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# Intercultural Competence Assessment: What Are Its Key Dimensions Across Assessment Tools?

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## Abstract

Prior research has identified different dimensions of intercultural competence (IC). However, its focus remains inconsistent across different disciplines and contexts. Existing assessment tools do not focus on all dimensions of Intercultural Competence. Instead, each focuses only on a subset of the IC dimensions. To fill this gap, this study aims (1) to provide a review of currently available assessment tools for IC and (2) to identify a comprehensive list of the key dimensions of IC. This will help researchers agree on a unified definition of IC and develop a measurement of IC that is applicable across contexts and disciplines. The authors find that a comprehensive IC definition and measurement should take into account cognitive (culture-specific knowledge, attitude, open-mindedness/ flexibility, critical thinking, motivation, and personal autonomy), affective (cultural empathy and emotional stability/control), and behavioral (experience, social initiative, leadership, and communication) dimensions.

## Introduction

Intercultural Competence (IC) is one's knowledge and ability to successfully deal with intercultural encounters. Such knowledge and ability are essential tools in our society because people are largely involved in cultural exchange through their everyday interactions (Eni S.p.A, 2011). Individuals, who develop their sensitivity and awareness toward cultures other than their own, gain necessary knowledge, attitudes, and skills to communicate effectively in various intercultural encounters over time. Therefore, cultural sensitivity is associated with greater potential for exercising intercultural competence. That is, a person who is culturally sensitive has the capacity to recognize, acknowledge, and respect cultural differences. Hence, such an individual is considered culturally competent (Chen & Starosta, 1996). Importantly, while IC assessment aims to identify one's knowledge, attitudes, and abilities/skills at a given point of time, intercultural competence is, in fact, considered a *process* that continues throughout one's lifetime (Deardorff, 2006). In this sense, individuals develop and change over time to become/remain culturally competent.

As mentioned, a goal of IC assessment is to evaluate one's level of knowledge and ability at a given moment in the cultural encounter (Mažeikienė & Virgailaitė-Mečkauskaitė, 2007). However, there exist various IC assessment tools that all focus on different elements of IC, such as intercultural sensitivity (i.e., attitudes), interpersonal skills, intercultural communication skills, cultural empathy, open-mindedness, emotional stability, flexibility, social initiative, emotional resilience, intercultural uncertainty, perceptual acuity, personal autonomy, and working effectively in teams (Bennett & Hammer, 1998; Brinkmann, 2011; Matveev & Nelson, 2004; Trompenaars & Wooliams, 2009).

While prior research has proposed different measurements of IC along with different IC dimensions, it has not examined yet the totality of all possible IC dimensions across all existing IC assessment tools. This has led to the fact that no agreed-upon definition (Ruben, 1989) and measurement of IC (Chiu, Lonner, Matsumoto, & Ward, 2013) exist. In addition, it has led to the fact that different IC assessment tools are used in different contexts and disciplines.

To fill this gap in the existing literature, this research aims to review all available IC assessment tools and identify their respective key dimensions. Based upon all of the models' key dimensions, we argue that a more comprehensive IC measurement that is applicable across contexts and disciplines should take into consideration cognitive (culture-specific knowledge, attitude, open-mindedness/flexibility, critical thinking, motivation, and personal autonomy), affective (cultural empathy and emotional stability), and behavioral (experience, social initiative, leadership, and communication) dimensions. As such, we contribute to the existing literature in that we identify a comprehensive list of all of the dimensions of IC. As mentioned, IC measurement that aims to be comprehensive should take the combinations of these dimensions into consideration.

In the following sections, we will discuss intercultural competence, the ten available intercultural competence assessment tools, and the identified IC dimensions. We will conclude by discussing our research and suggesting future research possibilities.

## Intercultural Competence

Scholars vary in their definition of intercultural competence (IC) depending on the contexts. While some focus on cultural awareness, knowledge, and motivation, others focus on communication and behavioral skills (Byram, 1997; Spitzberg, 1983). Yet another group of researchers defines IC with such dimensions as interpersonal skills, effectiveness, cultural uncertainty, and cultural empathy (Arasaratnam & Doerfel, 2005; Gudykunst, 1995; Matveev & Nelson, 2004; Van der Zee & Brinkmann, 2004). Matveev and Nelson (2004) in their study of intercultural competence in a business setting described IC with four dimensions: interpersonal skills, team effectiveness, intercultural uncertainty, and intercultural empathy.

