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# Cognitive Mediation or Direct Experience? Global Competence among Chinese International Students in Thailand

**Xiongling Chen [1], Peng Lu [2], Wanwisa Suebnusorn [1]*, Sareeya Chotitham [1], and Vinayagum Chinapah [3]**

[1] Faculty of Education, Kasetsart University, Bangkok, Thailand; xiongling.c@ku.th (X.C.); wanwisa.sue@ku.th (W.S.); sareeya.ch@ku.th (S.C.)
[2] Chinese International College, Dhurakij Pundit University, Bangkok, Thailand; phoenix03010490@gmail.com (P.L.)
[3] Department of Education, Stockholm University, Stockholm, Sweden; chinapah.vinayagum@gmail.com (V.C.)
* Correspondence: wanwisa.sue@ku.th

## ABSTRACT

*International students build global competence through formal instruction and everyday intercultural contact, but how these influences work remains unclear. Social Cognitive Theory points to a cognitive route through self-efficacy. Intergroup Contact Theory points to a route through direct experience. The two frameworks have developed separately and have rarely been tested together. This study combines them in a dual-pathway model. In the model, teacher support, openness to experience, intergroup contact, and foreign language proficiency relate to global competence either indirectly through self-efficacy or directly. We surveyed 509 Chinese degree-seeking students at universities in Thailand and analyzed the cross-sectional data with partial least squares structural equation modeling (PLS-SEM), treating global competence as a second-order construct. All four antecedents significantly predicted global competence. Self-efficacy partially mediated the effects of teacher support and openness, a pattern of complementary mediation. The indirect effects of intergroup contact and foreign language proficiency were small and nonsignificant, suggesting these factors operate mainly through direct experience. The findings show where self-efficacy stops mediating and extend research on international students to mobility within Asia. Host institutions should pair supportive, efficacy-building teaching with structured chances for authentic intercultural contact and language use.*

**Keywords:** Chinese international students; global competence; intergroup contact; PLS-SEM; quality education; self-efficacy; Thailand

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## INTRODUCTION

Global student mobility has become both larger and more regionally diversified. China remains the world's largest sender of students abroad, but a growing share now chooses destinations within Asia rather than the traditional Anglophone hubs, with Thailand emerging as one of the fastest-growing receiving countries under the Belt and Road Initiative (Center for China and Globalization, 2023; Tan & Li, 2026). This study defines international students as individuals who cross a national border to pursue a degree and hold a temporary residence status tied to that enrollment; the participants here are Chinese nationals in full degree programs at Thai universities. For students in this position, global competence (GC)—the integrated capacity to understand global and intercultural issues, engage effectively with people from other cultural backgrounds, and act constructively across difference—bears directly on academic performance, social integration, and post-graduation trajectories (Hunter et al., 2006; Liu et al., 2020; OECD, 2018).

Existing research treats GC development as the joint product of environmental and individual factors. Supportive educational environments—teachers' intercultural attitudes, exchange opportunities, and multicultural learning climates—foster intercultural understanding and global communication (Jang et al., 2023; Wu & Zhang, 2024), while personality traits, language proficiency, and authentic intercultural interaction help students adapt to unfamiliar cultures (Cao & Meng, 2020; Meng et al., 2017, 2018; Wu, 2026). More recently, self-efficacy has been introduced as the cognitive mechanism that converts these conditions into competence (Huang et al., 2025; Jang et al., 2023).

Social Cognitive Theory and Intergroup Contact Theory each account for part of this process, but they specify different mechanisms. Social Cognitive Theory holds that environmental and personal factors reach behavioral outcomes through cognitive mediators such as self-efficacy (Bandura, 1986). Intergroup Contact Theory has, since Allport (1954), located the mechanism in experience itself: authentic interaction between members of different groups changes attitudes and competencies directly, without requiring a change in efficacy beliefs (Pettigrew et al., 2011). Foreign language proficiency is likewise understood as an instrumental resource that enables global engagement in its own right (Byram, 1997). Neither account is novel, and neither is in dispute. What has not been examined is what happens when antecedents drawn from both traditions are estimated within a single model against a common mediator: whether a general efficacy belief absorbs the effects of all of them, or whether its mediating role is bounded to antecedents of a particular kind. That question is the point of departure for the present study.

The present study tests it among Chinese international students in Thailand, a setting that offers both mechanisms at once: Thai universities combine institutionalized teacher support and foreign-language requirements with multinational campuses affording dense everyday contact. Empirical work on Chinese students in Southeast Asian destinations nonetheless remains scarce, as research on this population's intercultural development has concentrated on Western host countries and on Sino-foreign programs delivered at home (Meng et al., 2018; Yang et al., 2025). Two questions are addressed:

RQ1: Do environmental factors (teacher support, intergroup contact) and individual factors (openness to experience, foreign language proficiency) jointly predict the global competence of Chinese international students in Thailand?

RQ2: Do these antecedents operate through a unified cognitive mediating pathway, or do distinct cognitive-mediation and experiential–instrumental direct pathways coexist?

Answering them matters in two ways. Theoretically, it tests the boundary conditions of the self-efficacy mediation posited by Social Cognitive Theory, clarifying for which antecedents it holds and for which it does not. Practically, the mechanism identifies the lever, since the two kinds of antecedent call for different institutional responses. Both are ways of delivering what Target 4.7 of Sustainable Development Goal 4 on quality education asks education systems to cultivate, and which the OECD (2018) framework was developed to make assessable.

## LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

### Global Competence and the Dual-Pathway Framework

Global competence has been defined from several standpoints. Hunter et al. (2006) characterize it as the integration of knowledge, skills, and attitudes that allows individuals to live and work effectively in international environments; the OECD (2018) frames it as a multidimensional capacity spanning the analysis of global and local issues, appreciation of multiple perspectives, intercultural interaction, and action for sustainability; and Liu et al. (2020), writing from a student-development standpoint, define it as the ability to understand diverse cultures, remain open, and collaborate effectively with people of different cultural backgrounds, for which they developed a validated instrument. A recent review describes a field that has expanded rapidly while remaining conceptually and methodologically heterogeneous (Jin & Sercu, 2026). Conceptualizations converge on a three-dimensional structure of global knowledge, skills, and attitudes (Hunter et al., 2006; Liu et al., 2020) and on a four-dimensional variant that adds action (OECD, 2018).

This study adopts the three-dimensional structure and models GC as a reflective–reflective second-order construct. The specification follows from how the three dimensions stand in relation to the underlying capacity: global knowledge, skills, and attitudes are manifestations of a common competence rather than its causes, they are expected to covary, and dropping any one of them would not change what the construct means—the conditions under which a reflective specification is appropriate (Jarvis et al., 2003). The instrument developed by Liu et al. (2020) was selected because it was constructed and validated specifically for students in Chinese higher education, which matches the present sample. The fourth dimension in the OECD (2018) framework, action, is not represented in that instrument and therefore falls outside what is measured here; this is a constraint of the chosen instrument rather than a judgment about the dimension's theoretical standing, and it is noted among the limitations.

The framework guiding this study brings the two theories into a single model. Social Cognitive Theory holds that external conditions and individual attributes reach behavioral outcomes through cognitive mechanisms, chief among them self-efficacy (Bandura, 1986). Intergroup Contact Theory locates the mechanism elsewhere: under conditions of equal status, common goals, and cooperation, direct interaction between groups reduces prejudice and builds competence through experience itself (Allport, 1954; Pettigrew et al., 2011). Because the two traditions posit mechanisms of different kinds, the antecedents each has established fall into two groups: teacher support (TS) and openness to experience (OE), whose effects the cognitive tradition attributes to belief formation, and intergroup contact (IC) and foreign language proficiency (FL), whose effects the experiential and instrumental accounts attribute to accumulated experience and to language as a tool. This grouping reflects the mechanism each tradition emphasizes rather than an exclusive one: teacher support may also work through knowledge transmission, openness through the intercultural contact it leads students to seek, and contact and language through social or communicative self-efficacy. Self-efficacy (SE) is positioned as the mediator against which this division is tested.

### The Cognitive-Mediation Pathway: Self-Efficacy, Teacher Support, and Openness

Self-efficacy is an individual's belief in their capability to accomplish a given task and functions as a core cognitive mechanism linking environmental conditions to behavioral outcomes; it develops from enactive mastery experiences, vicarious experiences, verbal persuasion, and physiological and affective states (Bandura, 1997). Within the GC literature, Jang et al. (2023) found that students' self-efficacy enhances their global competence, and Huang et al. (2025) showed that it mediates the relationship between intercultural learning contexts and GC. Students who believe themselves capable of adapting and communicating across cultures engage more actively in global-issue learning and intercultural interaction. Accordingly:

H1: Self-efficacy has a significant positive effect on global competence.

Teacher support shapes students' learning capacity and outcomes, with higher perceived support associated with better outcomes (Affuso et al., 2023; Tao et al., 2022). In cross-cultural settings, teachers who integrate global issues into instruction foster intercultural understanding and adaptation directly (Huang et al., 2026; Jang et al., 2023).

Teacher support also maps closely onto the efficacy-information sources delineated by Bandura (1997), which makes it a prototypical cognitive-pathway antecedent: academic support furnishes mastery experiences, emotional support helps students regulate affective states under cross-cultural strain, and encouragement and feedback function as verbal persuasion (Xu, 2024). It may therefore act on GC both directly and indirectly through self-efficacy. Accordingly:

H2: Teacher support has a significant positive effect on global competence.

H3: Teacher support has a significant positive effect on self-efficacy.

H4: Self-efficacy significantly mediates the relationship between teacher support and global competence.

Openness to experience is a core dimension of the Five-Factor Model, reflecting cognitive openness, curiosity, and receptivity to new ideas and experiences (McCrae & Greenberg, 2014). Using a Chinese university sample, Cao and Meng (2020) found that openness positively predicts all three GC dimensions, so that students high in openness should adapt more readily to cultural difference and participate more fully in intercultural interaction.

As a stable disposition, openness also shapes capability development through cognitive mechanisms: individuals high in openness engage more readily in exploratory learning, accumulate mastery experiences, and form stronger efficacy beliefs, a relationship confirmed meta-analytically (Barańczuk, 2021). Openness may thus both directly foster GC and operate indirectly through self-efficacy. Accordingly:

H5: Openness to experience has a significant positive effect on global competence.

H6: Openness to experience has a significant positive effect on self-efficacy.

H7: Self-efficacy significantly mediates the relationship between openness to experience and global competence.

