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Measuring Intercultural Sensitivity Among Pre-Service Teacher Students in Multicultural Higher Education Context

Laras Firdaus*, Ika Nurani Dewi

Biology Education Department, Mandalika University of Education, Mataram, INDONESIA

*Corresponding author e-mail: larasfirdaus@undikma.ac.id

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Abstract

This study aimed to measure the level of intercultural sensitivity (IS) among pre-service teachers at Universitas Pendidikan Mandalika. The research employed a cross-sectional quantitative survey design involving 109 first-year pre-service teachers (43 males; 66 females; mean age = 18.52 years) from Sasak, Sumbawa, Bima, and NTT ethnic backgrounds. The instrument used was the Intercultural Sensitivity Scale (ISS; 24 items; five dimensions), with analyses including validity and reliability testing, descriptive statistics, normative classification (mean ± 1 SD), and one-way ANOVA. The results indicated that two items (18 and 24) were invalid, while the overall reliability of the instrument was high (Spearman–Brown = 0.864). Based on normative classification, most participants were categorized at a moderate level of IS (72.48%), followed by high (15.60%) and low (11.93%) categories. Sub-scale analysis revealed that interaction attentiveness had the highest mean score (3.23), whereas interaction enjoyment and interaction confidence were relatively the lowest (3.13). Comparative tests showed no significant differences based on gender or ethnicity across all sub-scales. These findings suggest that pre-service teachers possess a relatively positive affective foundation toward intercultural interaction. However, further strengthening is still needed, particularly in the dimensions of interaction enjoyment and interaction confidence in intercultural engagement. Further elaboration of this study can be found in the limitations and recommendations section.

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INTRODUCTION

Global dynamics over the past decade—cross-border human mobility, intensified digital connectivity, and increased intercultural encounters in social spaces—have broadened the spectrum of diversity in many countries (Alzoubi & Alsalhi, 2025; Barker & Mak, 2013; Chavalala, 2025; Fantini, 2009). This reality creates opportunities for deeper and more pluralistic learning, but it also heightens the risks of bias, miscommunication, stereotyping, exclusion, racism, and injustice in social-academic relationships (Beltrán-Véliz et al., 2024; Glass & Westmont, 2014).

In response to these conditions, higher education faces two interrelated agendas. First, it must prepare graduates to be competitive and effective in the global arena (Deardorff, 2006; Spitzberg & Changnon, 2009). Second, it must sustain a firm commitment to linguistic, cultural, religious, and socioeconomic diversity as manifested in classroom life. Such a commitment enables students to recognize and critically examine bias, understand diverse perspectives, and engage in reflective and ethical interaction (Denson & Bowman, 2013; Gurin et al., 2002; Hurtado et al., 2012). To address these agendas simultaneously, intercultural sensitivity (IS) needs to be positioned as a core competence within higher education curricula (Anderson et al., 2006; Bhawuk & Brislin, 1992; Chen & Starosta, 2000).

As an important component of multicultural life, IS has been conceptualized as the ability to distinguish and experience relevant cultural differences (Hammer et al., 2003). IS also involves efforts to understand the hidden or underlying aspects of culture (Lutz, 2017) and sensitivity to the viewpoints of people from other cultures, including the ability to perceive different values and perspectives (Klenner Loebel et al., 2021). In this sense, IS extends beyond recognition of difference toward meaningful interpretation of cultural perspectives.

From the perspective of motivation and well-being, IS is linked to the drive to understand, appreciate, and accept differences, which in turn enhances individuals' quality of life (Gómez Yepes et al., 2023). Moreover, several researchers regard intercultural sensitivity as an important predictor of intercultural competence and success as global citizens, as supported by affective measurement work and empirical studies (Chen & Starosta, 1996, 1997; Hammer et al., 2003; Ichikawa & Kim, 2025). In practical terms, IS also implies the capacity not only to recognize differences but also to think and act appropriately within cultural contexts, as emphasized in cross-cultural psychology (Bhawuk & Brislin, 1992).

Conceptually, IS can be understood from two complementary perspectives (Ruiz-Bernardo et al., 2024). The first is the cognitive-perceptual developmental approach represented by the Developmental Model of Intercultural Sensitivity (DMIS) formulated by Bennett (1993). This framework explains how individuals experience intercultural situations through a progression from ethnocentric orientations (denial, defense, minimization) to ethnorelative orientations (acceptance, adaptation, integration). It provides a lens for interpreting how individuals construct "otherness" and make meaning of cultural differences. Within this model, development involves not only cognitive change but also shifts in attitudes and emotional orientations (Bennett & Bennett, 2004; Bennett, 2017).