Furthermore, Chen and Starosta (1996) discussed cultural sensitivity and define it in terms of an individual's ability to experience and response to cultural differences (see also Hammer, Bennett, & Wiseman, 2003; Straffon, 2003). Greater cultural sensitivity is, in fact, associated with greater potential for exercising intercultural competence. Cultural sensitivity also refers to the affective capacity to recognize, acknowledge, and respect cultural differences (Chen & Starosta, 1996). Chen and Starosta (1996) argue that intercultural competence requires effective and appropriate interaction with people who have multilevel cultural identities. Furthermore, intercultural sensitivity is a process of cultural learning and involves cognitive, affective, and behavioral learning processes (Bhawuk & Sakuda, 2009). Thus, an intercultural sensitive communicator must be a chameleon who can change and adjust to whatever situation she/he finds herself/himself (Chen & Starosta, 1996).

Other scholars discuss the results of communication as an indicator of intercultural competence (Hammer et al., 2003; McCroskey, 1982, Spitzberg, 1983; Wiseman, 2002). McCroskey's (1982) stated that *communication skill* is the ability of a person to perform appropriate behavior while *competence* means the ability of a person to demonstrate his or her knowledge of appropriate behavior. Thus, the skills to demonstrate competent behavior are different from the actual performance of competent behavior. In other words, a person can be skilled but not competent or competent but not skilled (see McCroskey, 1982). This performance-based view of IC leads us to further discuss different intercultural competence assessment tools.

## Intercultural Competence Assessment

The goal of intercultural competence (IC) assessment is to understand at "what level a person is at the given moment, what their knowledge level and abilities are" (Mažeikienė & Virgailaitė-Mečkauskaitė, 2007, p. 74). Prior research has suggested different criteria that are essential in IC and intercultural communication competence (ICC; Leclerc & Martin, 2004; Matveev & Nelson, 2004). In the following, we will provide a brief overview of a total of ten available tools that were developed to assess IC or related constructs. This will provide insights into the key dimensions of IC. Gaining a better understand of all relevant dimensions of IC is important for developing a cross-disciplinary assessment tool of IC.

### Intercultural Development Inventory

The Intercultural Development Inventory (IDI) measures people's orientation toward cultural differences. It was developed based on the theoretical framework of the Developmental Model of Intercultural Sensitivity

(DMIS; Bennett & Hammer, 1998). To illustrate, the DMIS was originally created to understand how people construe cultural differences (Hammer et al., 2003). It measures the development of a person's attitude toward another culture along six stages: three ethno-centric stages (denial, defense, and minimization) and three ethno-relative stages (acceptance, adaptation, and integration). The ethno-centric orientations are applied when a person's culture is experienced as central to reality. On the other hand, the ethno-relative orientations are applied when a person's culture is experienced in the context of other cultures. The DMIS assumes that "construing cultural differences can become an active part of one's worldview, eventuating in an expanded understanding of one's own and other cultures and an increased competence in intercultural relations" (Hammer et al., p. 423).

According to Hammer et al. (2003), the IDI scale was developed in two phases: (1) the development of the initial 60-item version of the IDI and (2) the development of the final 50-item version. The final items for the IDI assess the five dimensions of the DMIS: Denial/Defense (DD) scale (13 items, α = 0.83), Reversal (R) scale (9 items, α = 0.80), Minimization (M) scale (9 items, α = 0.83), Acceptance/Adaptation (AA) scale (14 items, α = 0.84), and Encapsulated Marginality (EM) scale (5 items, α = 0.80).

Prior research has used the IDI as a means to measure both intercultural competence and intercultural sensitivity (Paige, Jacobs-Cassuto, Yershova, & DeJaeghere, 2003) in such various contexts as education, study abroad programs, healthcare (e.g., to train physician trainees), corporations, and government agencies (Altshuler, Sussman, & Kachur, 2003; Anderson, Lawton, Rexeisen, & Hubbard, 2006; DeJaeghere & Zhang, 2008; Greenholtz, 2000; Hammer, 2011).