**The Experiential–Instrumental Pathway: Intergroup Contact and Language**

Intergroup contact derives from Allport's (1954) proposition that, under conditions of equal status, common goals, and cooperation, contact between members of different groups reduces prejudice and improves intergroup relations. In cross-cultural research it is central to international students' development: Liang and Pho (2025) show that intercultural experience is formed chiefly through interaction with co-national, host-national, and other international students; Gebregergis and Csukonyi (2025) find that contact promotes sociocultural adaptation; and Bartel-Radic and Cucchi (2025) show that gains in intercultural competence during international mobility depend on the intensity of that interaction rather than on mobility in itself. Because intercultural competence is a core dimension of GC, contact should foster GC directly.

Its effect is unlikely, however, to run through self-efficacy. The mediators established in the contact literature are affective rather than evaluative: meta-analytic evidence identifies reduced intergroup anxiety and increased empathy as the principal routes through which contact changes intergroup outcomes, and efficacy beliefs have not figured among them (Pettigrew et al., 2011; Voci & Hewstone, 2003). The contact mechanism is inherently experiential—knowledge and skills are acquired through lived interaction rather than through beliefs about one's own capability—and, following Bandura's (1997) ability–domain correspondence principle, any efficacy that contact does strengthen should be the social self-efficacy specific to social situations rather than the general efficacy measured here (Nguyen & McGregor, 2025). Accordingly:

H8: Intergroup contact has a significant positive direct effect on global competence, and its indirect effect through self-efficacy is negligible.

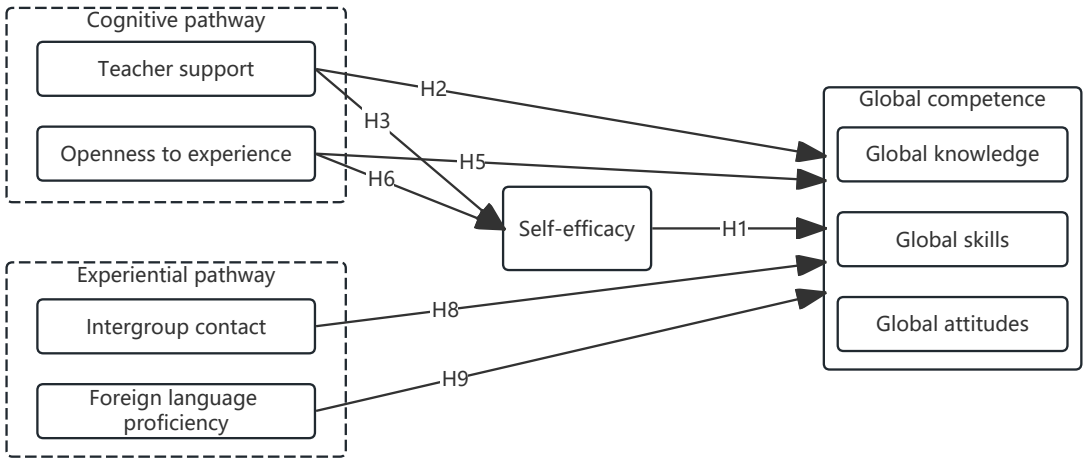
Foreign language proficiency is an individual's overall capacity to comprehend, express, and interact in a language other than the mother tongue, and is an important component of intercultural communicative competence (Byram, 1997). Beyond transmitting information, a foreign language is a cognitive medium through which individuals access diverse information and understand other cultures (Wang et al., 2025). Meng et al. (2018) found that both English and host-language proficiency correlate positively with GC among Chinese students in Belgium, and Mu and Spino (2025) document that second language proficiency and intercultural competence develop in tandem. As with contact, the effect is likely realized instrumentally: language directly enables information access, the expression of viewpoints, and intercultural understanding without depending on the transformation of psychological cognition, and the efficacy belief shown to transmit the effect of language skills is efficacy in communication specifically rather than efficacy in general (Jurasek & Wawrosz, 2023). Accordingly:

H9: Foreign language proficiency has a significant positive direct effect on global competence, and its indirect effect through self-efficacy is negligible.

Figure 1 presents the resulting integrated model. Along the cognitive-mediation pathway, teacher support and openness act on GC both directly and indirectly through self-efficacy, embodying the environment/person → cognition → outcome logic of Social Cognitive Theory. Along the experiential–instrumental pathway, intergroup contact and foreign language proficiency are hypothesized to act directly, with negligible indirect effects through self-efficacy.

**Figure 1**

*Conceptual Model*




## METHODOLOGY

### Research Design, Participants, and Procedure

This study employed a cross-sectional survey design. The target population comprised Chinese degree-seeking students enrolled at universities in Thailand. Data were collected between January 1 and February 20, 2026, at eight Thai universities with substantial Chinese student enrollments. Trained researchers approached students on campus and invited them to complete the questionnaire by scanning an on-site QR code, an intercept-based convenience sampling procedure; all questionnaires were completed on site and collected immediately. Respondents were informed of the study's purpose and assured that data would be used solely for academic research and kept confidential; participation was anonymous, voluntary, and uncompensated. Of 514 questionnaires collected, five were excluded for failing embedded attention-check items, yielding 509 valid cases.

The valid sample was 48.7% male and 51.3% female; most were undergraduates (74.7%), and 40.9% had studied in Thailand for between six months and a year and a half. The full demographic profile, including the distribution of respondents across the eight institutions, is reported in the supplementary material.