The second perspective is the affective measurement perspective proposed by Chen and Starosta (Ruiz-Bernardo et al., 2024), which focuses on individuals' emotions or changes in feelings triggered by particular situations, people, social norms, and environments (Chen & Starosta, 1996, 1997, 2000). This perspective includes dimensions such as interaction engagement, respect for cultural differences, interaction confidence, interaction enjoyment, and communicative attentiveness. A person's response in culturally diverse situations is influenced by: (a) situational factors (such as the intensity of intercultural contact or the type

of shared task); (b) social norms (such as prevailing rules within a group); and (c) the physical or contextual environment (for example, multicultural spaces or segregated settings). Affective reactions emerge from the interaction between these external factors and individual predispositions; therefore, changes in feelings may occur rapidly (situational in nature) or more gradually (through the internalization of values). Because the present study aims to measure IS levels across specific dimensions in a pre-service teacher population, the affective measurement perspective and the Intercultural Sensitivity Scale (ISS) provide the most relevant operational framework.

Recent findings further strengthen the importance of intercultural sensitivity in both organizations and curriculum development. Meta-analytic evidence indicates the role of IS—particularly in higher education contexts—in promoting positive attitudes toward diversity and reducing interethnic prejudice (Ruiz-Bernardo et al., 2024). IS can also mediate the relationship between cultural intelligence and attitudes toward multicultural education, meaning that the development of intercultural sensitivity in teachers and pre-service teachers directly contributes to their attitudes and readiness for inclusive educational practice (Basman & Bayram, 2024). In addition, research on international students and internationally mobile adolescents has shown that affective dimensions of IS (e.g., open-mindedness, interaction enjoyment) reduce intergroup anxiety and symptoms of emotional disorder, and predict life satisfaction in cross-cultural contexts (He et al., 2023). In organizational settings, IS has been associated with reduced stress and burnout in multinational work environments (Xie et al., 2024), while culturally sensitive teams tend to exhibit better cohesion, more effective team information processing, and stronger performance outcomes (Guzmán-Rodríguez et al., 2023).

From a psychometric perspective, the Intercultural Sensitivity Scale (ISS) developed by Chen & Starosta has been widely used in both organizational and educational research, with evidence of adequate validity and reliability across diverse populations (Fritz & Mã, 2002). However, much of the empirical evidence on intercultural sensitivity has been generated from international samples, whereas evidence concerning pre-service teachers in Indonesia remains limited. Local studies, such as Weda et al. (2022), have employed the Intercultural Sensitivity Scale (ISS) to measure intercultural sensitivity among pre-service teachers; however, the reported findings were limited to descriptive results in the form of item-level agreement proportions. As a result, these studies were unable to determine which ISS dimensions or sub-scales fell into low, moderate, or high categories. Furthermore, previous local research did not provide empirical evidence of the validity and reliability of the adapted ISS, even in terms of basic item–total correlations. Therefore, when using an adapted version of the ISS in the local context, a re-examination of its validity and reliability is necessary to ensure its psychometric adequacy.

In response to these limitations, when using the adapted version of the ISS in the local context, it is necessary to re-examine its validity and reliability. This step is important to minimize the risk of drawing misleading conclusions. The validity and reliability checks in

this study were not intended to analyze the psychometric characteristics of the adapted ISS. In this study, the validity and reliability of the adapted ISS were assessed using the classical approach via the split-half method with Spearman–Brown correction, which serves as an appropriate estimator of reliability when an instrument is divided into two equivalent halves (Eisinga et al., 2013). Within the framework of classical test theory, the Spearman–Brown formula was specifically developed to estimate the reliability of a full test based on the correlation between two test halves (Raykov, 2010). Therefore, its application in this study is methodologically well justified.

Finally, the present study aims to measure the level of intercultural sensitivity among pre-service teacher students at Mandalika University of Education. The research questions addressed in this study are as follows: (a) Does the adapted version of the ISS demonstrate adequate validity and reliability as a tool for measuring intercultural sensitivity? (b) What is the level of intercultural sensitivity among pre-service teacher students at Mandalika University of Education, as identified and interpreted across the dimensions of the ISS?