## Multicultural Personality Questionnaire

The Multicultural Personality Questionnaire (MPQ) provides another assessment of IC (Van der Zee & Brinkmann, 2004; Van der Zee & Van Oudenhoven, 2000). The MPQ was developed to assess multicultural effectiveness without accentuating communication skills (Arasaratnam, 2009). Van der Zee and Van Oudenhoven (2000) selected seven dimensions that are relevant to the success of international trainees. They later introduced a revised scale with a total of 78 items and 5 dimensions (Van der Zee and Van Oudenhoven, 2001): cultural empathy (14 items, α = 0.83, based on 13 items), open-mindedness (14 items, α = 0.84), social initiative (17 items, α = 0.90), emotional stability (20 items, α = 0.82), and flexibility (13 items, α = 0.81). Tested in education on native and international students in the Netherlands, MPQ yielded sufficient reliability (Van Oudenhoven & Van der Zee, 2002).

In their research, the authors found that foreign students displayed lower subjective well-being at the start of their academic program compared to local students because they were not used to the new culture and lifestyle (Van der Zee and Van Oudenhoven, 2001). As emotional stability is important to maintain mental health, emotionally stable students performed better academically. Thus, MPQ was able to predict students' academic performance based on their states of cultural empathy, open-mindedness, emotional stability, flexibility, and social initiative.

## Arasaratnam's ICCI

A more recent assessment tool of IC evaluates the level of competence in intercultural encounters in terms of cognitive, affective, and behavioral dimensions (Arasaratnam, 2009). Arasaratnam and Doerfel (2005) identified empathy, motivation, attitude toward other cultures, and interaction involvement (experience and listening) as important elements of intercultural communication competence (ICC). Arasaratnam's (2009) intercultural communication competence instrument (ICCI) adapted the Multicultural Personality Questionnaire (MPQ) to measure cultural empathy (Van der Zee & Brinkmann, 2004). The measure of experience was based on whether participants had studied abroad or lived abroad for more than three months, had formal training in intercultural communication, and had close personal friends from other cultures. Interaction involvement was measured by a modified version of Cegala's (1981) Interaction Involvement Scale, which measures conversation attention, conversation awareness, and conversation confidence.

Arasaratnam (2009) found that a positive relationship between interaction involvement and cultural empathy, and between interaction involvement and attitude toward other cultures. The study also yielded a positive

relationship between attitude toward other cultures and cultural empathy, between attitude toward other cultures and experience, between attitude toward other cultures and motivation, between motivation and experience, between ICC and interaction involvement, between ICC and motivation, and between ICC and empathy.

**Intercultural Adjustment Potential Scale**

The Intercultural Adjustment Potential Scale (ICAPS, Matsumoto, LeRoux, Ratzlaff, Tatani, Uchida, Kim et al., 2001) aims to measure individuals' potential ability to adjust to a foreign culture. It measures individual differences in terms of intercultural adjustment ability. It is "a function of the psychological skills that individuals possess" (Matsumoto & Hwang, 2013, p. 857). The scale contains four dimensions that are necessary for intercultural adjustment: emotion regulation, openness, flexibility, and critical thinking.

Intercultural adjustment can be measured in terms of communication acculturation, uncertainty management, and cultural learning (Gudykunst, 1995; Kim, 2001). In reality, individuals' actual adjustment can lead to positive (e.g., gaining self-awareness) and negative (e.g., culture shock) outcomes. However, individuals' potential adjustment deals with individuals' ability to deal with or adapt to life in another culture prior to their home culture departure. The ability to adjust is often driven by personal characteristics.

Interestingly, research has shown that individuals who decided to study abroad (vs. who stayed in their home culture) showed higher levels of adjustment prior to their departure (i.e., potential adjustment; Berry, 1997). Similarly, Savicki, Downing-Burnette, Heller, Binder, and Suntinger (2004) compared students who studied abroad with students who remained in their home culture (i.e., actual adjustment.) The authors found that the students who studied abroad (vs. stayed in their home culture) showed significantly higher actual adjustments three months into their stay.

**Cross-Cultural Adaptability Inventory**

The Cross-Cultural Adaptability Inventory (CCAI, Kelly & Meyers, 2011) assesses one's readiness to interact with members from another culture and one's ability to adapt to another culture. The CCAI helps understand the qualities that enhance cross-cultural effectiveness (Davis & Finney, 2006). The inventory "responds to practical concerns, which are expressed both by culturally diverse and cross-culturally oriented populations and by the trainers and professionals who work with them" (Kelly & Meyers, 2011, p. 1). The CCAI includes four dimensions: emotional resilience (18 items, $\alpha = 0.81$), flexibility and openness (15 items, $\alpha = 0.67$), perceptual acuity (10 items, $\alpha = 0.81$), and personal autonomy (7 items, $\alpha = 0.63$) (Nguyen, Biderman, & McNary, 2010). The CCAI has been applied in education, business, and other contexts to promote cultural awareness within the classroom, student affairs, resident life, minority studies, and community programs (Kelly & Meyers, 2011).

