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# Validation of the intercultural sensitivity scale in the Spanish context

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The aim of this study was to validate the Intercultural Sensitivity Inventory (ISI) in the Spanish context, testing the five, four, and three-dimensional models of the construct and examining its relationship with other psychological variables. A Spanish sample of 872 participants aged between 18 and 80 years old ( $M=52.50$ ;  $SD=17.41$ ) was used. The main results indicated an adequate fit for the three correlated dimensions model (two of them include two dimensions of the original scale). In addition, an adequate fit for the original five-dimensional model or the theoretical four-dimensional alternative was not observed. Lastly, differences were observed based on the gender of the participants in the three dimensions of intercultural sensitivity, as well as in beliefs about the inclusion of immigrants in education and the rights of immigrants. The scope and limitations of the study are discussed, as well as the relationships with the observed psychosocial constructs.

## KEYWORDS

intercultural sensitivity, validation, ISI, immigrants, diversity

## 1. Introduction

For Intercultural sensitivity is presented as a factor of growth and quality of life, motivated by the need to understand, appreciate, and accept the differences between cultures (Chen and Starosta, 2000; Chen, 2014). In Spain, according to reports from the National Institute of Statistics (INE, 2014, 2021, 2022), it is estimated that year after year, migratory flows have maintained an increasing trend. Even in 2013, year with lowest number of immigrant receptions, the number was above 300,000 people (INE, 2014). In 2020, and despite the mobility restrictions taken due to the COVID-19 pandemic, half a million people settled in Spain, and in 2022, 478,990 foreigners chose Spain as their destination to live (INE, 2022) almost. In this regard, different studies carried out in the Spanish context (Urbanos-Garrido, 2016; Rincken, 2019) have shown that immigrants are the population group most affected by prejudice and discrimination (Plaza del Pino, 2012; Álvarez-Castillo et al., 2016; Cala et al., 2018; da Silva Rebelo et al., 2022). Other studies on interculturality also highlight the relevance of intercultural training (Cernadas Ríos et al., 2014; Nishida et al., 2019), as a mechanism for raising awareness and reducing or eliminating prejudice toward people with different backgrounds and cultures (Albalá Genol et al., 2020; Velasco, 2020).

The intercultural sensitivity development is a psychosocial and socio-educational process which involves the ability to appreciate and value cultural differences and to interact effectively with culturally diverse individuals. This process is linked to external factors such as social coexistence, beliefs, and attitudes toward members of other cultural groups (Dovidio et al., 2017).

Concerning the development of intercultural sensitivity, the scientific literature has identified several factors that influence it, these include exposure to different cultures, age (Ruiz-Bernardo et al., 2014; Moradi and Ghabanchi, 2019; Habib and Hernández, 2020), gender (Palou and Marín, 2014; Peñalva Velez and Leiva Olivencia, 2019; Velasco and González Ferrer, 2021) –women presenting higher levels compared to men–, and intercultural education (Berry, 2006; Pettigrew and Tropp, 2008). In this regard, Poyrazli and López (2007) also indicated that education is one of the main areas where a lack of intercultural sensitivity is perceived. According to the authors, people with low levels of intercultural sensitivity prefer immigrants do not participate in the education system in general, neither as students nor as teachers. In this sense, Sanhueza Henríquez et al. (2021) as well as Cala et al. (2018) have reported that higher levels of intercultural sensitivity led to greater support for the participation of migrant populations in the education system, as well as for the expansion of their rights in general (Rodríguez-Izquierdo, 2018; Pareja de Vicente et al., 2021). These studies highlight the need to empirically study intercultural sensitivity, relying on valid and reliable tools that allow this task to be carried out.