**Measures**

All constructs were measured with established scales validated in prior research, with item wording adapted where necessary to the study context. The questionnaire was administered in Chinese; English-source scales were translated into Chinese and back-translated by two researchers to ensure semantic equivalence (Brislin, 1970). All items were rated on five-point scales; unless otherwise noted, response anchors ranged from 1 = strongly disagree to 5 = strongly agree.

Teacher support was measured with five items from Yıldırım (2012) capturing perceived academic, emotional, and autonomy support. Openness to experience was measured with eight items from the Chinese Big Five Personality Inventory (CBF-PI; Wang et al., 2011), for which a validated Chinese version already exists. Foreign language proficiency was measured with three self-assessed items drawn from Meng et al. (2018) and Barratt and Huba (1994); these assessed proficiency in foreign languages generally rather than in a single target language, reflecting the linguistic heterogeneity of the sample, in which some students use mainly English and others mainly Thai in daily academic and social life. Intergroup contact was measured with three items adapted from Brown et al. (1999) and Voci and Hewstone (2003) following Meng et al. (2017); these items index the frequency of students' direct contact with host-national and other international peers and do not assess its quality or valence.

Self-efficacy was measured with the ten-item General Self-Efficacy Scale (Scholz et al., 2002). General rather than domain-specific self-efficacy was selected deliberately. The four antecedents examined here belong to different domains—instructional, dispositional, social, and linguistic—so any domain-specific efficacy measure would correspond to some of them but not to others, building the expected pattern into the measurement itself. The scale has been validated across 25 countries (Scholz et al., 2002), supporting its use with this population. Testing the broadest mediator first is also what makes its boundary visible: had a domain-matched mediator been specified for each antecedent at the outset, the question of how far a single efficacy belief extends could not have arisen.

Global competence was modeled as a reflective–reflective second-order construct comprising global knowledge (9 items), global skills (9 items), and global attitudes (10 items), measured with 28 items adapted from Liu et al. (2020). Full item wording is reported in the supplementary material (Table S4).

**Data Analysis Strategy**

Hypotheses were tested using partial least squares structural equation modeling (PLS-SEM) in SmartPLS 4, chosen because the model involves a higher-order construct and a relatively complex set of mediating relationships and because the study's aim is predominantly predictive–explanatory (Hair et al., 2022). The first-order measurement model was assessed through outer loadings, Cronbach's α, composite reliability (CR), average variance extracted (AVE), and the heterotrait–monotrait ratio (HTMT) with bootstrap confidence intervals (Henseler et al., 2015). The second-order construct was estimated using the repeated indicators approach (Becker et al., 2023). The three dimensions were strongly interrelated yet empirically distinct (HTMT = 0.615–0.771; Table S1), as this specification requires. The structural model was evaluated through inner variance inflation factors (VIF), path coefficients with bootstrap significance tests (5,000 resamples, percentile confidence intervals), explanatory power ($R^2$ and effect sizes $f^2$), and overall fit (SRMR).

Mediation was tested by examining specific indirect effects with bootstrap confidence intervals, and mediation types were classified following Zhao et al. (2010). For H8 and H9, the magnitude of each specific indirect effect was assessed rather than its statistical significance alone, using three pieces of evidence: the point estimate with its percentile bootstrap 95% confidence interval, the size of that estimate

relative to the corresponding direct effect, and the effect size ($f^2$) of the antecedent's path to self-efficacy, evaluated against the conventional criterion of $f^2 < 0.02$ for a negligible effect (Hair et al., 2022). Nonsignificance alone was not treated as evidence that an indirect effect is absent. Because the data were single-source and collected at a single time point, common method bias was assessed prior to hypothesis testing using the full collinearity test, in which all variance inflation factors below 3.3 indicate that bias is not a serious concern (Kock, 2015; see also Podsakoff et al., 2024).

## RESULTS

### Measurement Model

Full collinearity variance inflation factors ranged from 1.498 to 3.050, all below the 3.3 threshold, indicating that common method bias is not a serious concern in this study (Kock, 2015). Table 1 reports the first-order measurement model. Most outer loadings exceeded the recommended threshold of 0.70 (Hair et al., 2019); two items (GC31 = 0.698, GC38 = 0.674) fell marginally below this value but were retained, as indicators loading between 0.40 and 0.70 may be kept when their removal does not improve AVE or CR (Hair et al., 2022). Internal consistency was satisfactory, with Cronbach's α ranging from 0.920 to 0.963 and CR from 0.934 to 0.968. CR exceeded the conservative 0.95 benchmark for SE (0.968), IC (0.966), TS (0.963), and OE (0.955) (Hair et al., 2019). Inspection of item content (Table S4) showed that the items in these scales address distinct facets—for contact, conversation, shared activities, and friendship—rather than rewording a single statement, so all items were retained. AVE ranged from 0.590 to 0.905, exceeding the 0.50 criterion (Hair et al., 2019).

Discriminant validity was supported. All HTMT ratios among the first-order constructs fell below the 0.90 threshold, the highest being 0.846 between SE and OE, and none of the bias-corrected bootstrap confidence intervals (5,000 resamples) included 1 (Henseler et al., 2015); the full HTMT matrix and its bootstrap confidence intervals are reported in the supplementary material (Tables S1 and S5). Global competence was then modeled as a reflective–reflective second-order construct comprising global knowledge, global skills, and global attitudes, estimated using the repeated indicators approach (Becker et al., 2023). Its reliability and convergent validity were satisfactory (α = 0.960, CR = 0.963, AVE = 0.773), and all HTMT confidence intervals between the second-order construct and the remaining constructs likewise excluded 1 (Table S2). The second-order CR again exceeded 0.95, reflecting the aggregation of 28 indicators rather than item redundancy.