The CCAI measure also helps in cultural diversity training (Kelly & Meyers, 2011). For example, Goldstein and Smith (1999) investigated the impact of cross-cultural training and demographic variables on adaptability among student sojourners in the US. While the treatment group received a week-long intercultural training, the control group received minimal or no training. The participants with the week-long training showed greater cross-cultural adaptability than the participants with little or no training (Goldstein & Smith, 1999). The treatment group participants exhibited a gain in emotional resilience, and flexibility and openness. The interactive and experiential characteristics of the training program explained the gain in these dimensions of intercultural competence. DeWald and Solomon (2009) adopted the CCAI in the dental hygiene context and concluded that the CCAI constitutes a good measure to identify and address students' strengths and weaknesses.

**Culture Shock Inventory**

The Culture Shock Inventory (CSI, Reddin, 1994; Paige et al., 2003) is another scale that measures specific human characteristics that are associated with intercultural sensitivity. Culture shock is a "multifaceted experience resulting from numerous stressors occurring in contact with a different culture" (Winkelman, 1994, p. 121). As societies become more multicultural, people are more likely to experience different types of culture shock in unfamiliar cultural settings. Winkelman (1994) argues that people experience culture shocks due to a

variety of factors, such as previous experience with other cultures and cross-cultural adaptation, the degree of difference between one's own and the host culture, the level of preparation, social support networks, and individual psychological characteristics.

The CSI is a self-report measure that predicts difficulties in dealing with culture shock. It assesses people's experience with people from other countries, including their language skills, openness to new ideas and beliefs, and specific culture-related knowledge (Earley & Petersob, 2004). In addition, Rudmin (2009) applies the CSI to measure acculturative stress. Acculturative stress is a type of stress that is experienced in the process of acculturation. It includes a lower mental health status (e.g., confusion, anxiety, and depression), feelings of marginality and alienation, heightened psychosomatic symptoms, and identity confusion (Rudmin, 2009). While acculturative stress is different from IC, Rudmin (2009) argues that individuals who become competent in intercultural encounters may go through such acculturative stresses and experience them as part of culture shock.

## Intercultural Sensitivity Inventory

The Intercultural Sensitivity Inventory (ICSI) is a key element in Intercultural Competence Assessment. Intercultural Sensitivity is an individual's ability to respond to, recognize, and acknowledge cultural differences in intercultural encounters. Importantly, greater cultural sensitivity is associated with greater potential for exercising IC (Hammer et al., 2003). Bhawuk and Brislin's (1992) ICSI ($\alpha = 0.57$) is a useful tool in examining people's understandings about their effective behavior when dealing with people with individualistic versus collectivistic orientation, their level of open-mindedness toward cultural differences in intercultural encounters, and their flexibility in adopting unfamiliar ways that reflect other's cultures and norms (Bhawuk & Brislin, 1992). Specifically, the ICSI determines a person's ability to successfully modify his or her behavior in a culturally appropriate manner when moving from one culture to another. That is, the more culturally sensitive a person is, the more likely he or she is able to modify the behavior in a foreign culture. People "who can perform such alternations demonstrate greater intercultural sensitivity and are believed to have greater potential for successful overseas assignments" (Bhawuk & Sakuda, 2009, p. 261).

The ICSI was originally developed to measure graduate students' intercultural sensitivity in an international business context. The ICSI consists of three sections: the U.S. section, the Japan section (both of these sections are based on individualism-collectivism theory), and the Flex/Open section (which measures open-mindedness and flexibility). The scenarios used in the ICSI assessment determine the level of intercultural sensitivity based on whether a person identifies differences between culturally expected behaviors, shows empathy to members of other cultures, and is willing to modify his/her behavior to match a culturally appropriate response (Bhawuk & Sakuda, 2009). Thus, items of the ICSI ask, for instance, whether a person allows a conflict when he/she disagrees with the group, whether a person likes to be direct and forthright when dealing with people with whom a person works, etc.