Since the first validation of the Intercultural Sensitivity Inventory (Chen and Starosta, 2000), numerous adaptations and validations of the instrument focused on its structural analysis and on its relationship with other variables have been made. For the authors of the original scale, the process of becoming aware of cultural similarities and differences is reinforced and buffered by the ability for intercultural sensitivity. Chen and Starosta (2000) constructed the *Intercultural Sensitivity Inventory* (ISI) to measure people's attitudes toward interculturality. The authors detected five factors or dimensions that, as a whole, make up the *Intercultural Sensitivity* construct: *Interaction Engagement* which refers to the emotional involvement of subjects during their participation in intercultural communication. *Respect for cultural differences* has to do with the way in which participants orient themselves to or tolerate the culture and opinion of their counterparts. *Interaction Confidence* relates to the degree of self-confidence participants feel in the intercultural setting in which they are interacting. Fourth, *Interaction Enjoyment* includes items that assess participants' positive or negative reaction to the communicative process with people from different cultures. Finally, *Interaction Attentiveness* assesses the efforts people make to understand what is happening in the intercultural interaction. Adequate reliability indices were reported, as well as good internal and external validity. In addition, several relationships with other psychosocial variables, such as sexism and psychological well-being, were found in subsequent studies (Garaigordobil and Aliri, 2011). Regarding to ISI evaluation, the authors observed that, by means of exploratory factor analysis, five factors could be extracted from 24 items, explaining a total of 37.3% of the variance and with a loading of each item above 0.50. The instrument was considered reliable, with an overall reliability coefficient of 0.88.

Many adaptations and validations have been carried out, since the construction of the original scale (e.g., Fritz et al., 2001; Tamam, 2010; Wu, 2015; Weda et al., 2022), across a variety of contexts and fields of action. Validations have been made in social and community contexts (Bennett, 2013), and in work and healthcare settings, such as for assessing workplace interactions and leadership effectiveness in international organizations in Australia (Fitzsimmons, 2013), and studying the impact of

intercultural sensitivity on stress and job satisfaction among healthcare professionals (Ayşegül and Ayaz-Alkaya, 2023). In cross-cultural education, the ISI has been employed to assess cross-cultural sensitivity among university students (Chen and Starosta, 2000; Pedersen, 2010; Portalla and Chen, 2010), analyze the relationship between cross-cultural sensitivity and academic performance in the United Kingdom (Durkin, 2008), and study the influence of study abroad experiences (Hou and Feng, 2019).

Despite the wide application of the ISI, there have been few studies focused on the adaptation and validation of measures of intercultural sensitivity in Spain. One such study was conducted by Ponterotto et al. (1998), who validated the Multicultural Personality Questionnaire (Van der Zee and Van Oudenhoven, 2001) with a sample of Spanish university students. While not a direct measure of intercultural sensitivity, it incorporates related dimensions such as cultural empathy and cultural sensitivity.

In addition to adaptations and validations, several literature reviews have been conducted on intercultural sensitivity and related factors. For instance, Deardorff (2006) carried out an extensive literature review and proposed a conceptual framework for intercultural competence, which encompasses intercultural sensitivity. This framework has been widely adopted in cross-cultural research and practice. Hammer (2011) also conducted a systematic review on the assessment of intercultural competence, offering useful insights into the challenges and opportunities within the field. In 2013, Bennett provided a detailed review of the challenges and considerations in validating measures of intercultural sensitivity, underlining the importance of cultural adaptation and semantic equivalence.

Building upon this, Martorana et al. (2021) carried out a literature review on the intercultural competencies required for teachers, educators, and social workers. Their aim was to identify the key competencies these professionals need to effectively manage cultural diversity in their professional practice. The review underscores the need for a holistic and integrated approach to the training of teachers, educators, and social workers, promoting the development of intercultural competencies. It also emphasizes the importance of addressing potential barriers and challenges in the implementation of intercultural training programs to ensure effective work in culturally diverse environments.

Numerous adaptations and validations of the ISI have also showed inconsistent results regarding the original factor structure. In a first study Fritz et al. (2001) validated the ISI in Germany and found satisfactory ISI psychometric properties. They found that general theoretical structure of the model was reproduced. In a second study (Fritz et al., 2005), did not obtain the same results, this time they were inconsistent. Particularly, the authors found that factor structure of the scale was not consistent with the original structure proposed by Chen and Starosta (2000). The local fit of the original model showed that more than half of the indicators did not reach a reliability of 0.40, showing important problems of adjustment in the mean variance extracted according to Fornell and Larcker's criteria, reducing the scale to 13 items. For Fritz et al. (2005), the inconsistency of the data could be due to differences in the sample or to the subjective nature of the ISI.