**Table 1**

*Reliability and Convergent Validity of the First-Order Measurement Model*

| Construct | Item | Loading | α | CR | AVE |
|---|---|---|---|---|---|
| Global Knowledge (GK) | GC11 | 0.782 | 0.934 | 0.944 | 0.653 |
| | GC12 | 0.792 | | | |
| | GC13 | 0.804 | | | |
| | GC14 | 0.818 | | | |
| | GC15 | 0.840 | | | |
| | GC16 | 0.815 | | | |
| | GC17 | 0.823 | | | |
| | GC18 | 0.809 | | | |
| | GC19 | 0.788 | | | |
| Global Skills (GS) | GC21 | 0.766 | 0.933 | 0.944 | 0.654 |
| | GC22 | 0.737 | | | |
| | GC23 | 0.799 | | | |
| | GC24 | 0.843 | | | |
| | GC25 | 0.761 | | | |

| Construct | Item | Loading | α | CR | AVE |
|---|---|---|---|---|---|
| | GC26 | 0.820 | | | |
| | GC27 | 0.854 | | | |
| | GC28 | 0.843 | | | |
| | GC29 | 0.845 | | | |
| Global Attitudes (GA) | GC31 | 0.698 | 0.922 | 0.934 | 0.590 |
| | GC32 | 0.779 | | | |
| | GC33 | 0.733 | | | |
| | GC34 | 0.759 | | | |
| | GC35 | 0.847 | | | |
| | GC36 | 0.848 | | | |
| | GC37 | 0.878 | | | |
| | GC38 | 0.674 | | | |
| | GC39 | 0.712 | | | |
| | GC40 | 0.722 | | | |
| Teacher Support (TS) | TS1 | 0.901 | 0.951 | 0.963 | 0.838 |
| | TS2 | 0.917 | | | |
| | TS3 | 0.940 | | | |
| | TS4 | 0.915 | | | |
| | TS5 | 0.903 | | | |
| Openness to Experience (OE) | OE1 | 0.829 | 0.946 | 0.955 | 0.726 |
| | OE2 | 0.828 | | | |
| | OE3 | 0.876 | | | |
| | OE4 | 0.860 | | | |
| | OE5 | 0.870 | | | |
| | OE6 | 0.842 | | | |
| | OE7 | 0.844 | | | |
| | OE8 | 0.864 | | | |
| Self-Efficacy (SE) | SF1 | 0.820 | 0.963 | 0.968 | 0.751 |
| | SF2 | 0.843 | | | |
| | SF3 | 0.841 | | | |
| | SF4 | 0.892 | | | |
| | SF5 | 0.879 | | | |
| | SF6 | 0.862 | | | |
| | SF7 | 0.891 | | | |
| | SF8 | 0.888 | | | |
| | SF9 | 0.874 | | | |
| | SF10 | 0.873 | | | |
| Direct Intergroup Contact (IC) | IC1 | 0.954 | 0.947 | 0.966 | 0.905 |
| | IC2 | 0.964 | | | |
| | IC3 | 0.936 | | | |
| Foreign Language Proficiency (FL) | FL1 | 0.928 | 0.920 | 0.949 | 0.862 |
| | FL2 | 0.937 | | | |
| | FL3 | 0.920 | | | |

**Structural Model and Hypothesis Testing**

All inner VIF values were below the threshold of 3.3, with a maximum of 3.180, indicating no multicollinearity concern (Kock, 2015). The SRMR was 0.098, just below the 0.10 threshold suggested for

PLS-SEM (Henseler et al., 2014); given this proximity, model fit is considered acceptable but not strong. $R^2$ was 0.686 for self-efficacy and 0.683 for global competence, indicating moderate-to-substantial explanatory power (Hair et al., 2019). Effect sizes ($f^2$) are reported in Table 2.

**Direct effects.** Teacher support (β = 0.331, $t$ = 8.296, $p$ < .001), openness to experience (β = 0.204, $t$ = 5.000, $p$ < .001), intergroup contact (β = 0.238, $t$ = 5.571, $p$ < .001), and foreign language proficiency (β = 0.098, $t$ = 2.379, $p$ = .017) all significantly and positively predicted global competence, supporting H2 and H5 and confirming the direct-effect component of H8 and H9. Self-efficacy also significantly predicted global competence (β = 0.208, $t$ = 4.331, $p$ < .001), supporting H1. Turning to the paths to the mediator, teacher support (β = 0.146, $t$ = 4.041, $p$ < .001) and openness to experience (β = 0.672, $t$ = 17.389, $p$ < .001) significantly predicted self-efficacy, supporting H3 and H6; foreign language proficiency showed a significant but weak association (β = 0.089, $t$ = 2.054, $p$ = .040), whereas intergroup contact did not (β = 0.056, $t$ = 1.434, $p$ = .152).

**Indirect effects and mediation types.** The specific indirect effect of teacher support on global competence via self-efficacy was significant (β = 0.030, $t$ = 2.888, $p$ = .004, 95% CI [0.012, 0.053]) and, given a significant direct effect of the same sign, constitutes complementary mediation (Zhao et al., 2010), supporting H4. The indirect effect of openness was significant and larger (β = 0.140, $t$ = 4.138, $p$ < .001, 95% CI [0.076, 0.206]), also constituting complementary mediation and supporting H7.