Bhawuk and Sakuda (2009) point out that intercultural sensitivity is a process of cultural learning and involves cognitive, affective, and behavioral learning processes. This thinking is in line with Deardorff (2006)'s argument that intercultural competence is a process that continues throughout one's lifetime. Therefore, a person goes through the process of cultural learning during which his or her level of cultural sensitivity and competence change.

According to Bhawuk and Sakuda (2009), at the cognitive level, a person recognizes cultural differences and evaluates such differences based on the values and beliefs of the person's own culture. At the affective level, a person expresses an interest in understanding and experiencing cultural differences. Experiencing cultural differences might lead to discomfort, which might result in the person being more emotional. At the behavioral level, a person formulates a culturally appropriate response to his or her cultural experience. A person's willingness to modify behavior and beliefs is important to become culturally sensitive. As such, these three processes are important in forming sensitive behaviors in cultural encounters.

## Intercultural Competence Profiler

The Intercultural Competence Profiler (ICP) is a multifunctional instrument which assesses an individual's qualification for international assignments. The ICP attempts to "describe and measure certain modes of thought, sensitivities, intellectual skills, and explanatory capacities that might in some measure contribute to the formation of an intercultural competence" (Trompenaars & Woolliams, 2009; p. 166). It enables "a participant to assess his or her current Intercultural Competence or that of their organization or business unit" (p. 166). According to Trompenaars and Wooliams (2009), the ICP does not focus on a single basic area of cultural knowledge or behavior, unlike other competence tools. However, it addresses the competence spectrum, or cross-cultural awareness, and as such the business benefits deriving from effective action in multicultural situations (THT Consulting, 2012).

The ICP distinguishes four aspects of IC: recognition, respect, reconciliation, and realization. Recognition is the first aspect of IC. It is the process of developing awareness. The process of recognition includes worldly consciousness (individuals understanding their roles in society and the world), ideas and practices, and global dynamics. The second aspect of IC is respect, which is the process of showing appreciation for cultural differences. This process includes acceptance, self-determination, and human dignity. The third aspect of IC is reconciliation. Reconciliation is about resolving cultural differences, that is, we reconcile human relationships, time, and nature. The fourth aspect of IC is realization. It is the process of implementing reconciling actions. In the realization process, we engage in controlling tasks, managing individuals, and facilitating teams.

## Intercultural Readiness Check

The Intercultural Readiness Check (IRC, Intercultural Business Improvement, 2012) focuses on the ability to establish and maintain effective working relationships with people who have different cultural backgrounds. It assesses individuals along the following six dimensions: intercultural sensitivity (29 items, $\alpha =$ 0.80), intercultural communication (28 items, $\alpha = 0.84$), intercultural relationship building (14 items, $\alpha =$ 0.80), conflict management (8 items, $\alpha = 0.59$), leadership (15 items, $\alpha = 0.70$), and tolerance for ambiguity (8 items, $\alpha = 0.78$). Intercultural sensitivity measures "the degree to which individuals take an active interest in others, their cultural backgrounds, and needs and perspectives". Intercultural communication measures "the degree to which individuals actively engage in and monitor their own communication and communicative behaviors". Intercultural relationship building or commitment measures "the degree to which individuals actively influence the social environment, and are concerned with integrating different people and their personalities". Conflict management measures the degree to which individuals deal with conflicts with others. Leadership measures the degree to which individuals develop leadership competences to manage diverse team members. Finally, tolerance for ambiguity measures the degree to which individuals prefer certainty or a predictable situation, or in other words, avoid ambiguous situations (see Brinkmann, 2011, p. 1 for details). The IRC was tested with participants around the world and has been implemented in organizational settings. Importantly, it offers new insights into "how individuals may be helped or hindered in their intercultural development" (Brinkmann, 2011, p. 5). Hence, the scale helps individuals recognize the necessary skills that they should develop for their work in diverse cultural settings.

## Intercultural Competence Questionnaire

The Intercultural Competence Questionnaire (ICQ) is based on the Intercultural Competence Model rooted in Abe and Wiseman's (1983) Intercultural Abilities Model, and Cui and Awa's (1992) concept of Intercultural Effectiveness. The ICQ identifies four dimensions of intercultural competence: interpersonal skills, team effectiveness, intercultural uncertainty, and intercultural empathy (Matveev, 2002; Matveev & Nelson, 2004). The seven-point, 23-item ICQ includes items such as "I acknowledge differences in communication and interaction styles when working with people from different countries" and "My team involves every member in the decision-making process without any consideration given to the national origin of a team member."