In another study with Malaysian participants, Tamam (2010) reported a three-factor structure with 21 items through exploratory factor analysis. The dimensions *Respect for cultural differences* and

*Interaction attentiveness* became a single factor, as well as *Interaction engagement* and *Interaction confidence*. The author tested the original structure of the ISI (five factors and 24 items) proposed by [Chen and Starosta \(2000\)](#), however, he reported that the evaluation did not have an adequate fit of the model to the data, after submitting it to a confirmatory factor analysis ( $X^2=1335.07$ ,  $df=242$ ,  $CFI=0.681$ ;  $RMSEA=0.1010$ ). For [Tamam \(2010\)](#), according to Malaysian cultural values, *Respect for cultural differences* and *Interaction Attentiveness*, as well as *Interaction engagement* and *Interaction confidence* were applicable in the Malaysian context, while *Interaction enjoyment* was not considered an important component.

Meanwhile, [Wu \(2015\)](#) conducted a study of the ISI with Taiwanese students, finding only four factors after conducting an AFE. After eliminating nine items (e.g., *I find it very difficult to talk in front of people from different cultures*), he reported that ISI did not measure two of the five factors independently, as had been proposed in the original model, but rather combined items from Interaction Engagement (e.g., *I enjoy interacting with people from different cultures*) and Attentiveness (e.g., *I am very observant when interacting with people from different cultures*) into a single factor. On the other hand, item 13 became factor 2, Respect for cultural differences. According to [Wu \(2015\)](#), the ISI assesses four factors: Interaction Confidence; Respect for Cultural Differences; Interaction Enjoyment; and Interaction Engagement and Attentiveness (who make up a single factor). The percentage of total variance explained by the four factors was 63.78%. Cronbach's alpha for the 13-item scale was 0.801; Cronbach's alpha for factors 1, 2, 3 and 4 were 0.850, 0.796, 0.760 and 0.788 respectively, suggesting that the subscales were reliable. Reliability analyses of the 13 items indicated evidence of internal consistency in the respective factors.

The previously mentioned antecedents reflect the existence of different validations of the ISI that assess Intercultural Sensitivity in different contexts and from different number of factors. That is the case of the Chen and Starosta's five factors original scale, the four factors of [Wu \(2015\)](#) or the three factors proposed by [Tamam \(2010\)](#). Therefore, the main objective of this study was to analyze the structure validity of the ISI in a sample of Spanish adults.

## 2. Materials and methods

### 2.1. Participants

For the study included a total of 872 adult participants, with 49.08% identifying as women ( $n=428$ ) and 50.92% as men ( $n=444$ ), ranging in age from 18 to 80 years ( $M=52.50$ ;  $SD=17.41$ ), all residing in Madrid, Spain. In terms of the participants' education levels, 5.3% completed primary education, 20.4% secondary education, 20.4% tertiary education, 36.9% university education, and 17% achieved postgraduate university degrees.

### 2.2. Measures

An *ad-hoc* assessment instrument was created that included the following variables:

#### 2.2.1. Intercultural sensitivity inventory (ISI)

It consisted of 24 items, distributed in five dimensions ([Chen and Starosta, 2000](#)). The five dimensions assessed were: *Interaction Engagement* ("I enjoy interacting with people from different cultures," "I tend to wait before forming an impression of culturally different people"), *Respect for Cultural Differences* ("I think people from other cultures are narrow-minded," "I do not like being with people from different cultures"), *Interaction Confidence* ("I always know what to say when I interact with people from different cultures," "I can be as sociable as I want when I interact with people from different cultures"), *Enjoyment of Interaction* ("I am easily annoyed when I interact with people from different cultures," "I often get discouraged when I am with people from different cultures") and *Attention to Interaction* ("I am very observant when I interact with people from different cultures," "I try to get as much information as possible when I interact with people from different cultures"). The response format was Likert-type with five anchors ranging from 1=Strongly Disagree to 5=Strongly Agree. Reliability levels for all five dimensions were adequate ( $0.722 < \alpha < 0.815$ ). For our study, firstly, a content validity was carried out with four expert judges who evaluated the items and, secondly, the Content Validity Index for scales (S-CVI) ([Waltz et al., 2005](#)) was calculated and the result was 0.98. According to [Davis \(1992\)](#), values of 0.80 or higher are acceptable (see also [Polit and Beck, 2004](#)). Higher scores on each dimension imply higher levels of Intercultural Sensitivity.

