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An integrated developmental model and measure of intercultural competence

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An Integrated Developmental Model and Measure of Intercultural Competence

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Abstract

This study presents a synthesized model of intercultural competence, the Integrated Developmental Model of Intercultural Competence (IDMIC), based on six existing constructs and models of intercultural competence commonly used in postsecondary education. The IDMIC Index is a scenario-based instrument designed to measure intercultural competence as depicted by the developmental model. Undergraduate and graduate students were surveyed during the Spring 2019 semester. Data was collected and analyzed using quantitative techniques. Results of data analyses did not provide evidence to support the hypothesized unidimensional structure of the IDMIC Index; however, there was evidence to support the measurement reliability and validity of the instrument. The IDMIC Index is a viable tool for diversity, equity, and inclusion (DEI) practitioners, and particularly for those administrators working at the intersection of student affairs and DEI. Theoretical and practical implications of the study and opportunities for future research are discussed.

Keywords: diversity, higher education, intercultural competence, postsecondary education

Introduction

A priority outcome of postsecondary education in the United States (US) is the development of intercultural competence among students attending and graduating colleges and universities (Goodman & Salisbury, 2009; Lee, Poch, Shaw, & Williams, 2012). While this is an appropriate educational goal, many conversations about intercultural competence are centered on preparing students to work in a global marketplace through college-based study abroad programs and course curriculum. Often, intercultural competence is not fully included in discussions about diversity, equity, and inclusion (DEI) in postsecondary education. And while there have been efforts to relate the idea of diversity to student learning and developmental outcomes (e.g., Diverse Learning Environments Survey, National Survey of Student Engagement), in many ways diversity is still viewed as a goal for its own sake (i.e., "an end in itself"; Alger, 1997, p. 21; Chang, 2005, p. 10). Diversity should be viewed as a means to foster greater intercultural competence among students, and intercultural competence should be a clearly stated developmental goal/outcome of DEI efforts across colleges and universities.

But what do the terms diversity and intercultural competence mean? In much of the discourse there is a failure to define these constructs. Williams (2013) notes, "although diversity has become one of the great buzzwords in academia, it is rarely defined" (p. 81). Deardorff (2011) aptly observed intercultural competence "is used (as are other similar terms) without a concrete definition, especially one that is grounded in the literature" (p. 66). Acknowledging this issue, this chapter presents conceptualizations of diversity and intercultural competence grounded in existing literature. Diversity is

conceptualized within the context of postsecondary education and incorporates concepts from the Association of American Colleges & Universities, a theoretical framework proposed for DEI practitioners and researchers, and seminal literature on social identity. The definition of intercultural competence presented is based on two complementary descriptions of the construct. Chapter One concludes with a description of the main problems this research aims to address.

Defining Diversity

What is diversity? Diversity refers to differences across social groups (Association of American Colleges & Universities, n.d., Diversity, Inclusion, and Equity: Core Principles section, para. 2). Social groups are composed of individuals who "share a common social identification of themselves" (Turner, 1982, p. 15) based on "social categories such as sex, nationality, political affiliation, religion" (Turner, 1982, p. 18). Worthington (2012) presents a "conceptual guide for those conducting diversity research and practice in higher education" (p. 2) that includes 12 "social identity characteristics" (Worthington, Stanley, & Lewis, Sr., 2014, p. 230), including characteristics unique to postsecondary education (e.g., first-generation status). Considering all of this, and for the purpose of this research, diversity is understood as *differences among social groups based on the following dimensions of social identity: ability, age, ethnicity, first-generation status, gender, language use, national and geographic origin, political ideology, race, religion, sexual orientation, socioeconomic status, and veteran/military status* (Association of American Colleges & Universities, n.d., Diversity, Inclusion, and Equity: Core Principles section, para. 2; Turner, 1982; Worthington, 2012; Worthington et al., 2014).

Ability. Ability is characterized as "temporarily able-bodied" (Griffin, Peters, & Smith, 2007, p. 336) or disabled in terms of individuals' physical and mental capabilities. "The term 'disability' means, with respect to an individual (A) a physical or mental impairment that substantially limits one or more major life activities of such individual; (B) a record of such an impairment; or (C) being regarded as having such an impairment" (Americans With Disabilities Act of 1990, 2009, § 12102. Definition of disability).

Age. Age in the context of U.S. postsecondary education is often understood in terms of traditional and nontraditional students. A traditional student is commonly defined as 18 to 24 years of age (Hittepole, n.d.), where a "nontraditional student is older than 24" (Bean & Metzner, 1985, p. 489).

Ethnicity. Ethnicity in the US is bifurcated: Hispanic/Latino and non-Hispanic/Latino. A person who identifies as Hispanic/Latino is "of Cuban, Mexican, Puerto Rican, South or Central American, or other Spanish culture or origin, regardless of race" (United States Office of Management and Budget, 1997, p. 58789).

First-generation status. First-generation status is commonly understood as being the first person in a family to attend college; however, there is no standard definition of first-generation status. Definitions of first-generation status include students "whose parents did not graduate from college" (DeFreitas & Rinn, 2013, p. 57), whose "parents [have] no type or quantity of education beyond high school" (Lohfink & Paulsen, 2005, p. 412), and "whose parents have not completed a baccalaureate degree" (Yeh, 2010, p. 53).

Gender. Gender "refers to the attitudes, feelings, and behaviors that a given culture associates with a person's biological sex. Behavior that is compatible with

cultural expectations is referred to as gender-normative; behaviors that are viewed as incompatible with these expectations constitute gender non-conformity" (American Psychological Association, 2012, p. 11).

Language use. Language use refers to the "form or manner of verbal expression" (Merriam-Webster, n.d., Language definition 2a) employed at home (United States Census Bureau, n.d., Language Use About this Topic section, para.1) or elsewhere as well as a person's ability to speak the English language (United States Census Bureau, n.d., Language Use About this Topic section, para. 1).

National and geographic origin. National and geographic origin refers to the country or geographic area where a person or their ancestry is from (United States Equal Employment Opportunity Commission, n.d., Facts About National Origin Discrimination, para. 1).

Political ideology. Political ideology is "a set of beliefs about the proper order of society and how it can be achieved" (Erickson & Tedin, 2003, p. 64 as cited in Jost, Federico, & Napier, 2009). These beliefs are categorized as liberal or conservative (Jost et al., 2009).

Race. Race in the US is categorized as "American Indian or Alaska Native, Asian, Black or African American, Native Hawaiian or Other Pacific Islander, and White" (United States Office of Management and Budget, 1997, p. 58782)

American Indian or Alaska Native. American Indian or Alaska Native describes "a person having origins in any of the original peoples of North and South America (including Central America) who maintains cultural identification through tribal

affiliation or community attachment" (United States Office of Management and Budget, 1997, p. 58789).

Asian. Asian describes "a person having origins in any of the original peoples of the Far East, Southeast Asia, or the Indian subcontinent, including, for example, Cambodia, China, India, Japan, Korea, Malaysia, Pakistan, the Philippine Islands, Thailand, and Vietnam" (United States Office of Management and Budget, 1997, p. 58789).

Black or African American. Black or African American describes "a person having origins in any of the Black racial groups of Africa" (United States Office of Management and Budget, 1997, p. 58789).

Native Hawaiian or Other Pacific Islander. Native Hawaiian or Other Pacific Islander describes "a person having origins in any of the original peoples of Hawaii, Guam, Samoa, or other Pacific Islands" (United States Office of Management and Budget, 1997, p. 58789).

White. White describes "a person having origins in any of the original peoples of Europe, the Middle East, or North Africa" (United States Office of Management and Budget, 1997, p. 58789).

Religion. Religion can be understood as an individual's engagement in "an organized system of practices and beliefs" (Mohr, 2006, p. 175). Individuals may identify with religions such as Christianity, Islam, Judaism, or Buddhism, or not identify with any religion. Individuals who do not identify with a religion may identify as spiritual but not religious, agnostic, and/or atheist. Spirituality and agnosticism or atheism are not necessarily mutually exclusive (Mohr, 2006).

Sexual orientation. Sexual orientation "refers to the sex of those to whom one is sexually and romantically attracted. Categories of sexual orientation typically have included attraction to members of one's own sex (gay men or lesbians), attraction to members of the other sex (heterosexuals), and attraction to members of both sexes (bisexuals)" (American Psychological Association, 2012, p. 11).