The urgency of this study becomes even more relevant considering the context of Mandalika University of Education, whose students come from diverse linguistic, ethnic, cultural, religious, and socioeconomic backgrounds. Within a multicultural higher education environment, IS represents a fundamental professional capacity for pre-service teachers. Teachers who possess a high level of intercultural sensitivity are more likely to manage classroom interactions fairly, avoid cultural bias, foster an inclusive psychosocial climate, and implement instructional practices that are responsive to diversity. Thus, this study not only contributes to strengthening the local body of literature on intercultural sensitivity but also provides empirical data that can serve as a foundation for developing more responsive and inclusive teacher education programs.

METHODS

Design

This study employed a cross-sectional quantitative survey design to examine intercultural sensitivity among pre-service teacher students at Mandalika University of Education within a multicultural higher education context. The cross-sectional approach was considered appropriate because the data were collected at a single point in time to provide an empirical snapshot of participants' current level of intercultural sensitivity without attempting to trace developmental change over time. The survey design was also suitable because the study relied on standardized self-report responses to an adapted version of the Intercultural Sensitivity Scale (ISS), enabling the researcher to obtain structured quantitative data across multiple dimensions of the construct, namely interaction engagement, respect for cultural differences, interaction confidence, interaction enjoyment, and interaction attentiveness. In addition to describing the overall level and sub-scale patterns of intercultural sensitivity, this design also supported the examination of the basic validity and reliability of the adapted instrument in the local context, as well as comparative analysis across participant characteristics, particularly gender and ethnicity. Accordingly, the design was appropriate for

generating a systematic profile of intercultural sensitivity among first-year pre-service teachers and for identifying whether meaningful variation emerged across key demographic groups within the institutional setting.

Participants

A total of 109 first-year pre-service teacher students voluntarily participated in the study, consisting of 43 males and 66 females, with a mean age of 18.52 (SD = 0.79). The participants represented four ethnic groups—Sasak, Sumbawa, Bima, and East Nusa Tenggara (NTT)—with their respective percentages as shown in Figure 1.

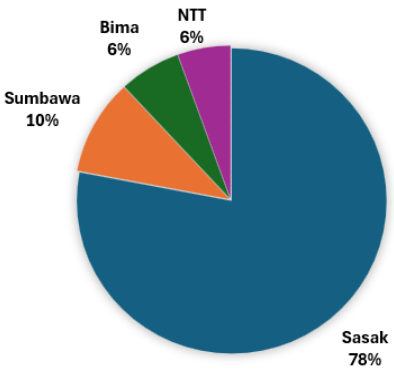

Figure 1. Percentage distribution of first-year pre-service teacher students by ethnic background

Instrument

Data were collected using an adapted version of the Intercultural Sensitivity Scale (ISS) developed by Chen and Starosta (2000). The instrument consists of 24 items covering five dimensions: interaction engagement (7 items), respect for cultural differences (6 items), interaction confidence (5 items), interaction enjoyment (3 items), and interaction attentiveness (3 items).

The ISS was selected for several reasons. First, it is one of the most widely used instruments for measuring the affective dimension of intercultural communication competence, particularly intercultural sensitivity. Second, the scale has demonstrated strong psychometric properties, including acceptable levels of reliability and construct validity across diverse cultural and educational contexts. Third, its multidimensional structure aligns with the conceptualization of intercultural sensitivity as a complex construct involving emotional engagement, openness, confidence, and attentiveness in intercultural interactions. Finally, the ISS is particularly suitable for use with pre-service teachers, as it captures dispositions and attitudes that are essential for professional practice in multicultural educational settings.

Procedure

Prior to data collection, permission was obtained from the faculty authorities at Mandalika University of Education. The adapted ISS was reviewed for linguistic clarity and contextual suitability. Minor wording adjustments were made to ensure comprehensibility for first-year pre-service teachers without altering the original meaning of the items.

Data were collected using an online questionnaire administered through Google Forms, based on a 4-option Likert scale. The survey link was distributed to participants through official class communication channels with faculty approval. The instructions for completing the survey informed participants of the voluntary nature of participation, guaranteed confidentiality, and their right to withdraw at any time without academic consequences. Only participants who consented were allowed to continue, and their responses were analyzed.

The online survey remained open for five days and was set to close automatically after this period. The five-day data collection window was determined to provide sufficient time for all eligible participants to respond while minimizing the risk of delayed responses, reduced engagement, or external influences that could affect the consistency of responses. A relatively short and controlled administration period also helped ensure that the data reflected comparable contextual conditions across participants. The survey was completed anonymously and required approximately 20–25 minutes to finish.