#### 2.2.2. Attitudes toward interculturality in education scale

Seven items were used, designed and tested in previous studies ([Albalá Genol et al., 2022](#)), to assess people's attitudes toward the inclusion of migrant and/or culturally diverse groups in the educational setting (e.g., "Most immigrant students attend public education, worsening its quality"). The evaluated topic is related to attitudes toward public policies that favor the inclusion of migrant and/or culturally diverse groups in the school (e.g., "The government must ensure that sons and daughters of immigrants receive the necessary education") and university environments (e.g., "Universities should guarantee access to immigrant students"). The response format was a Likert-type scale with 5 anchors, with 1=Strongly Disagree and 5=Strongly Agree. The internal consistency of the scale was adequate ( $\alpha=0.809$ ).

#### 2.2.3. Rights of irregular immigrants

An *ad hoc* question was included to assess participants' opinions on the rights of migrant and culturally diverse populations (e.g., "I believe the rights of undocumented immigrants should be"). The response format was a Likert-type scale with 5 anchors, with 1=Restrict and 5=Expand.

#### 2.2.4. Demographic variables

Information about age, educational level, and gender was also collected.

### 2.3. Procedure

Data was gathered via an online survey –ensuring the anonymity of the participants– through the social network Facebook, during

April and May 2022. The inclusion criteria to take part in the study were to be of legal age and currently reside in the city of Madrid. Furthermore, participants were informed that the data derived from this research would be used exclusively for academic and scientific purposes, in accordance with Organic Law 3/2018, which protects personal data. Additionally, international methodological standards were followed, recommended by the International Test Commission (ITC) when analyzing an instrument (Hambleton et al., 2005). In addition, the contributions of Wild et al. (2005) for the translation and cultural adaptation of the scale was taking into account. The statistical analyzes that guided this study were conducted using SPSS version 19.0 (George and Mallery, 2010) and EQS 6.1 (Bentler, 2007) to develop a confirmatory factor analysis (CFA) structure for the ISI.

### 3. Results

The First, the descriptive statistics of the ISI were analyzed for each of the 24 items. The mean, standard deviation, skewness and kurtosis were calculated (Table 1).

As can be seen in Table 1, out of the 24 items, five presented issues with kurtosis (adequate values of kurtosis:  $-2 < K < 2$ ), therefore, they should be discarded (Botella Ausina et al., 2012).

Subsequently, an exploratory factor analysis was conducted with the 19 items that presented an adequate distribution. This analysis was possible because the KMO test was adequate (KMO=0.906) and Bartlett's Test of Sphericity was significant ( $p < 0.001$ ). Three items had issues with cross-loadings, namely 1, 8, and 22, making it difficult to distinguish a clear dimension of belonging (intercorrelations  $> 0.35$ ) (Hair et al., 2010).

The Table 2 presents the rotated component matrix with the final 16 items, as well as the division of each item into the dimension that groups it, the item-total correlation and Cronbach's alpha if the item is removed.

As can be seen in Table 2, when performing the EFA, the items are divided into three dimensions that explain a total percentage of variance of 56,17% (Respect for Cultural Differences / Interaction Enjoyment: 21,58%; Interaction Attentiveness / Interaction Engagement: 17,63%; Interaction confidence: 16,96%), instead of five as proposed by the original scale. The remaining items from the original dimensions *Respect for Cultural Differences* and *Interaction Enjoyment* form a single dimension, as do the remaining items from *Interaction Attentiveness* and *Interaction Engagement*. The Interaction Confidence dimension was presented independently.

According to the results obtained in the EFA, three CFA were calculated to compare different structures and analyze which of them best fits the collected data. First, the five dimensions correlated with the original 24 items were tested, although it should be noted that problems of kurtosis were found in several items, as previously reported. Secondly, the original five-dimensional model was tested without the five items that were discarded due to bias, that is, with 19 items. Finally, a third model was tested with three correlated dimensions, as resulted from the EFA with 16 items (Table 3).