By contrast, the specific indirect effects of intergroup contact (β = 0.012, $t$ = 1.293, $p$ = .196, 95% CI [−0.004, 0.031]) and foreign language proficiency (β = 0.019, $t$ = 1.919, $p$ = .055, 95% CI [−0.001, 0.039]) were not significant, and their magnitudes were small relative to the corresponding direct effects—approximately one twentieth and one fifth, respectively. The effect sizes of the two corresponding paths to self-efficacy were likewise negligible ($f^2$ = 0.005 and 0.013, against the criterion of $f^2$ < 0.02), whereas those from teacher support and openness were not ($f^2$ = 0.052 and 0.900). Both components of H8 and H9 therefore hold. Because nonsignificance does not establish that an effect is absent, these results indicate that self-efficacy carries little of the effect of contact and of language proficiency, not that it carries none. Both sets of effects are summarized in Table 2.

**Table 2**

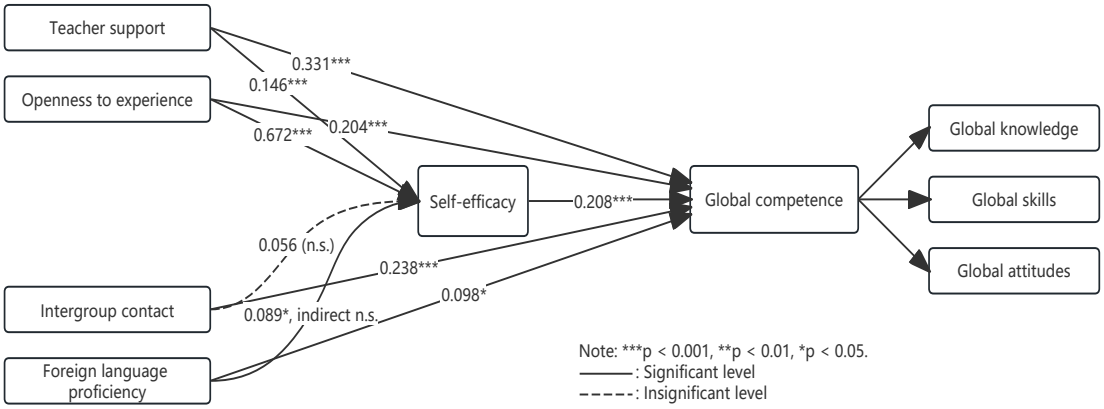
*Direct and Specific Indirect Effects*

| Path | β | $t$ | $p$ | $f^2$ | 2.5% | 97.5% | Result |
|---|---|---|---|---|---|---|---|
| SE → GC | 0.208 | 4.331 | <.001 | 0.043 | 0.116 | 0.301 | *** |
| TS → GC | 0.331 | 8.296 | <.001 | 0.251 | 0.252 | 0.408 | *** |
| TS → SE | 0.146 | 4.041 | <.001 | 0.052 | 0.074 | 0.218 | *** |
| OE → GC | 0.204 | 5.000 | <.001 | 0.043 | 0.123 | 0.284 | *** |
| OE → SE | 0.672 | 17.389 | <.001 | 0.900 | 0.596 | 0.746 | *** |
| IC → GC | 0.238 | 5.571 | <.001 | 0.092 | 0.153 | 0.323 | *** |
| IC → SE | 0.056 | 1.434 | .152 | 0.005 | −0.021 | 0.133 | n.s. |
| FL → GC | 0.098 | 2.379 | .017 | 0.015 | 0.018 | 0.177 | * |
| FL → SE | 0.089 | 2.054 | .040 | 0.013 | 0.005 | 0.173 | * |
| TS → SE → GC | 0.030 | 2.888 | .004 | — | 0.012 | 0.053 | Complementary |
| OE → SE → GC | 0.140 | 4.138 | <.001 | — | 0.076 | 0.206 | Complementary |
| IC → SE → GC | 0.012 | 1.293 | .196 | — | −0.004 | 0.031 | Direct-only |
| FL → SE → GC | 0.019 | 1.919 | .055 | — | −0.001 | 0.039 | Direct-only |

*Note.* $f^2$ is reported for direct effects only. *** $p$ < .001, ** $p$ < .01, * $p$ < .05; n.s. = nonsignificant.

All nine hypotheses were therefore supported. Figure 2 presents the path coefficients of the full structural model.

**Figure 2**
*Structural Model Results*




## DISCUSSION

This study integrated Social Cognitive Theory and Intergroup Contact Theory to test whether the antecedents of global competence operate through one mechanism or two among Chinese international students in Thailand. All four antecedents related significantly to global competence, yet self-efficacy carried their associations to different degrees.