Data analysis

Data regarding validity and reliability, as well as comparative analysis, were examined using one-way ANOVA in SPSS 27 for Windows with a significance level of 5%. Furthermore, the analysis of intercultural sensitivity levels, both at the participant level and at the sub-scale level, was conducted using a normative approach (mean ± 1 SD). Scores for each participant and each sub-scale were calculated as the mean of the items, thereby maintaining the original Likert scale range (1–4). Accordingly, the categories at both the participant and sub-scale levels were defined as follows: scores ≤ M – 1 SD were classified as "low"; scores between M – 1 SD and M + 1 SD were classified as "moderate"; and scores ≥ M + 1 SD were classified as "high" (Graham et al., 2003).

Ethical considerations

This study adhered to fundamental ethical principles in educational research. Participation was entirely voluntary, and informed consent was obtained from all participants prior to data collection. Students were clearly informed that their responses would be used solely for research purposes and would not affect their academic standing. Confidentiality and anonymity were strictly maintained. No identifying information was collected, and data were reported only in aggregate form. Participants were also informed of their right to decline participation or withdraw from the study at any stage without penalty. The study complied with institutional research ethics guidelines to ensure respect, beneficence, and protection of participants' rights throughout the research process.

RESULTS AND DISCUSSION

Results

Based on the results of the validity and reliability analyses, two items (Items 18 and 24) were found to be invalid. The Spearman-Brown reliability coefficient was 0.864. This value is well above 0.80, indicating a very high level of reliability for the overall instrument (24 items).

Table 1. Results of validity and reliability analysis

Sub-scale	Item	*rho*	Note
Interaction Engagement (I-Eng)	1	.318**	Valid
	7	.613**	Valid
	10	.621**	Valid
	14	.562**	Valid
	16	.619**	Valid
	19	.536**	Valid
	22	.509**	Valid
Respect of Cultural Differences (RCD)	11	.617**	Valid
	15	.673**	Valid
	17	.534**	Valid
	18	.122	Invalid
	20	.628**	Valid
	23	.535**	Valid
Interaction Confidence (IC)	4	.433**	Valid
	12	.558**	Valid
	13	.662**	Valid
	21	.679**	Valid
	24	.169	Invalid
Interaction Enjoyment (I-Enj)	3	.424**	Valid
	6	.485**	Valid
	8	.589**	Valid
Interaction Attentiveness (IA)	2	.514**	Valid
	5	.451**	Valid
	9	.725**	Valid

*) Correlation is significant at the 0.05 level (2-tailed).

**) Correlation is significant at the 0.01 level (2-tailed).

Table 2. Distribution of participants' intercultural sensitivity levels

Category	Number of Participants	Percentage (%)
Low	13	11.93
Moderate	79	72.48
High	17	15.60
Total	109	100

Based on the results of the descriptive analysis using a normative approach, 13 participants were classified in the low category, 79 in the moderate category, and 17 in the high category. A more detailed distribution is presented in Table 2. Thus, it can be stated that most participants were classified in the moderate category.

Table 3. Mean scores and relative ranking of intercultural sensitivity sub-scales

Sub-scale Ranking	Mean sub-Scale	Relative Descriptive
Interaction Attentiveness (IA)	3.23	Highest relative
Respect of Cultural Differences (RCD)	3.20	Relatively high

Sub-scale Ranking	Mean sub-Scale	Relative Descriptive
Interaction Engagement (I-Eng)	3.14	Moderately relative
Interaction Enjoyment (I-Enj)	3.13	Lowest relative
Interaction Confidence (IC)	3.13	Lowest relative

Meanwhile, Table 3 presents the relative ranking of each sub-scale, indicating that interaction attentiveness (3.23) had the highest mean score, whereas interaction confidence (3.13) had the lowest.