As can be seen in Table 3, the only model that presents an adequate fit to the collected data is the three-dimensional model with 16 items (see Figure 1), as suggested by the EFA.

Once the internal structure of the ISI was clarified, sociodemographic variables, such as gender and age of the participants

were analyzed. Regarding the age of the participants, significant correlations with the three dimensions were observed, with low strength: *Respect for Cultural Differences/Interaction Enjoyment* ( $r = -0.210$ ;  $p < 0.01$ ), *Interaction Engagement/Interaction Attentiveness* ( $r = 0.118$ ;  $p < 0.01$ ) and *Interaction Confidence* ( $r = 0.123$ ;  $p < 0.01$ ). Regarding gender, significant differences were observed in the three dimensions of *Intercultural Sensitivity* (Table 4).

Subsequently, the relationships between the ISI, beliefs about the inclusion of immigrants in the educational field, and the rights of irregular immigrants were studied (Table 5).

### 4. Discussion and conclusion

The aim of this study was the adaptation and validation of the ISI to the Spanish context, analyzing the dimensionality of the construct. To this end, the psychometric properties of the ISI-24 were studied in a sample of residents of Madrid (Spain). The results showed a factorial structure of the ISI with three related dimensions, based on 16 items, unlike the original instrument by Chen and Starosta (2000).

Starting from the original 24 items (Chen and Starosta, 2000), five items with a high level of social desirability and biased responses that entailed kurtosis problems were first discarded. With the 19 items that obtained adequate results in the initial descriptive analysis, an EFA was performed, and the items were divided into three factors, instead of five, as proposed by the authors of the original scale. The EFA suggested the elimination of three items that had cross-saturations in different dimensions, leaving a final scale of 16 items. As happened in previous studies that showed inconsistent results or fewer factors (e.g., Fritz et al., 2005; Tamam, 2010; Wu, 2015), the items from the dimensions *Respect for cultural differences* and *Interaction Enjoyment* formed a single dimension, as did the *Interaction Engagement* and *Interaction Attentiveness* one. In the first case, this could be due to the existence of some continuity between respect for cultural differences and behaviors or attitudes toward coexistence and interaction (Velasco, 2020), which is favored by the combination of personal circumstances, values, and contextual factors (educational, migratory and social policies, among others) over time, which would be supported by the findings of Cala et al. (2018). As for the fusion of *Interaction Engagement* and *Interaction Attentiveness*, it would be justified because the development of intercultural sensitivity would guide people toward a greater attentional predisposition, derived from the increase in the commitment acquired to cultural diversity. That is, the recognition and positive appreciation of cultural diversity would improve the attentional predisposition toward it. These two factors also merged in Wu's study (2015).

Finally, the *Interaction Confidence* dimension was presented independently. This three-factor model shows an adequate fit to the collected data, as suggested by the EFA; reliability and validity are adequate. These results are consistent with the findings of authors such as Tamam (2010) and Wu (2015). The former found only three factors with Malaysian samples after removing three items. The latter found four factors through EFA after removing nine items. This seems to indicate that a certain number of items may not apply well in contexts other than the United States, including the Spanish context. The reliability levels of the three dimensions were adequate.

Secondly, based on the preliminary results reported, relationships were observed between the three dimensions of the new Intercultural

TABLE 1 Descriptive statistics for the ISI items.