Socioeconomic status. Socioeconomic status can be understood as a person's or group's societal status resulting from "various combinations of income, education, and occupation" (American Psychological Association, Task Force on Socioeconomic Status, 2007, p. 5).

Veteran/military status. Veteran/military status refers to a person who is 1) active in the U.S. armed forces or 2) was active in the U.S. armed forces and not discharged under dishonorable conditions (United States Department of Veteran Affairs, "Establishing Veteran Status," Topic 1. Determining Veteran Status).

Defining Intercultural Competence

What is intercutural competence? Spitzberg and Changnon (2009) present the following definition, which incorporates the ideas of social identity discussed in the previous section:

> the appropriate and effective management of interaction between people who, to some degree or another, represent different or divergent affective, cognitive, and behavioral orientations to the world. These orientations will most commonly be reflected in such normative categories as nationality, race, ethnicity, tribe, religion, or region. (p. 7)

Deardorff (2011) describes intercultural competence as "effective and appropriate behavior and communication in intercultural situations" (p. 66). This description represents the external outcome of Deardorff's (2004) intercultural competence model. Considering both Spitzberg and Changnon's (2009) and Deardorff's (2011) definitions, for the purposes of this research, intercultural competence is understood as *effective and appropriate behavior and/or communication in situations involving individuals who are members of different/other social groups*, where effective and appropriate are understood as "the achievement of valued objectives or rewards" (Spitzberg, 1989, p. 250) and "avoiding the violation of valued rules or expectancies" (Spitzberg, 1989, p. 250), respectively.

Study Problem, Purpose, Rationale, and Research Questions

> Spitzberg and Changnon (2009) observed,
>
> extensive commonalities across [intercultural competence] models. . . . [suggesting] that many conceptual wheels are being reinvented at the expense of legitimate progress. . . . [and] few efforts have been made to systematically test the validity . . . of the models posited to date. (p. 45)

The researchers suggest synthesizing various models to create a "more parsimonious" (Spitzberg & Changnon, 2009, p. 45) conceptualization of intercultural competence to guide research and practice (Spitzberg & Changnon, 2009).

Another problem is the lack of cohesion among various constructs, models, and measures of intercultural competence. There are models without corresponding measures, which limits their use to qualitative research. There are measures based on constructs with no models, which limits our understanding of the process of intercultural

competence development. As a consequence of these two problems, colleges and universities, particularly Chief Diversity Officers (CDOs; who are tasked with leading efforts to foster more inclusive campuses) and administrators working at the intersection of DEI and student affairs (who are often responsible for fostering student development), do not have good tools to use.

Noting similarities among developmental models and constructs of intercultural competence used in postsecondary education and responding to Spitzberg and Changnon's (2009) call for increased parsimony among intercultural competence models, this researcher proposes an integrated developmental model of intercultural competence in hopes of creating a comprehensive framework for use in postsecondary education. However, another model that cannot be directly measured is not especially useful. A corresponding instrument to measure intercultural competence, as described by the integrated model, is presented as a part of this research.

The purpose of this study is 1) to construct a model of intercultural competence by synthesizing six constructs and developmental theories that conceptualize intercultural competence; 2) to develop a scenario-based measure of intercultural competence based on the model; and 3) ultimately, to present evidence to support the measurement reliability and validity of the measure of intercultural competence. In fulfillment of this third, and overall, purpose, this study hypothesizes the measure of intercultural competence 1) has a unidimensional structure; 2) is a reliable measure of intercultural competence; and 3) is a valid measure of intercultural competence.

This dissertation includes four additional chapters. Chapter Two reviews literature on intercultural competence in postsecondary education, focusing on three

developmental models (intercultural sensitivity, intercultural maturity, individual diversity development) and similar constructs with corresponding measures (universal-diverse orientation, cultural intelligence, global perspective). Chapter Two concludes with a conceptualization of intercultural competence and description of the integrated model. Chapter Three describes the methodology for examining the reliability and validity of the model's corresponding measure, including research hypotheses, participants, instrumentation, and methods. Chapter Four presents the results of the examination, and Chapter Five offers a discussion of the study's findings and implications and opportunities for future research.

Review of the Literature

As previously stated, there are numerous theories, models, and terms used to conceptualize intercultural competence. In their review of intercultural competence models, Spitzberg and Changnon (2009) classified models into the following five categories: "compositional, co-orientational, developmental, adaptational, and causal process" (p. 10). Developmental models describe "stages of progression or maturity through which [intercultural] competence is hypothesized to evolve" (Spitzberg & Changnon, 2009, p. 10); within these models the role of time is significant (Spitzberg & Changnon, 2009). Included in their review of developmental models are intercultural sensitivity and intercultural maturity. This chapter reviews the two aforementioned models as well as individual diversity development, which is also a staged-based model. As well, this literature review includes three constructs similar to the developmental models: universal-diverse orientation, cultural intelligence, and global perspective. The review of these six models and constructs will include a description of the model or construct (or theoretical description), a description of the corresponding quantitative measure (if applicable), and presentation of research (if applicable). As several models and constructs are based on Robert Kegan's idea of multidimensional development, there is also a brief discussion of his work. These six models and constructs, along with Kegan's work, are commonly used in postsecondary education, especially as it relates to student development.

A critique of the six developmental models and constructs is offered. Taking into consideration Spitzberg and Changnon's (2009) call for increased parsimony among intercultural competence models, this chapter also presents a synthesized developmental

model of intercultural competence that integrates key concepts from the aforementioned constructs and models. The chapter closes with a summary of conceptual conclusions, restating the case for the integrated model and measure of intercultural competence.

In this chapter, cultural differences, cultural diversity, diverse others, and similar terms are used interchangeably, corresponding to the model or construct being discussed (to the degree possible), and are considered synonymous with diversity as defined in Chapter One. Culture is understood as "the customary beliefs, social forms, and material traits of a . . . social group (Merriam-Webster, n.d., Culture definition 1a). Social groups are composed of individuals who share dimensions of social identity in terms of gender, race, sexual orientation, etc. (Association of American Colleges & Universities, 2017, Diversity, Inclusion, and Equity: Core Principles, para. 2; Miville, 1992; Turner 1982). The aggregate of an individual's dimensions of social identity represents their social identity (Turner, 1982).

Intercultural Sensitivity

Theoretical description. Intercultural sensitivity is the "ability to discriminate and experience relevant cultural differences" (Hammer, Bennett, & Wiseman, 2003, p. 422). Introduced by Milton Bennett in 1986, the Developmental Model of Intercultural Sensitivity (DMIS) describes six orientations individuals progress through as they develop increasing levels of intercultural sensitivity: denial, defense, minimization, acceptance, adaptation, and integration. Each orientation, or stage, represents a change in an individual's cultural worldview, reflecting a deeper understanding of cultural differences (Bennett, 1993, 2004; Hammer et al., 2003). But what is meant by cultural worldview? The literature reviewed on intercultural sensitivity did not offer a clear

definition; however, Hammer, Bennett, and Wiseman (2003) described cultural worldview as "the set of distinctions that is appropriate to a particular culture" (p. 423).

The six orientations are classified into two categories: ethnocentric (where a person's culture defines their experience of the world) and ethnorelative (where a person's culture is experienced as one of many cultures; Bennett, 1993, 2004; Hammer et al., 2003). Bennett (1993) suggests intercultural sensitivity development occurs multidimensionally: cognitively, affectively, and behaviorally. However, the DMIS focuses on "changes in worldview structure, where the observable behavior and self-reported attitudes at each stage are indicative of the state of the underlying worldview" (Hammer et al., 2003, p. 423). Bennett (1993) acknowledges developmental regression is possible within the DMIS.

The first three orientations of the DMIS—denial of difference, defense against difference, and minimization of difference—represent the three ethnocentric orientations in the model (Bennett, 1993, 2004). Individuals in denial see their culture as the only one, or if cultural differences are experienced, individuals make sense of these differences very simplistically (Bennett, 2011) and consider individuals who are culturally different as "other" (Bennett, 2004, p. 63). In this stage, individuals may make statements such as, "As long as we all speak the same language, there's no problem" (Bennett, 2011, Denial of Difference At This Stage, Learners Say section). Bennett (2011) suggests denial can be expressed as having a lack of interest in cultural differences or where individuals deliberately segregate themselves so as to not engage with people who are different from them. Individuals who have a defense against differences orientation experience cultural differences dichotomously and are threatened by these

differences (Bennett, 1993, 2004, 2011; Hammer et al., 2003). In this stage, cultural differences are perceived negatively, or an individual can assume a posture where they view their culture as better than all others (Bennett, 1993, 2004, 2011). An inverse form of the defense orientation is where an individual depreciates their own culture and assumes a culture they consider superior to their own (Bennett, 1993, 2004, 2011): Other cultures are not experienced in a threatening way; however, individuals still maintain a dichotomous view of cultural differences (Bennett, 2004).