Table 4. Descriptive analysis based on gender on each subscale

Sub-scale	Gender	N	Mean	SD
Interaction Attentiveness (IA)	Male	43	21.65	3.51
	Female	66	22.24	2.75
Respect of Cultural Differences (RCD)	Male	43	19.47	2.90
	Female	66	18.97	2.60
Interaction Engagement (I-Eng)	Male	43	15.44	2.78
	Female	66	15.77	1.89
Interaction Enjoyment (I-Enj)	Male	43	9.33	2.15
	Female	66	9.45	1.39
Interaction Confidence (IC)	Male	43	9.63	1.73
	Female	66	9.71	1.45

Table 5. Comparative analysis of each sub-scale based on gender

Variable		Sum of Squares	dF	Mean Square	F	Sig.	Eta-squared
Interaction engagement	Between Groups	9.102	1	9.102	.966	.328	.009
	Within Groups	1007.889	107	9.420			
	Total	1016.991	108				
Respect of cultural differences	Between Groups	6.390	1	6.390	.865	.354	.008
	Within Groups	790.637	107	7.389			
	Total	797.028	108				
Interaction confidence	Between Groups	2.850	1	2.850	.548	.461	.005
	Within Groups	556.196	107	5.198			
	Total	559.046	108				
Interaction enjoyment	Between Groups	.433	1	.433	.145	.704	.001
	Within Groups	319.805	107	2.989			
	Total	320.239	108				
Interaction attentiveness	Between Groups	.185	1	.185	.075	.785	.001
	Within Groups	263.577	107	2.463			
	Total	263.761	108				

Furthermore, the comparative analysis based on gender revealed no significant differences between male and female participants across all sub-scales (Table 5). Similarly, the

comparison based on ethnicity showed no significant differences among ethnic groups on any of the sub-scales (Table 7).

Table 6. Descriptive analysis based on ethnicity on each sub-scale

Sub-scale	Ethnicity	N	Mean	SD
Interaction Attentiveness (IA)	Sasak	85	22.04	3.09
	Sumbawa	11	21.45	2.02
	Bima	7	22.86	4.63
	NTT	6	21.67	2.73
Respect of Cultural Differences (RCD)	Sasak	85	19.19	2.65
	Sumbawa	11	18.73	3.04
	Bima	7	20.43	3.21
	NTT	6	18.17	2.64
Interaction Engagement (I-Eng)	Sasak	85	15.60	2.24
	Sumbawa	11	15.64	2.73
	Bima	7	16.57	1.99
	NTT	6	15.17	2.48
Interaction Enjoyment (I-Enj)	Sasak	85	9.35	1.72
	Sumbawa	11	9.82	1.47
	Bima	7	10.14	1.57
	NTT	6	8.50	2.26
Interaction Confidence (IC)	Sasak	85	9.68	1.55
	Sumbawa	11	9.18	1.78
	Bima	7	10.14	1.68
	NTT	6	10.00	1.27

Table 7. Comparative analysis of each sub-scale based on ethnicity

Variable		Sum of Squares	dF	Mean Square	F	Sig.	Eta-squared
Interaction engagement	Between Groups	9.179	3	3.060	.319	.812	.009
	Within Groups	1007.812	105	9.598			
	Total	1016.991	108				
Respect of cultural differences	Between Groups	19.310	3	6.437	.869	.460	.024
	Within Groups	777.718	105	7.407			
	Total	797.028	108				
Interaction confidence	Between Groups	7.553	3	2.518	.479	.697	.014
	Within Groups	551.493	105	5.252			
	Total	559.046	108				
Interaction enjoyment	Between Groups	10.833	3	3.611	1.225	.304	.034
	Within Groups	309.405	105	2.947			
	Total	320.239	108				

Variable		Sum of Squares	dF	Mean Square	F	Sig.	Eta-squared
Interaction attentiveness	Between Groups	4.844	3	1.615	.655	.582	.018
	Within Groups	258.917	105	2.466			
	Total	263.761	108				

Discussion

Instrument quality

In the analysis process, two items (Items 18 and 24) were found to be invalid (Table 1), however, based on the Spearman-Brown reliability value of 0.864, which is quite high (de Vet et al., 2017), it can be said that the ISS can be used in various different populations. These invalid items, although it is possible to eliminate them, still have important scientific value. Several studies that have employed the ISS to measure intercultural sensitivity support this point. Item invalidity in an adapted instrument often reflects contextual sensitivity rather than construct irrelevance. In cross-cultural scale adaptation, variations in semantic nuance, pragmatic interpretation, and socio-cultural norms can influence item functioning without necessarily negating the conceptual importance of the underlying construct. For instance, the study conducted by Klenner Loebel et al. (2021) among university students in Chile demonstrated that linguistic adaptation requires rigorous testing. Similarly, Gómez Yepes et al. (2023) in Spain reported that the original model does not always demonstrate adequate fit; some items may need to be eliminated, and the final version of the scale may differ from the original structure.