	<i>M</i>	<i>DT</i>	<i>S</i>	<i>K</i>
1. I enjoy interacting with people from different cultures.	4.19	1.108	-1.287	0.797
2. I think people from other cultures are narrow-minded.	1.70	1.020	1.316	0.814
3. I am pretty sure of myself in interacting with people from different cultures.	3.93	1.088	-0.765	-0.279
4. I find it very hard to talk in front of people from different cultures	1.91	1.125	1.031	2.006
5. I always know what to say when interacting with people from different cultures	3.33	1.091	-0.150	-0.840
6. I can be as sociable as I want to be when interacting with people from different cultures	3.99	1.094	-0.877	-0.156
7. I do not like to be with people from different cultures.	1.58	0.982	1.688	1.852
8. I respect the values of people from different cultures.	4.32	0.987	-1.507	1.754
9. I get upset easily when interacting with people from different cultures	1.60	0.962	1.618	1.815
10. I feel confident when interacting with people from different cultures	3.90	1.051	-0.616	-0.560
11. I tend to wait before forming an impression of culturally-distinct counterparts	4.09	1.091	-1.199	0.733
12. I often get discouraged when I am with people from different cultures	1.89	1.084	0.857	-0.519
13. I am open-minded to people from different cultures.	4.48	0.897	-1.847	2.884
14. I am very observant when interacting with people from different cultures	4.12	0.931	-0.850	0.123
15. I often feel useless when interacting with people from different cultures	1.98	1.201	0.919	-2.332
16. I respect the ways people from different cultures behave	4.10	0.994	-1.074	-2.116
17. I try to obtain as much information as I can when interacting with people from different cultures.	3.93	1.069	-0.696	-0.540
18. I would not accept the opinions of people from different cultures.	1.59	0.984	1.665	1.883
19. I am sensitive to my culturally-distinct counterpart's subtle meanings during our interaction.	3.67	1.041	-0.618	0.096
20. I think my culture is better than other cultures.	1.97	1.134	0.765	-0.588
21. I often give positive responses to my culturally different counterpart during our interaction.	3.94	0.960	-0.594	-0.074
22. I avoid those situations where I will have to deal with culturally-distinct persons.	1.61	0.994	1.539	1.350
23. I often show my culturally-distinct counterpart my understanding through verbal or nonverbal cues.	4.03	0.967	-1.038	0.970
24. I have a feeling of enjoyment toward differences between my culturally-distinct counterpart and me.	4.12	1.107	-1.100	2.281

Sensitivity Scale (ISS-16) and the age of the participants. That is, the older the participants, the higher the levels of intercultural sensitivity and vice versa. These results are in line with those reported by [Moradi and Ghabanchi \(2019\)](#), who indicate that age is a key component in the development of intercultural sensitivity, as intergroup contact in different areas (mainly educational and work), as well as greater consumption of political information and life experiences, could account for higher levels in all dimensions of the construct. It should be noted that, although the relationships between age and the dimensions of intercultural sensitivity have been significant ([Habib and Hernández, 2020](#)), it is necessary to continue analyzing these relationships in different contexts and focusing on the life experiences of each participant, in order to corroborate with certainty that this would be its main cause.

Regarding gender, statistically significant relationships were observed in the three dimensions of the ISS-16 and the gender of the participants. In all cases, women scored higher than men, indicating a higher level of intercultural sensitivity. According to the study conducted by [Palou and Marín \(2014\)](#), these results would be expected, as women tend to show higher levels of prosociality compared to men, not only in terms of the assessed construct but also with respect to related variables that have been studied ([Velasco and González Ferrer, 2021](#)).

This research provides a first approach to the evaluation of intercultural sensitivity in the population residing in the community

of Madrid, offering theoretical information on intercultural sensitivity in the context for which the Intercultural Sensitivity Inventory (ISI) was adapted and validated. It also poses significant practical implications spanning education, work, community psychology, and public policy formulation. This is particularly relevant in an increasingly culturally diverse context such as Spain, where understanding and managing cultural diversity must be effective.

In the educational realm, for instance, the Spanish version of the ISI could be used by educators and administrators to help identify the intercultural sensitivity training needs of students. Educational programs and policies designed, adapted, or developed to foster and increase inclusion and respect for cultural diversity may be more effective if based on an accurate assessment of student needs ([Cala et al., 2018](#)). For instance, interventions aimed at fostering respect for cultural differences might be particularly useful for younger people, as this study found that intercultural sensitivity levels tend to be lower among younger participants. This also suggests the need for interventions and programs aimed at different age groups - interventions in younger people might focus on developing intercultural sensitivity through education and exposure to diverse cultures, while interventions for adults might focus on improving the appreciation of, and respect for, cultural diversity.

In the workplace, the ISS can be a valuable tool for organizations seeking to improve their diversity management. It could be used to

TABLE 2 Exploratory factor analysis, item-total correlation and alpha if item is deleted of the ISI.