### The Dual-Pathway Mechanism

With respect to RQ1, both environmental factors (teacher support, intergroup contact) and individual factors (openness to experience, foreign language proficiency) positively predicted global competence. Teacher support was the strongest direct predictor, consistent in direction with Tao et al. (2022) and Affuso et al. (2023). This extends the teacher's role in GC development: whereas prior research has focused on teachers' attitudes toward multicultural or minority students (Huang et al., 2026; Jang et al., 2023), everyday academic, emotional, and autonomy support relates significantly to multiple GC dimensions. Openness likewise predicted GC, echoing Cao and Meng (2020). Intergroup contact was significant as well, consistent with Liang and Pho (2025), Gebregergis and Csukonyi (2025), and Bartel-Radic and Cucchi (2025), indicating that contact is not merely a contextual condition for intercultural learning but is itself associated with higher global competence. Foreign language proficiency, though significant, was the weakest of the four, suggesting that its marginal contribution narrows once contact, support, and personality are taken into account.

With respect to RQ2, the mediation results reveal a differentiated pattern. Along the cognitive-mediation pathway, teacher support and openness both showed complementary mediation, with direct and indirect effects of the same sign and both significant (Zhao et al., 2010), supporting H4 and H7. The indirect effect of openness ($\beta = 0.140$) approached its direct effect ($\beta = 0.204$), so that a considerable share of this trait's association with global competence is statistically carried by self-efficacy, underpinned by a strong openness–efficacy association ($\beta = 0.672$). This is consistent with the environment/person → cognition → outcome logic of Social Cognitive Theory (Bandura, 1986) and with the findings of Huang et al. (2025).

Along the experiential–instrumental pathway, by contrast, little of the association of intergroup contact and foreign language proficiency with global competence was carried by self-efficacy. The indirect effect of contact was nonsignificant ($p = .196$), and contact did not significantly predict self-efficacy at all ($p = .152$), supporting H8. Foreign language proficiency requires a more careful statement: it related significantly to self-efficacy ($\beta = 0.089$, $p = .040$), yet its indirect effect fell just short of significance ($p =$

.055), with a confidence interval whose lower bound barely crossed zero (95% CI [−0.001, 0.039]). This does not show that mediation is absent, but the interval bounds its size: even the upper limit is less than half the direct effect (β = 0.098), so self-efficacy carries at most a small share of the association, and H9 is supported as a claim about magnitude rather than absence. The hypothesized instrumental route is consistent with this pattern but was not measured.

The key to this differentiated pattern lies in Bandura's (1997) ability–domain correspondence principle. The general self-efficacy measured here (Scholz et al., 2002) suits antecedents whose influence on capability beliefs is diffuse, such as teacher support and openness. Contact and language, by contrast, are domain-specific: insofar as they strengthen efficacy, it should be social self-efficacy for contact (Nguyen & McGregor, 2025) and linguistic or communicative self-efficacy for language (Jurasek & Wawrosz, 2023). The two nonsignificant indirect effects therefore mark a boundary of general self-efficacy rather than the absence of cognitive mediation as such.

**Theoretical Contributions**

This study makes three theoretical contributions. First, it tests a question that neither tradition has been able to answer alone. Social Cognitive Theory and Intergroup Contact Theory are each well established, and prior work has confirmed their predictions separately: personality traits, language proficiency, and intercultural contact have been linked to global competence largely in isolation (Cao & Meng, 2020; Meng et al., 2017, 2018), while studies that introduce self-efficacy as a mediator have done so only for antecedents of the cognitive kind (e.g., Huang et al., 2025; Jang et al., 2023). Estimating both classes of antecedent against a common mediator locates the limits of general self-efficacy mediation within a single population. It does not establish the alternative mechanism itself: no mediator was specified for the experiential–instrumental pathway, so the results show where self-efficacy carries little of an antecedent's association, not what carries it instead.

This contribution is distinct from what the studies underpinning the framework have established. Meng et al. (2017) showed that intergroup contact predicts global competence among Chinese students abroad, and Cao and Meng (2020) showed the same for openness to experience; neither modeled a mediator, so neither could establish whether these relationships run through a shared psychological mechanism. Conversely, Huang et al. (2025) and Jang et al. (2023) modeled self-efficacy as a mediator, but only for antecedents of the cognitive kind, so the limits of that mediation could not appear. Estimating both classes against a single mediator is what allows the boundary of self-efficacy mediation to be located rather than assumed. The Southeast Asian setting adds a context in which evidence remains thin, but the contribution does not rest on it.

Second, the study states the boundary condition of self-efficacy mediation as a rule rather than as a description of these four antecedents. Teacher support and openness supply efficacy-relevant information—mastery experience, verbal persuasion, the regulation of affective states (Bandura, 1997)—that is not confined to one domain, whereas the information supplied by contact and language is confined to the social and linguistic domains and corresponds to efficacy beliefs narrower than the one measured. The boundary thus appears to be set by the breadth of the antecedent relative to that of the mediator, which makes it prospective: for antecedents not examined here, it predicts whether a general or a domain-matched efficacy belief should carry the effect.

Third, the study tests both theories in the Southeast Asian international-education context, where empirical evidence on global competence remains thin (Tan & Li, 2026; Yang et al., 2025).

**Implications for Practice**

The findings carry one core implication for institutions hosting international students: interventions should be matched to the observed pattern of association. Where an antecedent's association runs partly through efficacy beliefs, the leverage lies in strengthening students' confidence; where it does not, the leverage lies in creating opportunities for contact and language use. In the terms of Sustainable

Development Goal 4, they are distinct levers through which host institutions can deliver quality education to internationally mobile students.

For the cognitive pathway, dedicated training can build teachers' capacity to provide academic, emotional, and autonomy support in internationalized classrooms, and counseling services can contribute efficacy-building activities that mobilize the vicarious-experience and verbal-persuasion sources of efficacy beliefs (Bandura, 1997). Cultivating openness through international exchange, intercultural practice, and multicultural curricula deserves parallel attention.