The least ethnocentric orientation is minimization of difference, where individuals acknowledge "the common humanity of all people regardless of culture" (Bennett, 2011, Minimization of Difference section, para. 1); however, their cultural worldview is central to this acknowledgement (Bennett, 2011). For example, individuals with this orientation may say, "Customs differ, of course, but when you really get to know them they're pretty much like us" (Bennett, 2011, Minimization of Difference At This Stage, Learners Say section). Individuals may minimize differences by acknowledging surface-level differences (Bennett, 2011). Bennett (2011) gives the example that individuals with this orientation may acknowledge that eating practices differ across cultures but will place more emphasis on the common feature that all humans eat—what Bennett (2011) refers to as "human similarity" (Minimization of Difference section, para. 2). Individuals may also minimize cultural differences by focusing on assumed "universal absolutes" (Bennett, 2004, p. 67): "The statement, 'We are all God's children,' is indicative of this religious form of universalism" (Bennett, 1993, p. 43).

The next three orientations—acceptance of differences, adaptation to differences, and integration of differences—are increasing ethnorelative (Bennett, 1993, 2004;

Hammer et al., 2003), where "one's culture is experienced in the context of other cultures" (Hammer et al., 2003, p. 425). Bennett (1993) suggests the advancement from minimization of difference to acceptance of difference, which marks this shift from ethnocentric to increasing ethnorelative orientations, reflects a shift from dualistic to more relativistic thinking. Individuals with an acceptance of difference orientation begin to "experience cultural differences in context" (Bennett, 2011, Acceptance of Difference section, para. 1). Accepting cultural differences does not necessarily indicate agreement with different values or behaviors that can exist across cultures (Bennett, 1993, 2004, 2011; Hammer et al., 2003), but an acceptance that these differences exist and are valid in their own right (Bennett, 1993, 2011). The developmental challenge at this stage is "value relativity" (Hammer et al., 2003, p. 425), which is overcome when individuals "figure out how to maintain ethical commitment in the face of such relativity" (Hammer et al., 2003, p. 425), allowing an individual to understand the viewpoints of other cultures while still maintaining their own (Bennett, 2004).

"Adaptation [to difference] is the application of acceptance [of difference]" (Bennett, 2011, Adaptation to Difference section, para. 1). In this stage, individuals are able to demonstrate "intercultural empathy" (Bennett, 2011, Adaptation to Difference, para. 1): Individuals are able to understand other cultures and this understanding is reflected through both feelings and actions (Bennett, 2004, 2011; Hammer et al, 2003). Adaptation to difference demonstrates a significant level of intercultural sensitivity; however, there is one orientation beyond adaptation to difference. Resolving the developmental challenge of maintaining one's individuality while adapting to culture differences might result in progression to integration of difference (Bennett, 2004).

"However, movement to the last stage does not represent a significant improvement in intercultural competence. Rather, it describes a fundamental shift in one's definition of cultural identity" (Bennett, 2004, p. 72). Integration of difference can be characterized as a person assuming a more multicultural identity or where a person's worldview reflects Perry's commitment in relativism (Bennett, 2011).

There have been several revisions of the DMIS since the model was first introduced in 1986. At the time of this literature review, there were no empirical studies on the DMIS described above and a direct measure of the DMIS did not exist. The Intercultural Development Inventory (IDI) is theoretically based on and adapted from the DMIS (Hammer, 2011); however, there are differences between the IDI and DMIS. The DMIS describes six orientations while the IDI has five orientations of development that extend along the Intercultural Development Continuum: denial, polarization, minimization, acceptance, and adaptation (IDI, LLC., 2016, "The Intercultural Development Continuum," para. 1).

Universal-Diverse Orientation

Theoretical description. Universal-diverse orientation (UDO) is a construct describing

> an attitude toward all other persons that is inclusive yet differentiating in that similarities and differences are both recognized and accepted; the shared experience of being human results in a sense of connectedness with people and is associated with a plurality or diversity of interactions with others. (Miville et al., 1999, p. 292)

Quantitative measure of UDO. The Miville-Guzman Universality-Diversity Scale (M-GUDS) measures UDO. This scale exists as both a 45-item and 15-item survey (M-GUDS Short Form or M-GUDS-S). With both forms of the questionnaire, participants rate their level of agreement/disagreement with statements on a six-point Likert scale. The M-GUDS-S has three subscales that reflect the cognitive, affective, and behavioral components of the UDO construct: Relativistic Appreciation, Comfort with Differences, and Diversity of Contact (Fuertes, Miville, Mohr, Sedlacek, & Gretchen, 2000), respectively.

Research on UDO. Fuertes, Sedlacek, Roger, & Mohr (2000) explored the relationship between freshman students' UDO and attitudes, hypothesizing students' UDO would positively influence their "(a) attitudes towards diversity, (b) attitudes toward help-seeking behavior, and (c) academic self-confidence" (p. 49). Two hundred and six freshmen students participated in this study. In addition to the M-GUDS, the University New Student Census was administered to measure the three independent variables. Consistent with the research hypotheses, Fuertes, Sedlacek, et al. (2000) found statistically significant, positive relationships between UDO and the three variables: Correlation coefficients between UDO and the three variables were .19, .25, and .57 for help-seeking, academic self-confidence, and attitudes towards diversity, respectively, and hierarchical regression analyses revealed UDO explained some of the variance in attitudes towards help-seeking ($\beta = .17$), academic self-confidence ($\beta = .32$), and attitudes towards diversity ($\beta = .56$).

Asserting the importance of not assuming "that attracting and graduating a diverse and high-achieving student body necessarily leads to a climate of multicultural

awareness" (Singley & Sedlacek, 2004, p. 85), Singley and Sedlacek (2004) examined the relationship between UDO and high school academic achievement. The eta statistic was used to assess the relationship between UDO and high school graduating class rank (self-reported) among 2,327 incoming first-year students. Overall, the researchers found students with higher class rankings had higher total M-GUDS-S scores than their counterparts. Singley & Sedlacek (2004) found students that graduated in the top 25% of their class had statistically significantly higher M-GUDS-S scores than those that graduated in the top 26%–50% when compared (eta = .15, $p < .05$), and students that graduated in the top 10% of their class had statistically significantly higher scores on the Diversity of Contact (eta = .08, $p < .05$) and Comfort with Differences (eta = .10, $p < .05$) subscales. The researchers found no relationship between the Relativistic Appreciation subscale and high school academic achievement.

Singley and Sedlacek (2009) also looked at differences in UDO by race-ethnicity and gender among 2,228 incoming first-year students. Singley and Sedlacek (2009) hypothesized students of color would have higher levels of UDO compared to White students (categorized as Anglo-American in the research article) and men would have lower levels of UDO compared to women across race-ethnicity. Univariate and multivariate analyses of variance were performed to test these hypotheses. The investigation found no significant interaction between race-ethnicity and gender, which provided support for the researchers' second hypothesis; however, Singley and Sedlacek (2009) reported significant effects for race-ethnicity and gender. Mean M-GUDS-S total scores for White students ($M = 45.78$) were statistically significantly lower than those for African American, Asian American, and Latina/o students: these groups had mean scores

of 47.40, 47.49, and 47.38, respectively. These results suggest first-year White students may be less interested in or aware of cultural differences (Singley & Sedlacek, 2009).

The discussed research on UDO share a notable limitation: These studies do not investigate UDO over time. There was no real consideration of students' increase or decrease of UDO resulting from their college experiences. What do the results mean in the context of college student development? Suggestions for future research on UDO include studying how UDO develops and determining if and what college and university programs influence UDO (Fuertes, Sedlacek, et al., 2000). Literature on study abroad programs presents evidence these experiences positively influence the development of intercultural competence (Braskamp, Braskamp, & Merrill, 2009; Engberg, 2013; Fine & McNamara, 2011; Salisbury, 2011; Salisbury, An, & Pascarella, 2013). Study abroad programs are university-sponsored programs that provide opportunities to study and complete academic work abroad related to students' on-campus curriculum (University of Illinois Study Abroad Office, 2010). These experiences vary in type, setting, and length of time from institution to institution (Pascarella & Terenzini, 2005).