	Dimensions			r <sub>i-t</sub>	α-i
	1	2	3		
Respect for cultural differences and interaction enjoyment (α = 0.845)					
1. I do not like to be with people from different cultures.	0.747	-0.276	-0.125	0.695	0.806
2. I think people from other cultures are narrow-minded.	0.745	-0.137	-0.101	0.635	0.817
3. I often get discouraged when I am with people from different cultures.	0.730	-0.114	-0.256	0.645	0.815
4. I get upset easily when interacting with people from different cultures.	0.698	-0.134	-0.239	0.615	0.821
5. I think my culture is better than other cultures.	0.679	-0.273	-0.045	0.582	0.829
6. I would not accept the opinions of people from different cultures.	0.679	-0.197	-0.122	0.587	0.826
Interaction attentiveness and interaction engagement (α = 0.778)					
7. I am very observant when interacting with people from different cultures.	-0.193	0.731	0.163	0.630	0.720
8. I often show my culturally-distinct counterpart my understanding through verbal or nonverbal cues.	-0.103	0.685	0.101	0.502	0.751
9. I try to obtain as much information as I can when interacting with people from different cultures.	-0.364	0.624	0.322	0.634	0.715
10. I am sensitive to my culturally-distinct counterpart's subtle meanings during our interaction.	-0.139	0.618	0.040	0.429	0.769
11. I tend to wait before forming an impression of culturally-distinct counterparts.	-0.207	0.616	0.148	0.501	0.752
12. I often give positive responses to my culturally different counterpart during our interaction.	-0.166	0.534	0.270	0.468	0.758
Interaction confidence (α = 0.807)					
13. I always know what to say when interacting with people from different cultures.	-0.102	0.084	0.791	0.592	0.774
14. I am pretty sure of myself in interacting with people from different cultures.	-0.154	0.171	0.776	0.644	0.748
15. I feel confident when interacting with people from different cultures.	-0.265	0.217	0.771	0.696	0.724
16. I can be as sociable as I want to be when interacting with people from different cultures.	-0.154	0.247	0.699	0.565	0.787

TABLE 3 Testing ISI models through confirmatory factor analysis.

	S-B $\chi^2_{(gl)}$	$\Delta$ S-B $\chi^2_{(gl)}$	NNFI	CFI	IFI	RMSEA
ISI five dimensions model (original)	966.99 <sub>(94)</sub>	10.28	0.62	0.70	0.70	0.120
ISI four dimensions model	531.20 <sub>(98)</sub>	5.42	0.82	0.85	0.85	0.083
ISI three dimensions model	240.60 <sub>(101)</sub>	2.38	0.94	0.95	0.95	0.046

Adequate values:  $\Delta$ S-B  $\chi^2_{(gl)} \leq 5$ ; NNFI, CFI, IFI  $\geq 0.90$ ; RMSEA  $\leq 0.08$ . Five dimensions model (original): [Chen and Starosta \(2000\)](#); Four dimensions model: [Wu \(2015\)](#); Three dimensions model: [Tamam \(2010\)](#).

TABLE 4 Differences according to gender in the dimensions of the ISI.

	Men		Women		t	Cohen's d
	M	SD	M	SD		
Respect for cultural differences/ Interaction enjoyment	1.92	0.818	1.50	0.648	-7.182***	0.57
Interaction engagement/ Interaction attentiveness	3.82	0.712	4.12	0.636	5.640***	0.44
Interaction confidence	3.66	0.859	3.92	0.841	3.914***	0.30

M, mean; SD, standard deviation. \*\*\*,  $p < 0.001$ .

TABLE 5 Relationships between the ISI, beliefs about the inclusion of immigrants in education, and rights of irregular immigrants.

	1	2	3	4	5
1. Respect for cultural differences/ Interaction enjoyment	0.845	-0.550**	-0.440**	-0.630**	-0.442**
2. Interaction engagement/ Interaction attentiveness		0.778	0.500**	0.603**	0.313**
3. Interaction confidence			0.807	0.390**	0.123**
4. Immigrants in education				0.809	0.377**
5. Rights of irregular immigrants					-

Cronbach's alpha on the diagonal. \*\*,  $p < 0.001$ .