The questions in the ICQ prompt the respondents about each of the four dimensions and are randomly distributed across the questionnaire to ensure unbiased answers. Several reverse-worded items ensure control for acquiescent response sets, reduce the boredom in questionnaire completion, and minimize the inertia of

answering an unbroken series of positively worded items (Schriesheim & Hill, 1981; Harrison & McLaughlin, 1993). Multi-item composition of each dimension of intercultural competence minimizes item-context effects and ensures validity of this assessment instrument (Ackerman, 1991). The ICQ was pilot tested using 380 participants with diverse demographics ($\alpha$ = 88; Matveev, 2002).

Further application of the ICQ with international subjects in the Russian Federation showed a high internal consistency alpha of .82. The ICQ was further used to assess intercultural competence of business professionals in China, Germany, the Philippines, Romania, and the United Arab Emirates (Congden, Matveev, & Desplaces, 2009; Desplaces, Matveev, & Congden, 2009; Matveev & Del Villar, 2013; Matveev, Milter, Deselnicu, & Muratbekova-Touron, 2013). A summary of the described assessment tools is provided in Table 1.

## Key Dimensions of Intercultural Competence Instruments

The previous review of the existing measurements of intercultural competence highlights that (1) a multitude of IC measurements exist across different contexts and that (2) the existing IC measurements all focus on different dimensions. To gain a more complete understanding of the IC construct, it is helpful to identify the key dimensions of IC across all IC measurements. In line with Bhawuk and Sakuda (2009), we argue that IC constitutes a process of cultural learning that involves cognitive, affective, and behavioral learning processes. In line with this thinking, we will base our discussion along possible cognitive, affective, and behavioral dimensions.

### Cognitive Dimensions

Cognition is about people's thoughts, attitudes, and interpretations. Cognitive dimensions seem to play a particular important role in IC. For example, most models of IC assessment suggest the need for people to be open-minded and flexible in order to be intercultural component. Therefore, open-mindedness/flexibility constitutes an important dimension of IC.

**Table 1**

*Summary of Intercultural Competence Assessment Tools*

| Instrument/ Author/Year | Total Numbers of Items/ Types of Scales/Reliability | Description |
| --- | --- | --- |
| Intercultural Development Inventory (IDI, Hammer, Bennett, & Wiseman, 2003) | 50 items: Denial/Defense (13 items, α = 0.85); Reversal (9 items, α = 0.80); Minimization (9 items, α = 0.83; Acceptance/Adaptation (14 items, α = 0.84); Encapsulated Marginality (5 items, α = 0.80) scales | The IDI measures the orientation toward cultural differences described in its developmental model of intercultural sensitivity (DMIS). The IDI has been used in education, study abroad program, healthcare (e.g., to train physician trainees), and corporations and government agencies. |
| Multicultural Personality Questionnaire (MPQ, Van der Zee & Brinkmann, 2004) | 78 items: cultural empathy (14 items, α = 0.83, based on 13 items), open-mindedness (14 items, α = 0.84), social initiative (17 items, α = 0.90), emotional stability (20 items, α = 0.82), and flexibility (13 items, α = 0.81) | The MPQ assesses multicultural effectiveness without accentuating communication skills. The MPQ has applied to measure multicultural effectiveness among international students, the adjustment of Western expatriates in a foreign country etc. |
| Intercultural Communication Competence Instrument (ICCI, Arasaratnam, 2009) | 52 items: attitude towards other cultures (8 items, α = 0.70), ethnocentrism (22 items, α = 0.86), motivation (4 items, α = 0.81), interaction involvement (8 items, α = 0.80), and intercultural communication competence (10 items, α = .77). | The ICCI measures individual competence in intercultural encounters in terms of cognitive, affective, and behavioral dimensions. |
| Intercultural Adjustment Potential Scale (ICAPS, Matsumoto et al., 2001) | 55 items: emotion regulation, openness, flexibility, and critical thinking | The ICAPS measures individual differences in terms of their abilities to adjust to a foreign culture. Adjustment potential predicts their actual adjustment. |
| Cross-Cultural Adaptability Inventory (CCAI, Kelly & Meyers, 1992) | 50 items: emotional resilience (18 items, α = 0.81, flexibility and openness (15 items, α = 0.67), perceptual acuity (10 items, α = 0.81, and personal autonomy (7 items, α = 0.63), the reliabilities are based on the study by Nguyen et al. (2010) | The CCAI measures an individual's ability to adapt to another culture. The scale can be used in such contexts as dental hygiene, multi-national corporations, study-abroad, pre-departure training, immigrants, diversity training programs, and university classes on cross-cultural issues. |