Salisbury, An, and Pascarella (2013) used data from the Wabash National Study of Liberal Arts to examine the influence of study abroad programs on intercultural competence among 1,647 students across 17 colleges and universities. Intercultural competence was measured with the M-GUDS-S. Students were surveyed at three points in time: twice in their first year (pre-tests) and once at the conclusion of their fourth year of college (post-test). Ordinary least squares (OLS) regression was used to examine the influence of study abroad programs on intercultural competence. Considering the total M-GUDS-S score, Salisbury et al. (2013) reported study abroad experiences had a

positive and statistically significant effect on students' development of intercultural competence; however, when looking at the three subscale scores, participation in studying abroad experiences had a positive and statistically significant effect on the Diversity of Contact subscale only.

Cultural Intelligence

Theoretical description. Introduced by Earley and Ang in 2003, cultural intelligence (CQ) is a construct describing "a person's capability for successful adaptation to new cultural settings, that is, for unfamiliar settings attributable to cultural context" (Earley & Ang, 2003, Chapter 1, What Our Approach is Not section, para.12). CQ is a multidimensional construct with metacognitive, cognitive, motivational, and behavioral elements (or dimensions) and focuses on one's ability to interact with individuals of different races, ethnicities, and nationalities (Ang et al., 2007). Metacognitive CQ focuses on the intellectual development involved in learning about and understanding cultural differences (Ang, Rockstuhl, & Tan, 2015; Ang et al., 2007); cognitive CQ refers to what an individual knows about various cultures (including differences across cultures; Ang et al., 2015); motivational CQ reflects an interest in and attention to understanding cultural differences and efforts towards behaving in ways that reflects a higher level of CQ; behavioral CQ is an individual's ability to effectively and appropriately communicate verbally and nonverbally in situations involving individuals who are members of different/other social groups (Ang et al., 2007). CQ has been studied across a range of discplines and industries, in inter/national and global contexts, and discussed in both academic and administrative settings.

Quantitative measure of CQ. CQ has been measured using the Cultural Intelligence Scale (CQS) Self Report, the CQS Observer Report, and the Mini-CQS. In all forms of the CQS respondents rate their level of agreement with statements related to knowledge and abilities on a seven-point Likert scale. The CQS Self Report is a 20-item measure, and the four subscales of the measure represent the four dimensions of CQ (Van Dyne, Ang, & Koh, 2009): metacognitive CQ, cognitive CQ, motivational CQ, and behavioral CQ. The CQS Observer Report contains the same 20 items; the only difference between the two forms of the CQS is how the items begin (i.e., I vs. this person; Van Dyne et al., 2009). The Mini-CQS is a nine-item short form that includes 2–3 items from each of the four subscales.

Research on CQ. A significant amount of the literature on CQ in postsecondary education is in an international context. M. J. Harper (2018) observed, "much of the existing research on CQ and experiential learning, especially within higher education, has been conducted in the context of university business programs" (p. 27) and that a number of doctoral dissertations examined CQ within the context of postsecondary education (e.g., Franklin-Craft, 2010; M. J. Harper, 2018; Jones, 2019; Menna, 2017; Ranaivoarivelo, 2018; Smith, 2012; Weed Harnisch, 2014). This discussion attempts to focus on recent and novel research on CQ in postsecondary education.

Delpechitre & Baker (2017) examined the role of CQ in sales education. The researchers suggested students with higher levels of CQ would tend to shift their selling behavior (Delpechitre and Baker, 2017, referred to this as "adaptive selling behavior," p. 95, or ASB) in intercultural sales situations and perform better in intercultural selling exercises. Specifically, Delpechitre and Baker (2017) hypothesized students' cognitive

CQ (H_1), metacognitive CQ (H_2), motivational CQ (H_3), and behavioral CQ (H_4) would positively correlate with ASB in intercultural selling interactions, and students' ASB would have a positive relationship with their perfomance in an intercultural selling exercise (H_5).

Over six semesters, Delpechitre & Baker (2017) surveyed students participating in an advanced-level undergraduate sales course (N = 143). The researchers used a two-step structural equation model to examine the relationship between the dimensions of CQ, ASB, and students' performances in intercultural selling exercises. The models fit the data for both the measurement and structure models, with robust full model results: RMSEA = .049, CFI = .985, SRMR = .039. The researchers found statistically significant and positive relationships for all five hypotheses.

Noting their study was "one of the first to investigate the effectiveness of a CSD program educational intervention to increase [intercultural competence] that includes a control, nonintervention group" (Vale & Arnold, 2019, p. 1080), Vale and Arnold (2019) examined the influence of an on-campus program on the development of intercultural competence of Communication and Sciences Disorders (CSD) students and international student English language learners (ELL) using a mixed methods design. Undergraduate students enrolled in the CSD course, Articulation and Phonology Disorders, were invited for voluntary participation in a semester-long supplemental International Conversation Hour (ICH; Vale & Arnold, 2019) with international ELL students at the same institution. Intercultural competence was operationalized using the CQS and measured using a pre-test–post-test design. The researchers hypothesized 1) ICH participation would positively influence intercultural competence, and 2) CSD students who participated in

the ICH would have greater increases in intercultural competence than CSD students that did not participate in the ICH. The results of the quantitative strand of this study provided some evidence to support these hypotheses. Vale and Arnold (2019) found CSD students who participated in the ICH had greater increases in scores on the cognitive CQ subscale; however, there were no meaningful differences between groups on the metacognitive CQ, motivational CQ, or behavioral CQ subscales.

As a part of the ICH, CSD student participants completed weekly journal assignments. These journals were analyzed in the qualitative strand of this study. The four main themes resulting from the qualitative analysis were: 1) CSD students enjoyed participating in the ICH, 2) the impact of the ICH on CSD participants' anticipated careers, 3) lack of intercultural interactions before the ICH, and 4) the ICH was a value-add in terms of learning the Articulation and Phonology Disorders course material (Vale & Arnold, 2019). Overall, the quantitative and qualitative results suggest intergroup dialogues on language use (the ICH could be considered an intergroup dialogue on language use and/or national and geographic origin) could prove useful in assisting CSD students develop both intercultural and professional competencies (Vale & Arnold, 2019)—the former being important as it is believed that speech-language pathologists serve a diverse clientele (Kohnert, Kennedy, Glaze, Kan, & Carney, 2003 as cited in Vale & Arnold, 2019).

The Influence of Robert Kegan on Intercultural Competence

In *In Over Our Heads: The Mental Demands of Modern Life*, Robert Kegan (1994) presents a theory of consciousness development "as an analytic tool to examine contemporary culture" (p. 6). He describes five progressive orders (or levels) of

consciousness within the context of adolescence, one's private life, one's public life, and the post-modern life (Kegan, 1994, Contents page). Kegan (1994) asserts one comes to understand and assign meaning to their experiences along three dimensions: cognitive, intrapersonal, and interpersonal. "This kind of 'knowing,'. . . . is about the organizing principle we bring to our thinking and our feelings and our relating to others and our relating to parts of ourselves" (Kegan, 1994, p. 29). Seminal pieces on intercultural maturity, global perspective, and individual diversity development state their ideas are based on Kegan's (1994) idea of multidimensional development: development along cognitive, intrapersonal, and interpersonal dimensions. King and Baxter Magolda (2005) provide an excellent synopsis of Kegan's work as it relates to the idea of multidimensional development:

> Kegan's (1994) model is holistic in that it incorporates and integrates three dimensions of development. The cognitive dimension focuses on how one constructs one's view and creates a meaning-making system based on how one understands knowledge and how it is gained. The intrapersonal dimension focuses on how one understands one's own beliefs, values, and sense of self, and uses these to guide choices and behaviors. The interpersonal dimension focuses on how one views oneself in relationship to and with other people (their views, values, behaviors, etc.) and makes choices in social situations. Kegan argued that development in all three dimensions is required for a person to be able to use one's skills. Those for whom development in one or more dimensions does not provide an adequate basis for coping with the complex life tasks they face often report being overwhelmed or "in over their heads." (p. 574)

Intercultural Maturity

Theoretical description. King and Baxter Magolda (2005) created a developmental framework to describe how individuals develop the ability to understand cultural differences in ways that allow for positive interactions with those who are different from them. The authors termed this intercultural maturity. Drawing from Kegan (1994), King and Baxter Magolda (2005) assert intercultural maturity is multidimensional (includes cognitive, intrapersonal, and interpersonal components) and is a capacity that develops over time. To demonstrate this longitudinal development, the authors present a three-level framework describing initial, intermediate, and mature levels of development for each domain of development: cognitive, intrapersonal, and interpersonal. The mature level of development represents the intended outcome of intercultural maturity (King & Baxter Magolda, 2005).