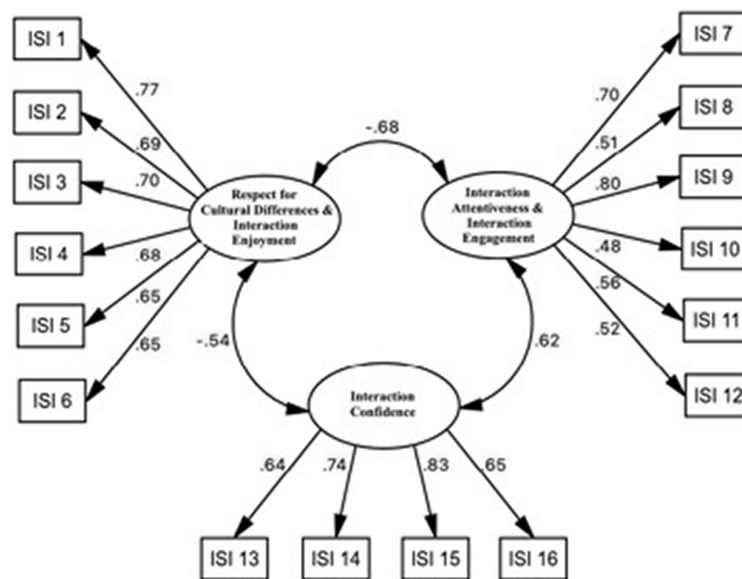


FIGURE 1 Three-dimensional model of the ISI.

assess employees' abilities to work effectively in culturally diverse environments, which is essential in an increasingly globalized world. This study's findings regarding gender suggest that organizations should pay special attention to men, as they scored lower on intercultural sensitivity than women, and take this into account in diversity training programs, thereby avoiding situations of workplace harassment (Moradi and Ghabanchi, 2019).

In community psychology and public policy formulation, the ISS can be useful for assessing the impact of interventions designed to enhance social cohesion and reduce discrimination. This instrument could also help policymakers identify groups that might need additional support to improve their intercultural sensitivity.

Despite the contributions of this study to the adaptation and validation of the Intercultural Sensitivity scale in the Spanish context, several limitations also need to be acknowledged for future research. First, the study was cross-sectional, limiting the ability to infer causal relationships between the variables studied (Habib and Hernández, 2020). For instance, although we found a correlation between age and

intercultural sensitivity, we cannot say with certainty that increasing age causes an increase in intercultural sensitivity. Longitudinal studies could provide more clarity on causal relationships in this area.

Secondly, the sample was comprised mainly of residents of the Community of Madrid, limiting the generalization of the findings to other regions of Spain or other cultural contexts (Velasco, 2020). Thus, replicating this study with samples from other regions and cultural contexts would be beneficial.

Third, intentional sampling was used, which could introduce a selection bias and limit the representativeness of the sample (Cala et al., 2018). Furthermore, demographic variables were not fully controlled, particularly concerning the educational and socioeconomic level of the participants. These variables could influence intercultural sensitivity levels and should, therefore, be considered in future research (Tamam, 2010).

Finally, although a valid and reliable measure of intercultural sensitivity in the context of the Community of Madrid was reached, several items from the original scale had to be discarded as they were

not applicable in this context (Fritz et al., 2005; Wu, 2015). This suggests that intercultural sensitivity may manifest differently according to cultural contexts, and measures of this construct may need to be adapted to reflect these differences.

In conclusion, the findings of this study highlight the importance of intercultural sensitivity in the Spanish context and provide a useful tool for its measurement and evaluation. It is crucial to continue this work to develop effective interventions and inclusive policies that promote respect and appreciation for cultural diversity (Martorana et al., 2021), particularly in relation to specific behaviors linked to vulnerable social groups [e.g., asylum-seeking immigrants, victims of intersectional gender violence (Tamam, 2010; Wu, 2015; Velasco and González Ferrer, 2021), among others].

## Data availability statement

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

## Ethics statement

All procedures carried out in studies involving human participants were in accordance with the ethical standards of the institutional and/

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or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

## Author contributions

TG, EE, MA, and AM: conceptualization, data curation, formal analysis, investigation, methodology, resources, writing—original draft, and writing— review and editing. All authors contributed to the article and approved the submitted version.

## Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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