceeded the recommended threshold of 0.70, indicating satisfactory indicator reliability. In addition, the values of Cronbach's alpha, composite reliability, and average variance extracted (AVE) all met the commonly accepted cut-off criteria, with reliability coefficients above 0.70 and AVE values above 0.50. These results suggest that the reflective measurement model demonstrated adequate internal consistency and convergent validity. SmartPLS documentation identifies outer loadings of at least 0.70, reliability coefficients of at least 0.70, and AVE of at least 0.50 as acceptable thresholds for reflective measurement assessment.

More specifically, the loadings of the indicators ranged from 0.758 to 0.874, indicating that all indicators contributed adequately to their respective latent constructs. The Reading Motivation construct showed strong psychometric properties, with loadings between 0.781 and 0.846, a Cronbach's alpha of 0.825, composite reliability of 0.884, and an AVE of 0.657. Intercultural Sensitivity also met all reliability and validity criteria, with loadings ranging from 0.769 to 0.845, Cronbach's alpha of 0.818, composite reliability of 0.880, and an AVE of 0.648. Similarly, Cross-Cultural Communication demonstrated acceptable measurement quality, with loadings between 0.758 and 0.861, Cronbach's alpha of 0.823, composite reliability of 0.883, and an AVE of 0.653. Finally, Global Competence showed the strongest convergent validity, with loadings ranging from 0.792 to 0.874, Cronbach's alpha of 0.853, composite reliability of 0.901, and an AVE of 0.695. Overall, these findings confirm that the constructs were measured reliably and captured sufficient variance from their indicators (see Table 4).

Table 4. Reliability and convergent validity assessment

Construct	Item	Outer Loading	Cronbach's Alpha	Composite Reliability	AVE
Reading Motivation	RM1	0.781	0.825	0.884	0.657
	RM2	0.824			
	RM3	0.798			
	RM4	0.846			
Intercultural Sensitivity	IS1	0.769	0.818	0.880	0.648
	IS2	0.811			
	IS3	0.845			
	IS4	0.832			
Cross-Cultural Communication	CC1	0.758	0.823	0.883	0.653
	CC2	0.804			
	CC3	0.837			
	CC4	0.861			
Global Competence	GC1	0.792	0.853	0.901	0.695
	GC2	0.846			
	GC3	0.858			
	GC4	0.874			

After establishing reliability and convergent validity, discriminant validity was assessed using the heterotrait-monotrait ratio (HTMT). The HTMT criterion is currently recommended as the primary approach for evaluating discriminant validity in reflective measurement models. According to SmartPLS guidance, HTMT values

below 0.90 indicate adequate discriminant validity, while values below 0.85 provide a more conservative indication that the constructs are empirically distinct. As presented in Table 5, all HTMT values in the model were below the conservative threshold of 0.85, ranging from 0.573 to 0.781. The highest HTMT value was observed between Cross-Cultural Communication and Global Competence (0.781), followed by the relationship between Intercultural Sensitivity and Cross-Cultural Communication (0.741). Since all values remained below the recommended cut-off, the discriminant validity of the model was established. These findings indicate that the four constructs, although theoretically related, captured distinct conceptual domains and were empirically separable in the measurement model.

Table 5. HTMT ratio

Construct	RM	IS	CC	GC
Reading Motivation (RM)	—			
Intercultural Sensitivity (IS)	0.621	—		
Cross-Cultural Communication (CC)	0.598	0.741	—	
Global Competence (GC)	0.573	0.706	0.781	—

The results of the measurement model assessment indicate that the study's reflective constructs satisfied the required standards of indicator reliability, internal consistency reliability, convergent validity, and discriminant validity. Therefore, the measurement model was considered adequate, and the analysis proceeded to the evaluation of the structural model.