King and Baxter Magolda used existing developmental theories, college student development, literature on intercultural competence, and their experience as educators and researchers to construct this framework (King & Baxter Magolda, 2005). The cognitive dimension of intercultural maturity describes how individuals "think about and understand diversity issues" (King & Baxter Magolda, 2005, p. 575). In the initial level of development authority figures represent sources of knowledge, and individuals engage in "dualistic thinking" (King & Baxter Magolda, 2005, p. 575), where cultural differences are viewed as wrong/bad (King & Baxter Magolda, 2005). Within the intermediate level of development, King and Baxter Magolda (2005) suggest knowledge is based more on personal reflection than authority figures and one begins to become more accepting of cultural differences. Individuals in the mature phase of development use information

gleaned from their own experiences and outside sources as a basis for knowledge and are able to understand cultural differences (King & Baxter Magolda, 2005).

The intrapersonal dimension describes how individuals' understanding of their social identity influences intercultural maturity. In the initial phase of development, an individual's understanding of their of social identity is based on how others define them (King & Baxter Magolda, 2005, note this idea of being defined by external influences is also found in Kegan's, 1994, third order of consciousness), they are unaware of their own complex social identity, and feel threatened by cultural differences (King & Baxter Magolda, 2005). In the intermediate level of development, individuals try to reconcile the dissonance between their current understanding of their social identity (which has been constructed by others) and their emerging internally-constructed social identity (King & Baxter Magolda, 2005). King and Baxter Magolda (2005) suggest this dissonance prompts exploration and immersion in cultures reflecting dimensions of one's social identity. The mature level of development is characterized by the development of one's social identity dimensions into a secure social identity where cultural differences are no longer threatening (King & Baxter Magolda, 2005).

The interpersonal dimension describes how individuals behave towards those who are culturally different. Essentially, individuals progress from egocentric to more allocentric ways of relating to others. In the initial level, individuals restrict their relationships to those who share similar dimensions of social identity, and, similar to the initial level of the cognitive dimension of intercultural maturity, cultural differences are evaluated dualistically (King & Baxter Magolda, 2005). In addition, King and Baxter Magolda (2005) suggest individuals in this initial stage do not understand social

constructions, their consequent systems, and the impacts of these systems on various social groups.

In the intermediate level, individuals engage with those who are culturally different and are less critical when evaluating cultural differences, facilitating an awareness of social constructions, their consequent systems, and how they influence behavior (King & Baxter Magolda, 2005). However, as King and Baxter Magolda (2005) note, individuals in this level still base their behaviors on the approval of others. The mature level of development is characterized by the ability to develop and sustain relationships with individuals who are culturally different (King & Baxter Magolda, 2005). Reflecting a more allocentric approach to relating to others, individuals in this level are willing and able to advocate for others "across a range of social issues, from civil rights to causes related to specific social identities" (King & Baxter Magolda, 2005, p. 581).

Quantitative measure of intercultural maturity. At the time of this literature review, there had been one attempt to measure intercultural maturity quantitatively. Wicinski (2014) developed an instrument to measure the cognitive domain of the 2005 model of intercultural maturity. King and Baxter Magolda (2005) encouraged "the assessment of intercultural maturity both within and across developmental domains" (p. 589) and suggested "cognitive attributes may be a good first step in the development of intercultural maturity" (p. 590). Wicinski (2014) identified four competencies for development in the cognitive domain of intercultural maturity: "the ability to shift cognitive perspectives, flexibility in thinking, a willingness to accept others values as valid (even if they differ from one's own), and a willingness to seek knowledge about

other cultures" (p. 50). These four competencies represented the four subscales of the instrument.

Wicinski (2014) developed a 32-item instrument to measure the cognitive domain of intercultural maturity. Twelve items were demographic questions; the remaining 20 were "culturally responsive" (Wicinski, 2014, p. 61) scenarios. These 20 items represented the four subscales of the instrument, with five items in each subscale. Participants read the items and then selected one of three response options best representing how they would respond to the situation, with the three options representing the initial, intermediate, and mature levels of the cognitive domain of intercultural maturity. Three hundred seventy-one participants completed the assessment as part of Wicinski's study to validate the instrument. The reported internal reliability coefficient for the instrument was .52 (Wicinski, 2014; reliability coefficients for each subscale were not provided). Through exploratory factor analysis Wicinski (2014) found the instrument was not a strong measure of the four suggested components of development in the cognitive domain of intercultural maturity. There is room for additional studies in this area.

Research on intercultural maturity. There are few empirical studies on intercultural maturity and those that exist are qualitative in nature. Quaye and Baxter Magolda (2007) described a case study to illustrate how students could deepen their sense of racial identity and develop intercultural maturity through interracial dialogues. While understanding one's racial identity is critical to development in the intrapersonal domain of intercultural maturity (and arguably critical to the holistic development of intercultural maturity; King & Baxter Magolda, 2005), it is important to note these constructs are

distinct. In this study, a casual interracial dialogue involving six students and the dean of a predominately-White university in efforts to improve the campus climate was analyzed. The researchers used the intercultural maturity framework to analyze student comments and classify students developmentally. Quaye and Baxter Magolda (2007) reported students demonstrated initial, intermediate, and mature levels of intercultural maturity.

Subsidized by the European Union, the Learning in Tandem to Encourage Reciprocal Autonomous Learning in Adults (LITERALIA) project occurred from September 2006 to July 2008 (Stickler & Emke, 2011). The overall goal of this project was to foster communication between adults learning English, German, Italian, and Polish languages through online instruction; however, as institutions in four countries were involved in this project, a secondary goal was to increase the intercultural maturity of the students (Stickler & Emke, 2011). Stickler and Emke (2011) used an ethnographic approach to investigate the development of intercultural maturity among the program participants. There were 193 LITERALIA participants in this study. Data collected for this research included students' online comments and feedback to instructors. Additionally, at the conclusion of the online course, eight participants were selected to participate in interviews about their experiences. The transcripts of these interviews were coded using a "thematic analysis approach" (Stickler & Emke, 2011, p. 152).

Analysis of the data revealed several themes related to the development of intercultural maturity. Cognitively, participants demonstrated either "a non-reflective or reflective cognitive orientation" (Stickler & Emke, 2011, p. 153), suggesting initial and intermediate/mature levels of cognitive development (Stickler & Emke, 2011), respectively. "An existing attitude of curiosity and openness" (Stickler & Emke, 2011, p.

152) and Tandem partners (other LITERALIA program participants) were found to influence development in the intrapersonal domain of intercultural maturity, and this preexisting attitude suggested participants were in the intermediate level of development in the intrapersonal domain or beyond (Stickler & Emke, 2011). The virtual learning environment and whether participants engaged in primarily "bilateral" (Stickler & Emke, 2011, p. 156) or "multilateral" (Stickler & Emke, 2011, p. 156) communication with other participants (i.e., email vs. chat rooms, wikis, online forums) seemed to influence development in the interpersonal domain. Stickler and Emke (2011) suggested participants with higher levels of development in the interpersonal domain were able to navigate the online environment and utilize the various online communication tools effectively with their Tandem partners. Analysis of the data also allowed the researchers to present a description of "interculturally mature adult learners" (Stickler & Emke, 2011, p. 158). These learners "possess a disposition of openness and curiosity. . . . they not only engage in intercultural encounters openly and with curiosity, they also know that group cohesion takes work and building a community of trust and mutual respect can happen with the necessary investment" (Stickler & Emke, 2011, p. 158).