Moreover, the Spearman–Brown prophecy formula was specifically developed to estimate full-test reliability based on the correlation between two parallel halves of a measure, making it particularly appropriate for split-half procedures (Raykov, 2010). Unlike reliability estimators that depend heavily on restrictive assumptions—such as tau-equivalence in the case of Cronbach's alpha (Graham, 2006; McNeish, 2018)—the split-half approach with Spearman–Brown correction provides a conceptually coherent estimate when the test is intentionally divided into comparable parts. Therefore, the obtained coefficient of 0.864 not only reflects strong internal coherence but also aligns methodologically with the reliability design employed in this study.

Thus, a reliability coefficient of 0.864 indicates that the adapted Intercultural Sensitivity Scale maintains strong overall measurement quality, even though individual items require further examination. Rather than weakening the instrument's utility, these findings highlight the iterative nature of scale validation: high composite reliability provides confidence in the scale's general applicability, while item-level analysis guides targeted refinement to enhance contextual sensitivity and construct representation.

Intercultural sensitivity based on gender and ethnicity

In this sample and context, no significant differences were found based on gender and ethnicity across all sub-scales (all *Sig.* > 0.05). These findings contrast with those reported by

Gómez Yepes et al. (2023) and Yepes et al. (2024), who identified gender-based differences across several dimensions of intercultural sensitivity. Similarly, Chen and Hu (2023) found differences between male and female participants on the interaction confidence sub-scale.

Studies on intercultural sensitivity are often linked to ethnicity, gender, and age (Aksoy & Akkoç, 2020; H. Chen & Hu, 2023; Gómez Yepes et al., 2023; Hammer et al., 2003; Klenner Loebel et al., 2021; Liu et al., 2025; Yepes et al., 2024). Although no differences were found based on gender or ethnicity in this sample (all *Sig*. > .05), these findings should be interpreted cautiously and contextually rather than as definitive conclusions. Evidence from different populations has yielded mixed results. In other words, some studies have identified gender or ethnic effects on intercultural sensitivity, while others have not (H. Chen & Hu, 2023; Klenner Loebel et al., 2021; Novikova et al., 2020). For example, a study conducted in Malaysia did not find a significant effect of ethnicity on intercultural sensitivity (Klenner Loebel et al., 2021). Likewise, a study in America did not find a significant relationship between ethnicity and intercultural sensitivity (Alzoubi & Alsalhi, 2025).

These findings must be interpreted in relation to the context, sample size, and the instrument adaptation process. Adaptations of the ISS have demonstrated that linguistic and cultural adjustments can alter the factor structure and item functioning of a scale, suggesting that group differences observed in other studies may partly reflect adaptation-related issues rather than genuine substantive differences (Klenner Loebel et al., 2021). Furthermore, although validity and reliability analyses indicate that the instrument exhibits adequate psychometric qualities, this does not automatically guarantee meaningful findings in subsequent analyses. In fact, in this context and sample, no significant differences were found based on gender or ethnicity. However, this does not necessarily mean that there are no differences at all; rather, the effect sizes were very small, ranging from .001 to .009 (based on gender) and .009 to .034 (based on ethnicity), combined with the relatively small sample size, and did not reach statistical significance (Faul et al., 2007).

Categories and sub-scale patterns

The findings presented in Table 2 show that most participants fall within the moderate category (72.48%), while 11.93% are in the low category and 15.60% in the high category (total ≈100% due to rounding). This distribution suggests that, overall, pre-service teachers in this sample demonstrate a foundational level of intercultural sensitivity. However, the relatively small proportion in the high category indicates that this affective readiness has not yet developed into a consistently strong or consolidated disposition for most participants.

Table 3 further reveals the relative order of subscale means. Interaction attentiveness (IA) obtained the highest mean (3.23), followed closely by respect for cultural differences (RCD) (3.20), interaction engagement (3.14), and both interaction enjoyment (I-Enj) and interaction confidence (IC) (3.13). Although the numerical differences among these means are relatively small and should be interpreted cautiously without overemphasizing rank order, the pattern may suggest that participants are comparatively stronger in attentiveness and

normative respect than in emotional comfort and self-assurance during intercultural encounters.