4.4 Structural Model Assessment and Hypothesis Testing

As presented in Table 6, the structural model met the required criteria for explanatory power and predictive relevance. The model explained 24.3% of the variance in Intercultural Sensitivity (R^2 = 0.243), 41.8% of the variance in Cross-Cultural Communication (R^2 = 0.418), and 56.3% of the variance in Global Competence (R^2 = 0.563). In addition, all endogenous constructs showed Q^2 values above zero, namely 0.156 for Intercultural Sensitivity, 0.264 for Cross-Cultural Communication, and 0.351 for Global Competence, indicating acceptable predictive relevance. In terms of effect size, Reading Motivation had a medium effect on Intercultural Sensitivity (f^2 = 0.321), but only small effects on Cross-Cultural Communication (f^2 = 0.067) and Global Competence (f^2 = 0.046). Intercultural Sensitivity exerted a large effect on Cross-Cultural Communication (f^2 = 0.368) and a small effect on Global Competence (f^2 = 0.089), whereas Cross-Cultural Communication showed a medium effect on Global Competence (f^2 = 0.271). These results indicate that the strongest structural contribution in the model was the path from Intercultural Sensitivity to Cross-Cultural Communication.

The significance of the structural relationships was examined using bootstrapping with 5,000 resamples, and the results are reported in Table 7. All hypothesized direct relationships were significant. Reading Motivation positively predicted Intercultural Sensitivity (β = 0.493, $p < .001$), Cross-Cultural Communication (β = 0.214, $p < .001$), and Global Competence (β = 0.179, $p < .001$), supporting H1–H3. Intercultural Sensitivity significantly predicted Cross-Cultural Communication (β = 0.501, $p < .001$) and Global Competence (β = 0.247, $p < .001$), supporting H4 and H5. Cross-Cultural Communication also had a significant positive effect on Global Competence (β = 0.429, $p < .001$), supporting H6.

The mediation results in Table 6 showed that the specific indirect effect through Intercultural Sensitivity was significant (RM → IS → GC: β = 0.122, $p < .001$), as was the specific indirect effect through Cross-Cultural Communication (RM → CC → GC: β = 0.092, $p < .001$), supporting H7 and H8. The serial specific indirect effect

RM → IS → CC → GC was also significant (β = 0.106, p < .001), supporting H9. Because the direct RM → GC path remained significant, the overall pattern is consistent with partial mediation. The direct RM → GC effect, however, was small in effect-size terms ($f^2 = 0.046$), so the substantive interpretation should emphasize the mediated and communication-related pathways rather than portray reading motivation as the dominant determinant of global competence.

Table 6. Coefficient of determination (R^2), predictive relevance (Q^2), and effect size (f^2)

Variable	R^2	Q^2	Path	f^2	Effect Size
IS	0.243	0.156	RM → IS	0.321	Medium
CC	0.418	0.264	RM → CC	0.067	Small
			IS → CC	0.368	Large
GC	0.563	0.351	RM → GC	0.046	Small
			IS → GC	0.089	Small
			CC → GC	0.271	Medium

Table 7. Hypothesis testing results

Hypothesis	Path	β	t-value	p-value	Decision
H1	RM → IS	0.493	8.927	< .001	Supported
H2	RM → CC	0.214	3.456	< .001	Supported
H3	RM → GC	0.179	2.982	< .001	Supported
H4	IS → CC	0.501	8.144	< .001	Supported
H5	IS → GC	0.247	3.978	< .001	Supported
H6	CC → GC	0.429	6.672	< .001	Supported
H7	RM → IS → GC	0.122	3.512	< .001	Supported
H8	RM → CC → GC	0.092	2.847	< .001	Supported
H9	RM → IS → CC → GC	0.106	4.281	< .001	Supported