King, Perez, and Shim (2013) used a grounded theory approach to investigate students' development of intercultural competence through various college experiences. The primary research question was, "What do these experiences tell us about the development of intercultural effectiveness?" (King, Perez, & Shim, 2013, p. 70). Participants from the Wabash National Study of Liberal Arts Education were interviewed over a three-year period to explore how students develop intercultural competence. Interviews were conducted with 315 first-year students in year 1; 228 and 204 of the 315

participants were retained and interviewed in years 2 and 3, respectively, as they progressed through their undergraduate studies. King et al. (2013) identified 207 accounts related to intercultural effectiveness; these accounts were coded through both open and axial coding methods. "During every step of the analysis, a constant comparative method was used (Charmaz, 2006; Glaser, 1965): this involved constantly comparing data with data, data with codes, and codes with other codes, leading to a consolidated set of themes and patterns grounded in the data" (King et al., 2013, p. 73). In this qualitative inquiry, intercultural maturity served as a theoretical framework to inform the researchers' investigation; however, the data were not coded specifically based on this model (King et al., 2013).

Three major themes describing how students develop intercultural competence emerged from students' accounts: learning about others' experiences, feelings of safety, and the use of various methods to understand cultural differences (King et al., 2013). While these findings are not explicitly based on the intercultural maturity framework, these themes do reflect aspects of intercultural maturity. Students reported learning about others' experiences, by listening to or witnessing others' experiences, helped them better understand others' perspectives and positively influenced their development of intercultural competence (King et al., 2013). Increasing levels of intercultural competence from being exposed to experiences of those who are culturally different is consistent with the intercultural maturity framework. A sense of security encouraged students to explore cultural differences (King et al., 2013). King and Baxter Magolda (2005) suggest exploring cultural differences influences development in the intrapersonal and interpersonal domains of intercultural maturity. Particularly in the initial level of the

intrapersonal domain, where individuals are threatened by cultural differences (King & Baxter Magolda, 2005), this sense of security may assist individuals in feeling less threatened and support their progression to the intermediate level of development. King et al. (2013) described five methods students commonly used to understand cultural differences: " a) listen and observe, b) compare and contrast ideas, c) engage in personal reflection, d) explore personal identity . . ., and e) empathize with others (p. 76). These various approaches are consistent with development as described in the cognitive and intrapersonal domains of intercultural maturity. Listening, observing, and comparing and contrasting ideas reflect development across the cognitive domain (King et al., 2013). Social identity exploration is consistent with the intermediate level of the intrapersonal domain of intercultural maturity.

Perez, Shim, King, & Baxter Magolda (2015) used data from the King et al. (2013) study to refine the model of intercutural maturity. The researchers identified and analyzed 110 accounts of intercutural experiences provided by 82 students over a two-year period (Perez, Shim, King, & Baxter Magolda, 2015). Using a grounded theory approach, Perez et al. (2015) considered if and how these accounts demonstrated students' capacity to develop higher levels of intercultural maturity based on the existing model. The findings in this study validated the develomental model originally presented by King and Baxter Magolda, informed more in-depth descriptions of the initial and intermediate levels in the model, and identified transitional stages between the initial, intermediate, and mature levels of intercultural maturity (Perez et al., 2015). A noted limitation in this study was that few participants demonstrated mature levels of intercultural maturity; and consequently, there is little detail about the transition from the

intermediate to mature level and less refinement of the mature level across all three domains of development (Perez et al., 2015).

Global perspective

Theoretical description. Global perspective is

> the capacity and predisposition for a person to think with complexity taking into account multiple perspectives, to form a unique sense of self that is value based and authentic, and to relate to others with respect and openness especially with those who are [dissimilar].[1] (Braskamp L., slide 3)

The conceptualization of global perspective is based on intercultural maturity and intercultural communication (Braskamp, Braskamp, & Engberg, 2014). Drawing from the original model of intercultural maturity, global perspective develops along cognitive, intrapersonal, and interpersonal domains. King and Baxter Magolda (2005) describe these three domains in relation to students' development as "how they see the world (cognitive), how they see themselves (intrapersonal), and how they relate to others (interpersonal"; p. 587). King and Baxter Magolda's (2005) descriptions are modified into three questions that guide the development of global perspective. Braskamp, Braskamp, and Engberg (2014) suggest individuals consider the following questions about themselves as they go through life: "How do I know? Who am I? How do I relate to others?" (p. 2). Drawing from intercultural communication, global perspective also

[1] Originally, global perspective-taking, the construct was revised to global perspective in 2015/2016, when leadership of the Global Perspective Inventory changed from Larry Braskamp to Robert Reason. Conceptually, there are no differences between global perspective-taking and global perspective.

includes the "increasing quantitative collection of knowledge, attitudes, and skills/behaviors" (Merrill, Braskamp, & Braskamp, 2012, p. 356).

Quantitative measure of global perspective. Global perspective is measured with the Global Perspective Inventory (GPI). Since the pilot-testing of the instrument in 2007, the instrument has undergone several revisions (Braskamp et al., 2014). There are three forms of the GPI: the general, study abroad, and new student forms (Braskamp et al, 2014). All three forms consist of 35 items designed to measure global perspective. Respondents rate their level of agreement/disagreement with the 35 statements on a five-point Likert scale. These 35 items are grouped into six subscales reflecting both "acquisition . . . and . . . development" (Merrill et al., 2012, p. 356) along cognitive, intrapersonal, and interpersonal domains. Manuscripts written by Merrill et al. (2012) and Braskamp et al. (2014) inform the following description of the GPI's six subscales: cognitive knowing, cognitive knowledge, intrapersonal identity, intrapersonal affect, interpersonal social responsibility, and interpersonal social interactions.[2]

The cognitive knowing subscale focuses on how individuals understand cultural differences, where cognitive knowledge focuses on what individuals know about other cultures (Merrill et al., 2012). The intrapersonal identity subscale measures an individual's understanding of their social identity (and related feelings), especially as it relates to the ethnic, gender, and racial dimensions of one's identity (Braskamp et al., 2014). The intrapersonal affect subscale measures individuals' levels of comfort with (or

[2] Both interpersonal social interaction and interpersonal social interactions are used in the Braskamp et al. (2014) manuscript; however, the most recent manuscript describing global perspective and the GPI (adapted from the 2014 manuscript and published in 2017; Research Institute for Studies in Education, 2017) refers to the subscale as interpersonal social interactions. References to this subscale will be based on the 2017 manuscript in this research report (i.e., interpersonal social interactions).

levels of comfort in) experiences that confront their cultural practices or values (Merrill et al., 2012). Braskamp et al. (2014) suggest greater levels of comfort indicates emotional intelligence—"the subset of social intelligence that involves the ability to monitor one's own and others' feelings and emotions, to discriminate among them and to use information to guide one's thinking and actions" (Salovey & Mayer, 1990 as cited in Shepherd, 2004, p. 283). Braskamp et al. (2014) suggest this emotional intelligence is critical for making sense of these experiences. The interpersonal social responsibility subscale focuses on individuals' personal commitment to social responsibility, which involves allegiance to the public good (Merrill et al., 2012). The interpersonal social interactions subscale measures individuals' level of interaction with individuals of different cultures (Merrill et al., 2012).

In addition to these 35 items across the six subscales, there are several demographic items on each form of the GPI. The remaining items on the instrument are specific to the form of the GPI. The general student form asks individuals about their postsecondary curricular and co-curricular experiences; the study abroad form asks about individuals' most recent study abroad experiences; the new student form asks individuals about their curricular and co-curricular experiences in secondary education (Braskamp et al., 2014).

Research on global perspective. At the time of this literature review, there were no empirical studies with the current version of the GPI. The following review of empirical research on global perspective includes studies that used previous versions of the instrument. Braskamp, Braskamp, and Merrill (2009) used a 46-item version of the GPI to measure the development of global perspective among 245 students across 10

institutions participating in semester-long study abroad experiences. Participants' scores across the six subscales were analyzed using dependent-means *t*-tests. Braskamp et al. (2009) found statistically significant increases in scores in five of the six subscales; there were no statistically significant differences between pre-test and post-test scores on the cognitive knowing subscale. Interestingly, while there were no significant differences on the cognitive knowing subscale, the cognitive knowledge subscale demonstrated the largest difference when comparing pre-test and post-test scores (Braskamp et al., 2009). These results suggest that participants acquired knowledge of cultural differences through their study abroad experiences; however, this knowledge did not influence how they understood these differences (Braskamp et al., 2009). Considering it seems the pre-test and post-test administrations of the GPI occurred within the same semester, it could be the post-test administration occurred too soon for developmental increases to be apparent. As Merrill et al. (2012) acknowledged, "development involves qualitatively different and more complex mental and psychosocial processes" (p. 356).