For contact and language the implication is the opposite: since self-efficacy carried little of their association with global competence, the findings support expanding students' opportunities for intercultural contact and for using the language in Thai social settings, not only in class. How such contact should be designed lies beyond the frequency measure used here; contact theory points to interaction grounded in equal status, common goals, and sustained cooperation (Allport, 1954), as in problem-oriented collaboration projects, structured virtual exchange, and reciprocal peer-buddy schemes (Higgins, 2024). At the policy level, the same distinction argues for building efficacy support into orientation and academic advising, and for treating cross-national interaction as a design condition of courses and residences rather than an optional activity. Because the present evidence is cross-sectional and correlational, these are directions in which institutional effort is plausibly repaid rather than demonstrated intervention effects, and each is best treated as a proposition to be evaluated where it is implemented.

**Limitations and Future Research**

Three principal limitations bound these conclusions. First, the cross-sectional design makes temporal ordering and causal inference difficult; although the mediation effects hold statistically, the causal sequence they imply should be treated with caution, and longitudinal or experimental designs would test the dynamics of GC formation more robustly. Second, the study measured only general self-efficacy, so the nonsignificant mediation for contact and language may stem in part from a domain mismatch at the measurement level. This limitation is also a clear agenda: future work could incorporate social self-efficacy and linguistic or communicative self-efficacy concurrently (Jurasek & Wawrosz, 2023; Nguyen & McGregor, 2025) to test domain-matched mediating paths directly.

Third, the contact measure captures mainly the quantity of direct contact and does not cover contact quality, negative contact, or the optimal conditions emphasized by Allport—a meaningful omission given meta-analytic evidence that negative contact often exerts stronger effects on intergroup outcomes than positive contact does (Paolini et al., 2024). Future work should measure positive and negative contact on separate scales and index Allport's optimal conditions, so that the quality of contact can be tested alongside its quantity.

Beyond these, the sample was recruited by campus intercept, a convenience procedure that selects on presence and approachability and therefore over-represents students who attend regularly and are socially engaged; because both are plausibly associated with intercultural contact and with global competence, the associations reported here are better read as upper-bound than as conservative estimates. Concentration compounds this, as 55.4% of respondents came from a single institution. Replication in a probability sample, and multigroup comparison across institutions, would test the generalizability of the path structure (Hair et al., 2022).

The three-dimensional operationalization also leaves the action dimension of the OECD (2018) framework unmeasured, so the present findings speak to global knowledge, skills, and attitudes rather than to enacted global engagement. Language proficiency was also self-assessed, so its association with self-efficacy may partly reflect shared self-evaluation rather than proficiency itself. Finally, the strong openness–efficacy association suggests a degree of conceptual proximity between trait and belief that warrants further examination, and the single-source self-report design means inferences should be drawn with care despite the common method bias assessment (Podsakoff et al., 2024).

## CONCLUSION

Teacher support, openness to experience, intergroup contact, and foreign language proficiency are all associated with the global competence of Chinese international students in Thailand, but not in the same way. For teacher support and openness, part of the association runs through students' self-efficacy beliefs; for intergroup contact and foreign language proficiency, little of it does. Recasting the mediating role of self-efficacy from a question of existence into one of boundary conditions clarifies where the cognitive mechanism of Social Cognitive Theory holds and where it reaches its limits, and gives institutions a clearer basis for action. Future research incorporating domain-specific efficacy measures and longitudinal designs would further test and extend the dual-pathway account advanced here.

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**Author Bios**

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**XIONGLING CHEN,** PhD Candidate, is a lecturer at Dhurakij Pundit University and a doctoral candidate in the Faculty of Education, Kasetsart University, Thailand. Her research interests include international education, global competence, and intercultural competence. Email: xiongling.c@ku.th

ORCID: https://orcid.org/0009-0008-8235-4115

**PENG LU,** PhD Candidate, is a lecturer at Dhurakij Pundit University and a doctoral candidate in the Faculty of Humanities, Kasetsart University, Thailand. His research interests include tourist behavior, the teaching of Chinese as a foreign language, and tourism linguistics. Email: phoenix03010490@gmail.com

ORCID: https://orcid.org/0009-0000-9663-0426

**WANWISA SUEBNUSORN** (corresponding author), PhD, is an assistant professor of educational administration in the Faculty of Education, Kasetsart University, Thailand, and holds a doctorate in educational leadership and policy (comparative education). Her research focuses on educational leadership, policy and reform, comparative education, and equity and excellence in education. Email: wanwisa.sue@ku.th

ORCID: https://orcid.org/0000-0001-5975-8148

**SAREEYA CHOTITHAM,** PhD, is an assistant professor in the Faculty of Education, Kasetsart University, Thailand. She holds a doctorate in educational research methodology, and her research interests include research methodology in education and structural equation modeling. Email: sareeya.ch@ku.th

ORCID: https://orcid.org/0009-0009-0353-2866

**VINAYAGUM CHINAPAH** is Professor Emeritus at the Institute of International Education, Stockholm University, Sweden. His research interests include international and comparative education, education for rural transformation, and educational planning and policy. Email: chinapah.vinayagum@gmail.com

ORCID: https://orcid.org/0000-0002-0586-4022