Taken together, these findings may reflect a form of basic affective preparedness: participants appear capable of recognizing cultural differences and demonstrating careful attention and respect in intercultural situations. However, they may feel less emotionally relaxed or confident when actively engaging across cultural boundaries. In practical terms, they may attempt to "do the right thing" and behave appropriately yet still experience uncertainty or discomfort in actual intercultural interaction. This interpretation aligns with research suggesting that affective dimensions of intercultural sensitivity do not always develop evenly, particularly when experiential engagement is limited (Fritz & Mã, 2002).

The predominance of the moderate category is consistent with the conceptualization of intercultural sensitivity as the affective component of intercultural competence, functioning as a developmental foundation rather than an endpoint. Affective tendencies such as attentiveness and respect may emerge earlier because they are often reinforced by social norms and moral expectations regarding politeness and tolerance. In this sense, participants may not begin from a "zero point"; instead, they bring pre-existing values and normative orientations that support respectful engagement in culturally diverse settings (Altan, 2018; Arcagok & Yılmaz, 2020; Mlinar et al., 2026).

However, intercultural interaction is shaped not only by awareness or normative acceptance, but also by emotional processes such as anxiety reduction and empathy. The intergroup contact literature demonstrates that while contact generally improves attitudes, its effectiveness depends on the quality and emotional tone of the interaction, with affective mediators playing a central role (Pettigrew et al., 2011; Pettigrew & Tropp, 2006). From this perspective, attentiveness may function as a cautious and effortful strategy in unfamiliar cultural situations, whereas enjoyment and confidence tend to develop after repeated positive experiences that reduce uncertainty and perceived threat. Therefore, the relatively lower means for I-Enj and IC in this sample may reflect limited opportunities for sustained and psychologically safe intercultural contact, rather than a lack of concern or openness.

Importantly, several studies using the Intercultural Sensitivity Scale (ISS) report variations in subscale ranking depending on population and sociocultural context. For instance, Altan (2018) found respect for cultural differences to be the strongest dimension among pre-service English language teachers, while also noting reliability concerns in certain subscales. More recent work by Mlinar et al. (2026) suggests that the dimensional structure of intercultural sensitivity may cluster differently across contexts and may require contextual adaptation. These findings support the interpretation that local sociocultural environments can shape which affective tendencies become more prominent.

The relatively lower levels of interaction enjoyment and interaction confidence should therefore not be interpreted as deficiencies. Rather, they may signal developmental areas that require structured experiential reinforcement. If participants are respectful and attentive but not yet confident or comfortable, they may avoid deeper engagement, rely on procedural

politeness, or hesitate when discussing culturally sensitive issues. Field-based evidence suggests that individuals can demonstrate empathy and responsive listening while still struggling to address more challenging topics or to critically examine their own assumptions (Pettigrew et al., 2011). Such patterns underscore the distinction between initial affective sensitivity and fully internalized intercultural competence.

From a pedagogical standpoint, the dominance of the moderate category and the relative gap in enjoyment and confidence are practically meaningful, especially in the preparation of pre-service teachers. Participants appear to possess sufficient initial affective capital to engage in culturally diverse settings. The next developmental goal, therefore, is not to instill basic awareness, but to create educational conditions that transform cautious sensitivity into confident and humane intercultural practice (Mlinar et al., 2026; Romijn et al., 2021). Structured intercultural contact, supervised practicum experiences, and guided critical reflection may help reduce anxiety, strengthen self-efficacy, and deepen understanding of intercultural competence. As argued by Barrow (2023), reflective learning processes that explicitly engage participants in examining school practices and confronting their own assumptions can facilitate more complex and mature intercultural development.

Finally, these interpretations should be made cautiously. The numerical differences among subscale means are relatively small, and without inferential comparison tests or effect size analysis, claims about substantive differences remain tentative. Moreover, the cross-sectional nature of the data limits causal conclusions regarding the developmental processes underlying these patterns.

CONCLUSION

This study aimed to measure the level of intercultural sensitivity among first-year pre-service teachers and to evaluate the psychometric properties of the adapted ISS within the local higher education context. Overall, the findings indicate that the instrument demonstrates satisfactory internal consistency reliability, suggesting that the adapted version retains acceptable psychometric robustness for use with this population. However, the identification of two items that did not meet validity criteria underscores the importance of ongoing refinement and contextual validation when adapting well-established instruments across linguistic and cultural settings. These results reinforce the broader methodological understanding that cross-cultural adaptation is not merely a process of translation but may involve subtle shifts in item functioning and construct representation.