Fine and McNamara (2011) surveyed 44 graduate students participating in a two-week study abroad class in Rome, Italy. The researchers used an explanatory, sequential, mixed methods design to investigate the influence of study abroad experiences on the development of global perspective. The researchers administered a 46-item version of the GPI to students enrolled in the two-week study abroad class in 2008, 2009, and 2010. The GPI was administered one week prior to the study abroad experience and then again during the final days of the experiential course. Participants' mean scores across the six subscales were analyzed (the researchers did not indicate the statistical techniques used in

the analysis; however, based on the report of results, one could infer the researchers examined the descriptive statistics).

Fine and McNamara (2011) reported analysis of the quantitative data revealed the following: in 2008, the greatest increase in scores occurred on the cognitive knowledge and intrapersonal identity subscales; in 2009, the greatest increase in scores occurred on the cognitive knowing subscale; in 2010, the greatest increase in scores occurred on the intrapersonal affect subscale. The researchers also compared these results against the scores of 715 undergraduates who completed the survey after participation in semester-long study abroad programs. Fine and McNamara (2011) set "a minimum difference of .10" (p. 264) to indicate significant development. Using this benchmark, graduate students' scores demonstrated greater increases than undergraduates across all six subscales. The researchers suggested this was due to various factors, including the differences in age and maturity levels (Fine & McNamara, 2011).

To better understand how the study abroad experience influenced students' development, in 2010, Fine and McNamara (2011) followed up with 44 participants to complete a qualitative survey, yielding a 32% response rate (N = 14). Participants responded to four open-ended questions representing the intrapersonal identity and interpersonal social responsibility subscales of the GPI (Fine & McNamara, 2011). The first question, related to the intrapersonal identity subscale, asked participants, "Since you returned from your School of Education Rome experience, please describe a situation in which you felt confident in a completely new situation" (Fine & McNamara, 2011, p. 264). Four themes emerged from the responses: new employment-related opportunities, participants experienced a recommitment to their religious beliefs, participants developed

an increased level of comfort with cultural differences and new settings, and they were able to appreciate diversity among their peers (Fine & McNamara, 2011). The second question, also related to the intrapersonal identity subscale, asked participants, "How did your Rome experience prepare you to be comfortable in a completely new situation?" (Fine & McNamara, 2011, p. 265). Again, four themes emerged from the responses. Participants were able to apply what they learned in Rome in these new situations, some found a new sense of spirituality and/or purpose, they were able to acknowledge and respect different viewpoints, and learned to accept a level of uneasiness in new settings (Fine & McNamara, 2011).

The final two questions were related to the interpersonal social responsibility subscale of the GPI. The first question related to this subscale asked participants, "Since you returned from your School of Education Rome experience, please describe a situation where you stood up for the rights of others" (Fine & McNamara, 2011, p. 265). Three themes emerged from the responses. Participants reported situations where they promoted others' rights by confronting individuals in positions of influence, occurrences where they became directly involved in a situation to stop others' rights from being encroached, and situations where participants offered insight when cultural differences were evaluated prejudicially by others (Fine & McNamara, 2011). The final question served as a follow-up to the third question and asked participants, "How did your Rome experience influence your decision to intervene?" (Fine & McNamara, 2011, p. 266). Three themes emerged. Participants learned leaders are responsible for defending those who are unable to do so themselves, deciding whether or not to stay silent (or confront a person or situation) is a personal decision, and members of marginalized social groups

are not treated well (Fine & McNamara, 2011). The quantitative and qualitative findings together suggest the study abroad experience influenced participants' global perspective both developmentally and in terms of acquisition (Merrill et al, 2012).

Noting the lack of research on community service-learning and its influence on student development, Engberg and Fox (2011) looked at the correlation between community service-learning and global perspective. In 2009, a 72-item form of the GPI was administered to 5,352 undergraduates attending 46 U.S. colleges and universities. The reported overall response rate across institutions was roughly 45%. Engberg and Fox (2011) used independent-means *t*-tests to compare whether GPI scores differed between students who did and did not participate in on-campus community service-learning activities and found scores for students who participated in community service-learning were statistically significantly higher than those students who did not across all six subscales, with the greatest difference between the two groups on the interpersonal social responsibility subscale. Next, the researchers used OLS regression to understand the extent to which student demographic characteristics ("gender, race, year in school . . . with males, White students, and seniors serving as the respective referent groups"; Engberg & Fox, 2011, p. 92) and participation in community service-learning influenced global perspective.

"Gender was a significant predictor across all six models, although the direction of the effect was inconsistent" (Engberg & Fox, 2011, p. 96). Females had higher scores on the majority of the subscales; however, their scores were lower than males on the cognitive knowledge and intrapersonal identity subscales. Regarding the effect of race, and in comparison to their White counterparts, participants who identified as Hispanic,

Asian, or Other Race had higher scores on the cognitive knowledge subscale; Black, Hispanic, and Native American students had higher scores on the intrapersonal identity and interpersonal social responsibility subscales; students that identified as Black, Hispanic, or Other Race had higher scores on the intrapersonal affect subscale; and students that identified as Black, Hispanic, Asian, or Other Race had higher scores on the interpersonal social interactions subscale. Overall, the results varied, with students of color having both higher and lower scores than White students, depending on the subscale (Engberg & Fox, 2011): For example, cognitive knowing scores for Black, Hispanic, and Native American students were lower than White students. Engberg and Fox (2011) found the effects of student classification on global perspective had less variation: Lower student classifications (freshman, sophomore, junior) had lower scores across the majority of the subscales. Community service-learning was significant in all models, except cognitive knowing, with the greatest effect associated with the interpersonal social responsibility subscale.

Engberg (2013) conducted three studies on "the relationship between student engagement in study away experiences (i.e., study abroad and service learning) and global perspective-taking" (p. 467). The first study used data from the Engberg and Fox (2011) study to examine the influence of community service-learning and study abroad experiences on global perspective. OLS regression was used, where "gender, race, and class standing were held constant" (Engberg, 2013, p. 473). Similar to Engberg and Fox's (2011) findings, there was no significant effect of community service-learning on cognitive knowing, and the greatest effect was on interpersonal social responsibility. Study abroad had the greatest effects on cognitive knowing and cognitive knowledge, and

there was no significant effect on interpersonal social responsibility. Engberg (2013) suggested these results may indicate participation in study abroad experiences are related to both cognitive domains and the interpersonal social interactions domain of global perspective, where community service-learning experiences are related to the intrapersonal identity domain and both interpersonal domains.

In the second study, the GPI was administered to 659 students across 10 institutions before and after their participation in study abroad experiences. The results of dependent-means *t*-tests revealed significant increases in post-test scores across all six subscales, and participants demonstated the greatest increases on the cognitive knowledge subscale. These findings support Engberg's (2013) suggestion that study abroad experiences influence the cognitive domain of global perspective.

In the third study, a pre-test–post-test design was used to look at the influence of involvement in community service-learning on global perspective. Two institutions administered the GPI to first-year students as they entered the institution and at the end of their first year. When completing the post-test questionnaire, students indicated whether or not they participated in a community service-learning experience during the academic year. OLS regression was used for statistical analysis, with gender, race, and pre-test scores as model covariates (Engberg, 2013). Effects were mixed for race and gender; however, Engberg (2013) found pre-test scores strongly predicted post-test scores for all subscales, and community service-learning was a significant predictor across the cognitive knowing, intrapersonal identity and both interpersonal subscales, with the greatest effects on the interpersonal social interactions and interpersonal social responsibility subscales. These findings suport Engberg's (2013) assertion that

community service-learning experiences influence the interpersonal domain of global perspective.

Individual Diversity Development

Theoretical description. Individual diversity development (IDD) is defined as "cognitive, affective, and behavioral growth processes towards consciously valuing complex and integrated differences in others and ourselves" (Chavez, Guidi-DiBrito, & Mallory, 2003, p. 453). "Individuals develop in a nonlinear (Evans et al., 1998) and a deepening and expanding way. . . . learning to be aware of, and then exploring, understanding, integrating, and valuing" (Chavez et al., 2003, p. 457) diversity. There are five dimensions of development in IDD: unawareness/lack of exposure to the other, dualistic awareness, questioning/self-exploration, risk-taking/exploration of otherness, and integration/validation. Chavez et al. (2003) assert within each dimension, individuals experience cognitive, affective, and behavioral growth.