| Instrument/ Author/Year | Total Numbers of Items/ Types of Scales/Reliability | Description |
| --- | --- | --- |
| Culture Shock Inventory (CSI, Reddin, 1994) | 80 items ($\alpha$ = 0.57 ~ 0.86): degree of Western ethnocentrism, cross-cultural experience, cognitive flexibility, behavioral flexibility, specific cultural experience, general cultural knowledge, general cultural behavior, and interpersonal sensitivity | The CSI measures the degree of direct experience with people from other countries, including the individuals' language skills, their openness to new ideas and beliefs, and their specific culture-related knowledge. The scale has been widely used by the Peace Corps for its training programs and law enforcement officers who work in culturally diverse settings. |
| Intercultural Sensitivity Inventory (ICSI, Bhawuk & Brislin, 1992) | 46 items ($\alpha$ = 0.84): US section (16 items), Japan (JPN) section (16 items), Flex/Open section (14 items) | The scenario-based ICSI examines people's understandings about their effective behavior when dealing with people with individualistic vs. collectivistic orientation, their levels of open-mindedness toward cultural differences, and their flexibility in adopting unfamiliar ways. |
| Intercultural Competence Profiler (ICP, Trompenaars & Wooliams, 2009) | Recognition, respect, reconciliation, and realization (alpha reliability was not provided) | The ICP measures individuals' current intercultural competence or that of their organization or business unit. It measures certain modes of thought, sensitivities, intellectual skills, and explanatory capacities that contribute to the formation of IC. |
| Intercultural Readiness Check (IRC, Van der Zee & Brinkmann (2004) | 102 items: intercultural sensitivity (29 items, $\alpha$ = 0.80), intercultural communication (28 items, $\alpha$ = 0.84), intercultural relationship building (14 items, $\alpha$ = 0.80), conflict management (8 items, $\alpha$ = 0.59), leadership (15 items, $\alpha$ = 0.70), and tolerance for ambiguity (8 items, $\alpha$ = 0.78). | The IRC measures the ability to establish and maintain effective working relationship with people who have different cultural background. |
| Intercultural Competence Questionnaire (ICQ, Matveev, 2002) | 23 Items ($\alpha$ = 0.88): interpersonal skills, team effectiveness, intercultural uncertainty, and intercultural empathy | The ICQ measures intercultural competence in organizational settings. The scale was used to assess intercultural competence in seven countries. |

*Source:* Altshuler et al. (2003); Anderson et al. (2006); Bhawuk & Brislin (1992); DeJaeghere & Zhang (2008); DeWald & Solomon (2009); Goldstein & Smith (1999); Greenholtz (2000); Intercultural Business Improvement (2012); Kelly & Meyers (1992); Hammer (2011); Hammer et al. (2003); Matsumoto et al. (2001); Matveev (2002); Reddin (1994); Nguyen et al. (2010); Trompenaars & Wooliams (2009); Van der Zee & Brinkmann (2004); Van der Zee & Van Oudenhoven (2001); Van Oudenhoven & Van der Zee (2002).

Another important cognitive dimension is people's culture-specific knowledge, as emphasized by the Culture Shock Inventory (CSI), Intercultural Sensitivity Inventory (ICSI), and Intercultural Competence Profiler (ICP). Furthermore, the Intercultural Development Inventory (IDI), Intercultural Communication Competence Inventory (ICCI), Cross-Cultural Adaptability Inventory (CCAI), and ICP suggest that people's attitudes about foreign cultures also constitute an important dimension of IC. Moreover, the Intercultural Adjustment Potential Scale (ICAPS) and the ICP suggest that critical thinking constitutes an important dimension of IC. Finally, motivation constitutes an important dimension according to Arasaratnam's ICCI, and personal autonomy constitutes an important dimension according to the CCAI. As a result, people's knowledge, attitude, open-mindedness/flexibility, critical thinking, motivation, and personal autonomy constitute six important cognitive dimensions of the IC construct.