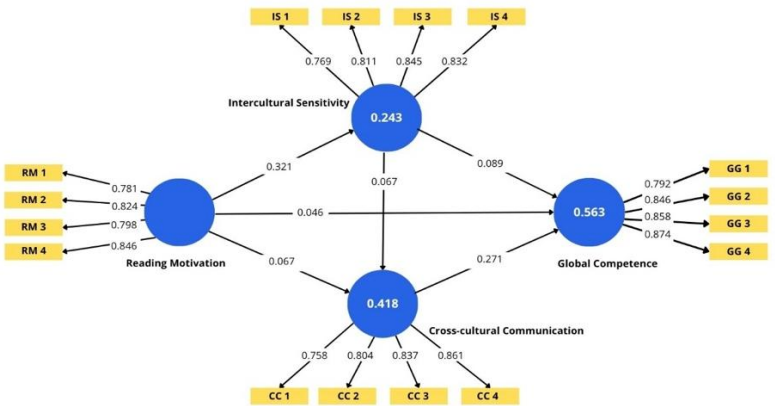


Figure 2. Measurement model

5. Discussion

The results provide empirical support for the proposed structural model; however, the relative magnitude of the effects requires careful interpretation. Reading motivation was significantly associated with intercultural sensitivity, cross-cultural communication, and global competence, but its direct contribution to global competence was comparatively small, with an effect size of $f^2 = 0.046$. By contrast, the largest structural effect was observed in the relationship between intercultural

sensitivity and cross-cultural communication, with an effect size of $f^2 = 0.368$, followed by the relationship between cross-cultural communication and global competence, with an effect size of $f^2 = 0.271$. These findings suggest that reading motivation is more appropriately conceptualized as an upstream motivational condition associated with subsequent intercultural processes rather than as the primary psychological determinant of global competence.

This interpretation is consistent with previous research indicating that reading motivation contributes to sustained engagement, persistence, and involvement in language-learning activities (Khasawneh & Belton, 2025; Taye & Teshome, 2025). Culturally oriented reading may additionally provide opportunities for perspective-taking, interpretive reflection, and engagement with culturally situated meanings (Naqeeb, 2025). The present findings extend this literature by indicating that the relationship between reading motivation and global competence is partly associated with intercultural sensitivity and cross-cultural communication. Nevertheless, this interpretation should remain within the empirical boundaries of the study. The research measured students' motivation to engage with reading but did not directly assess reading frequency, duration, genre, diversity of reading materials, or actual exposure to culturally rich texts. Consequently, the findings cannot establish that particular forms of reading exposure produced intercultural development.

Intercultural sensitivity emerged as an important correlate of cross-cultural communication. The relatively strong relationship between these constructs supports their conceptual distinction while also demonstrating their empirical interconnectedness. Intercultural sensitivity represents an affective orientation characterized by openness, attentiveness, respect, and receptiveness toward cultural difference, whereas cross-cultural communication refers more directly to the ability to enact appropriate and adaptive communication across cultural contexts. Students reporting greater sensitivity toward cultural difference were also more likely to report stronger cross-cultural communicative capability. This pattern is consistent with the proposition that affective readiness may provide an important basis for effective intercultural interaction.

At the same time, the direction of this relationship should not be interpreted as temporally established. Because the data were collected at a single point in time, the study cannot exclude reciprocal processes between intercultural sensitivity and cross-cultural communication. Repeated and meaningful intercultural interaction may itself increase students' attentiveness, openness, and sensitivity toward cultural differences. The present model therefore represents a theoretically specified ordering of associations rather than definitive evidence of a developmental sequence. Longitudinal and cross-lagged designs would be particularly valuable for examining whether these relationships operate reciprocally over time.

Cross-cultural communication also emerged as the most substantial direct predictor of global competence among the variables directly associated with the global competence construct. This finding suggests that global competence involves more than awareness of cultural diversity or favorable attitudes toward difference. It is also closely associated with students' capacity to translate intercultural understanding into communicative practice. This interpretation is consistent with research emphasizing agency, engagement, and practical intercultural participation in the development of global competence (Cisneros-Reyes et al., 2025; Li et al., 2025). From this perspective, global competence becomes particularly salient when students are able to negotiate meaning, adapt their communication, collaborate across cultural boundaries, and participate appropriately in culturally heterogeneous settings.

The mediation findings further clarify the relationships among the four constructs. Both specific indirect effects were statistically significant, as was the sequential indirect effect involving reading motivation, intercultural sensitivity, cross-

cultural communication, and global competence. Importantly, these indirect effects were estimated simultaneously within the same structural model. The results therefore indicate that the association between reading motivation and global competence is partly accounted for by students' intercultural sensitivity and cross-cultural communicative capability. The continued statistical significance of the direct relationship between reading motivation and global competence indicates partial rather than full mediation. However, given the relatively small effect size of this direct relationship, the findings place greater empirical emphasis on the intercultural and communicative mechanisms than on the direct contribution of reading motivation itself.