Substantively, the results reveal that most participants fall within the moderate category of intercultural sensitivity. This suggests that pre-service teachers possess an emerging affective and attitudinal foundation for engaging in intercultural interactions, yet this foundation has not developed into a consistently high level of intercultural responsiveness. The distribution pattern indicates that intercultural sensitivity among these future educators is neither critically low nor optimally developed, positioning it within a developmental middle range that remains open to pedagogical enhancement.

At the dimensional level, the comparatively higher mean score for interaction attentiveness reflects participants' tendency to demonstrate awareness, respect, and careful consideration in intercultural encounters. In contrast, relatively lower scores on interaction enjoyment and interaction confidence suggest that emotional ease and self-assuredness in cross-cultural communication are less fully developed. This pattern may indicate a form of normative compliance—characterized by politeness and attentiveness—without equivalent affective comfort or interpersonal efficacy. Such a configuration highlights the nuanced nature of intercultural sensitivity, where cognitive—attitudinal awareness does not automatically translate into emotional confidence.

Importantly, no statistically significant differences were found based on gender or ethnicity across the measured dimensions. While this may initially suggest a relatively homogeneous distribution of intercultural sensitivity within the sample, the extremely small observed effect sizes and the modest sample size indicate that the absence of statistical significance should be interpreted cautiously. Rather than confirming the nonexistence of group differences, the findings more plausibly reflect minimal between-group variance within this institutional and cultural context.

Taken together, this study contributes empirically to the literature on intercultural sensitivity in teacher education by providing context-specific evidence regarding both measurement and substantive patterns. It affirms that intercultural sensitivity among pre-service teachers is present at a moderate developmental level and that the adapted instrument demonstrates acceptable reliability, albeit with areas requiring refinement. These findings highlight the dual imperative of strengthening intercultural learning experiences within teacher preparation programs and continuing rigorous psychometric evaluation when applying established scales in new sociocultural environments.

LIMITATION

Despite the conclusions drawn in this study, several limitations must be acknowledged in order to properly contextualize the findings. First, the study employed a cross-sectional survey design, which limits the interpretation of the results to a single point in time. Since intercultural sensitivity is widely understood as a developmental construct that may evolve through experience, reflection, and structured pedagogical exposure, the present findings do not allow conclusions regarding developmental trajectories or causal relationships between educational experiences and intercultural sensitivity outcomes. Second, the relatively modest sample size (n = 109), combined with unequal subgroup distributions, particularly across ethnic groups, limits statistical power and reduces the robustness of between-group comparisons. The extremely small observed effect sizes suggest that meaningful differences, if present, may not have been detectable under the current sampling conditions. Third, the exclusive reliance on self-report measures introduces the possibility of response bias, including social desirability effects, especially given the normative expectation that future teachers should demonstrate openness and respect toward cultural diversity. As a result, the

findings should be interpreted cautiously, as self-reported responses may not fully reflect actual intercultural attitudes or behaviors in authentic educational settings.

RECOMMENDATION

In light of the limitations, several recommendations can be proposed. At the research level, future studies should employ longitudinal or pre-post intervention designs to capture changes in intercultural sensitivity over time and to examine the potential effects of targeted intercultural learning initiatives. Researchers should also consider using larger and more demographically balanced samples, possibly through multi-institutional collaboration, in order to improve generalizability and increase sensitivity to small-to-moderate group differences. In addition, rigorous validation procedures should be prioritized when adapting established intercultural instruments for local contexts, and replication studies across diverse institutional and regional settings are needed to strengthen psychometric evidence and clarify contextual influences on intercultural sensitivity. At the methodological level, integrating mixed-method approaches, such as reflective journals, behavioral observations, or qualitative interviews, would provide richer contextual insight and help triangulate quantitative findings. At the pedagogical level, teacher education programs should not assume that moderate levels of intercultural sensitivity are sufficient. Instead, they should provide structured experiential learning opportunities, such as intercultural dialogue projects, community-based engagement, collaborative tasks across diverse groups, and guided critical reflection, to strengthen dimensions that were relatively lower in this study, particularly interaction enjoyment and interaction confidence. Greater emphasis on reflective practice and emotional regulation in intercultural encounters may also support the development of deeper intercultural ease, confidence, and effectiveness among pre-service teachers.

Author Contributions

The authors have sufficiently contributed to the study, and have read and agreed to the published version of the manuscript.

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Conflict of Interests

The authors declare no conflict of interest.

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