## Affective Dimensions

Affect is about people's feelings, moods, and emotions. Affective dimensions are also important in the process to becoming an intercultural competent person. For example, the Multicultural Personality Questionnaire (MPQ), Arasaratnam's ICCI, ICSI, ICP, Intercultural Readiness Check (IRC), and Intercultural Competence Questionnaire (ICQ) all highlight the importance of cultural empathy. Similarly, the MPQ, ICAPS, CCAI, and ICSI all emphasize the importance of emotional stability and emotional control. Consequently, cultural empathy and emotional stability/control constitute two important affective dimensions of IC.

## Behavioral Dimensions

Finally, behavior is about action and social exchange. It is an important component of IC. For example, particularly the CSI and the ICP emphasize the importance of people's experience with a foreign culture. The MPQ, Arasaratnam's ICCI, CSI, ICSI, ICP, and ICQ also emphasize the importance of social initiative, or interaction. Furthermore, ICCI and IRC emphasize importance of peoples' intercultural communication skills. Finally, the IRC suggests that leadership constitutes another behavioral dimension of IC. As a result, people's experience, social initiative, leadership, and communication constitute three important behavioral dimensions of IC. Table 2 summarizes the most important identified dimensions of IC and provides the IC models that put a strong emphasis on the respective dimension.

**Table 2**
*Key Dimensions of IC Supporting IC Models*

| IC Models | Cognitive Dimensions | | | | | | Affective Dimensions | | Behavioral Dimensions | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | C-sk | Att | OM/ F | Mot | CT | PA | CE | ES/C | Exp | SI | L | C |
| IDI | | X | | | | | | | | | | |
| MPQ | | | X | | | | X | X | | X | | |
| Arasaratnam's ICCI | | X | | X | | | X | | | X | | X |
| ICAPS | | | X | | X | | | X | | | | |
| CCAI | | X | X | | | X | | X | | | | |
| CSI | X | | X | | | | | | X | X | | |
| ICSI | X | | X | | | | X | X | | X | | |
| ICP | X | X | X | | | | X | | X | X | | |
| IRC | | | X | | | | X | | | | X | X |
| ICQ | | | | | | | X | | | X | | |

*Note.* Cognitive Dimensions: C-sk= Culture-specific knowledge, Att=Attitude, OM/F= Open-Mindedness/ Flexibility; Mot= Motivation, CT= Critical Thinking, PA= Personal Autonomy
For Affective Dimensions; CE Cultural Empathy, ES/C= Emotional Stability/Control;
For Behavioral Dimensions: Exp= Experience, SI= Social Initiative, L= Leadership, C= Communication

## Conclusion

In this research, we have demonstrated that a multitude of IC models exist that aim to measure Intercultural Competence (IC). However, each model focuses on a different context and uses slightly different dimensions to assess IC. As a result, scholars across disciplines have faced challenges in defining and measuring IC. To provide scholars across disciplines with a basis for the development of a cross-disciplinary IC measurement and to gain a better understanding of the dimensions that make up IC, we have reviewed a total of ten available assessment tools for IC and identified the key dimensions of each model. Table 2 summarizes the key dimensions across all of the ten IC models.

To review, we discussed the Intercultural Development Inventory (IDI), the Multicultural Personality Questionnaire (MPQ) and the Arasaratnam's Intercultural Communication Competence Instrument (ICCI), Intercultural Adjustment Potential Scale (ICAPS), the Cross-Cultural Adaptability Inventory (CCAI), Culture Shock Inventory (CSI), Intercultural Sensitivity Inventory (ICSI), Intercultural Competence Profiler (ICP), Intercultural Readiness Check (IRC), and Intercultural Competence Questionnaire (ICQ) in this study. Each of the assessment tools places a different emphasis on certain IC dimensions. Across all models, we argued that the key IC dimensions are either cognitive, affective, or behavioral nature. Specifically, we identified the following six cognitive dimensions across all IC models: culture-specific knowledge, attitude, open-mindedness/flexibility, critical thinking, and motivation.

Furthermore, we identified the following two affective dimensions: cultural empathy and emotional stability/control. Finally, we identified the following three behavioral dimensions: experience, social initiative, and leadership. As a result, the IC construct is made up of a total of eleven key dimensions of which six are of cognitive nature, two of affective nature, and three of behavioral nature. As Table 2 demonstrates, the ten IC models examined touch upon different dimensions of the IC construct while neglecting others. In order to assess IC in a more comprehensive manner, future research should develop a more inclusive assessment tool to address all of the dimensions of IC. Such a comprehensive assessment tool could be used in a various contexts and across disciplines.

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