The findings also have implications for the organization of language curricula. Rather than treating reading exclusively as a means of developing linguistic proficiency or preparing students for assessment, language programs may position reading within a broader sequence of intercultural learning activities. Reading materials that present cultural complexity, contrasting perspectives, and interpretive ambiguity can provide a basis for reflective discussion and intercultural meaning-making. Such textual engagement may subsequently be connected with collaborative and communication-intensive activities that require students to articulate interpretations, negotiate differences, and respond appropriately to culturally diverse perspectives. Previous research similarly suggests that intentionally structured intercultural learning environments can contribute to broader educational outcomes (Chan, 2025; Gulko et al., 2026).

For English and German language programs in particular, the findings support an instructional approach in which multicultural reading, intercultural reflection, and communicative practice are integrated rather than treated as separate curricular components. The pedagogical implication is not that reading alone produces global competence, but that motivated engagement with texts may provide one educational entry point into a broader intercultural learning process. This distinction is important because it aligns pedagogical recommendations with the actual magnitude and structure of the empirical relationships identified in the model.

More broadly, the findings support a differentiated conceptual relationship among the four constructs. Reading motivation can be understood as an upstream motivational condition, intercultural sensitivity as an affective orientation toward cultural difference, cross-cultural communication as the communicative enactment of that orientation, and global competence as a broader integrative capacity encompassing intercultural understanding, perspective-taking, collaboration, and responsible engagement. Such a formulation preserves the conceptual boundaries among the constructs while providing a coherent explanation for their statistical relationships.

This interpretation also has relevance for internationalization-at-home initiatives. Opportunities for intercultural learning need not depend exclusively on physical mobility or participation in overseas programs. Text-based intercultural reflection, structured dialogue, collaborative interpretation, and communication-intensive activities can be incorporated into domestic language-learning environments. Within such settings, reading may contribute most effectively when it is embedded in pedagogical practices that explicitly connect textual interpretation with intercultural reflection and communicative engagement. Accordingly, the present findings support a model of global competence development in which motivational, affective, communicative, and integrative dimensions are related but remain conceptually distinct.

Three limitations qualify the findings. First, purposive sampling and the uneven regional composition limit population-level generalization. Second, the cross-sectional self-report design supports theory-driven association testing but not temporal or causal inference; reciprocal relations between sensitivity and communication remain possible. Third, the study assessed reading motivation rather than actual reading behavior or exposure to culturally rich texts. Future studies should measure reading frequency, text

type, cultural diversity of materials, and exposure intensity, and should use longitudinal or experimental designs to test the proposed sequence more directly.

6. Conclusion

This study shows that reading motivation is significantly associated with global competence among university language students in Indonesia, both directly and through intercultural sensitivity and cross-cultural communication. The direct RM → GC effect was statistically significant but small, whereas the pathways involving intercultural sensitivity and cross-cultural communication were substantively stronger. The findings therefore position reading motivation as an upstream condition within a broader intercultural process rather than as a sufficient explanation of global competence on its own.

The serial mediation result supports the proposed sequence from motivational engagement to affective openness, communicative enactment, and global competence. However, the cross-sectional design does not establish temporal causality or exclude reciprocal relations. In addition, the study measured reading motivation rather than actual reading exposure, frequency, text type, or diversity. Future research should incorporate behavioral reading measures and longitudinal or experimental designs. For practice, language programs may combine culturally diverse texts, reflective perspective-taking, and structured cross-cultural communication tasks to support global learning while evaluating these components separately.

AI Use Declaration

During the revision of this manuscript, ChatGPT (OpenAI) was used as an assistive tool for language editing. The authors retain full responsibility for the study design, empirical data, statistical analysis, interpretation, citations, and final manuscript. No research data or statistical results were generated or fabricated using the AI tool.

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