IDD was developed using a constructivist approach (Chavez et al., 2003). In constructivism, "research is shaped 'from the bottom up'—from individual perspectives to broad patterns and, ultimately, to broad understandings" (Creswell & Plano Clark, 2011, p. 40). The authors used their combined 50+ years of experience along with insights on their development and the observed development of others to articulate a developmental framework (Chavez et al., 2003). Aspects of several key theories, referred to in the seminal piece as "springboard theories" (Chavez et al., 2003, p. 455), also provide a foundation for this model. The authors constructed IDD applying concepts from Kegan's (1994) theory of consciousness development to reflect how individuals develop cognitively, affectively, and behaviorally (Chavez et al., 2003), acknowledging

the "complexity of development" (p. 456). Chavez et al. (2003) suggest both independence and relationships with others influence development and that these disparate approaches are found in Lawrence Kohlberg's and Carol Gilligan's theories of moral development and Belenky, Clinchy, Goldberger, and Tarule's cognitive development theory. Where Kohlberg suggests independence is required for higher stages of development, Gilligan and Belenky et al. suggest relationships are important for higher-order moral and cognitive development (Chavez et al., 2003).

Chavez et al. (2003) assert the idea of "dissonance" (p. 456) embedded in social identity development theories is a constant dynamic as individuals move through the various dimensions of IDD. As individuals begin to question their social identity, there are periods of tension. Chavez et al. (2003) also integrate Devine's (1989) work on stereotypes and prejudice. Devine's (1989) findings suggest individuals have the capacity to not behave toward members of particular social groups in prejudicial ways even if they subscribe to stereotypes about these social groups. Both Devine (1989) and Chavez et al. (2003) acknowledge determination and practice over time are necessary for individuals to change their thoughts, feelings, and behaviors. Lastly, Maslow's Hierarchy of Needs informs the influence of internal and external factors on an individual's development (Chavez et al., 2003). Chavez et al. (2003) suggest these internal and external factors, along with personal needs, influence how individuals respond towards those who are culturally different from them, or "those they think of as other" (p. 456).

The five dimensions of IDD are unawareness/lack of exposure to the other, dualistic awareness, questioning/self-exploration, risk-taking/exploration of otherness,

and integration/validation. Chavez et al. (2003) characterize unawareness/lack of exposure to the other as one having a lack of experience with culturally diverse individuals; however, as the authors note, among adults, this dimension is rarely experienced due to technological advances. In the dualistic awareness dimension, individuals "frame difference dichotomously (Gilligan, 1977; Perry, 1970)" (Chavez et al., 2003, p. 460; i.e., right/wrong, good/bad) and "otherness" (Chavez et al., 2003, p. 460) is considered wrong/bad. In the next developmental phase, questioning/self-exploration, individuals begin to question what they know and how they feel and behave towards individuals they see as different (Chavez et al., 2003)—this dimension is "the most critical in an individual's development" (p. 461). The authors suggest this third dimension marks a transition from dualistic to increasingly relativistic thinking, and that "once individuals accept the possibility of relativism, it is difficult—if not impossible—to retreat to dualism" (Chavez et al., 2003, p. 461).

Where Chavez et al. (2003) describe the questioning/self-exploration dimension as "the most critical in an individual's development" (p. 461), the authors describe the risk-taking/exploration of otherness dimension as "the most fragile" (p. 461). In this fourth dimension, individuals actively seek new experiences, such as study abroad experiences (Chavez et al., 2003), to learn more about diversity. As they embark on these new experiences, individuals may experience distress if family, friends, or members of other social groups reject them (Chavez et al., 2003). An individual's self-esteem is extremely delicate during this explorative phase as they embark upon and try to make sense of these new experiences (Chavez et al., 2003). Integration/validation is the final dimension of this model. In this phase, an individual has a more secure sense of self—

"thoughts, feelings, and actions are congruent" (Chavez et al., 2003, p. 463). Chavez et al. (2003) suggest individuals in the integration/validation dimension are also able to make conscious and informed decisions to support or reject beliefs and actions of social groups they are not members of.

Research on IDD. At the time of this literature review, there were few studies using IDD. One study examined the influence of study abroad programs on attitudes towards racial/ethnic diversity using IDD as a developmental framework, where this attitude was operationalized as UDO and measured with the M-GUDS-S. Fifteen students participating in study abroad programs during the 2013–2014 academic year completed the M-GUDS-S prior to and upon return from their study abroad experiences. DuMerville (2014) hypothesized 1) these students would exhibit attitudes towards diversity characteristic of individuals in the risk-taking/exploration of otherness dimension of IDD; and 2) study abroad experiences would positively influence students' IDD. The range of M-GUDS-S scores were classified into one of the five levels of IDD to provide a framework to interpret M-GUDS-S scores. The results of the statistical analyses did not provide evidence to support the two research hypotheses.

Critique of Discussed Conceptualizations and Measurements of Intercultural Competence

While the above conceptualizations and measurements of intercultural competence are sufficient for research and practical application in postsecondary education, there are weaknesses with each that should be acknowledged. The IDI is based on the DMIS, as discussed previously; however, the IDI is not a direct measure of the DMIS. The IDI is based on the Intercultural Development Continuum (IDC), which

is similar to the DMIS, but does not mirror the DMIS. The DMIS describes six orientations individuals progress through as they develop increasing levels of intercultural sensitivity: denial, defense, minimization, acceptance, adaption, and integration. The IDC is a modification of the DMIS and describes five orientations: denial, polarization, minimization, acceptance, and adaption (IDI, LLC., 2016, "The Intercultural Development Continuum," para. 1). According to the IDC, intercultural competence is realized in the adaptation phase of development (IDI, LLC., 2016, "The Intercultural Development Continuum," para. 1). It seems that while Mitchell Hammer used the DMIS to inform the creation of the IDI in 2003, he and Milton Bennett's understandings of how intercultural competence develops have diverged over time.

Similarly, global perspective and the GPI are loosely based on King and Baxter Magolda's (2005) developmental theory of intercultural maturity. Global perspective and the GPI are based on the idea of multidimensionality promoted in intercultural maturity. King and Baxter Magolda (2005) describe three developmental domains within intercultural maturity in relation to students' development as "how they see the world (cognitive), how they see themselves (intrapersonal), and how they relate to others (interpersonal"; p. 587). King and Baxter Magolda's descriptions are modified into three questions that guide the development of global perspective. Braskamp et al. (2014) suggest individuals consider the following questions about themselves as they go through life—"How do I know? Who am I? How do I relate to others?" (p. 2)—however, that is the extent of the expressed relationship between intercultural maturity, global perspective, and the GPI. Neither global perspective nor the GPI are theoretically-grounded in intercultural maturity. Higher scores on any form of the GPI suggest higher

levels of global perspective; however, what does this mean in terms of development? How does one understand these scores from a developmental standpoint?

This same question can be posed with UDO and both forms of the M-GUDS as well as CQ and the three versions of the CQS. Similar to global perspective, UDO and CQ are described as multidimensional constructs that include cognitive, affective, and behavioral components. With both forms of the M-GUDS and the three versions of the CQS, higher scores suggest higher levels of UDO and CQ, respectively. With the various forms of the GPI, M-GUDS, and CQS the only thing that can be gleaned from the assessments is that higher scores suggest higher levels of intercultural competence, whether operationalized as global perspective, UDO, or CQ; however, that is all the information that can be gleaned from using these measures. There is no way to makes sense of the scores developmentally. Additionally, literature on CQ indicates the "construct [is] targeted at situations involving cross-cultural interactions arising from differences in race, ethnicity and nationality" (Ang et al., 2007, p. 336): This is a limited view of diversity and especially to measure intercultural competence in postsecondary education. At the time of this review, there were no instruments to measure intercultural maturity or IDD. As such, it is believed the application of these two models is still somewhat limited to qualitative research.

Conceptualizing an Integrated Developmental Model of Intercultural Competence

Spitzberg and Changnon (2009) conducted an extensive review of intercultural competence models, classifying these models into five categories: "compositional, co-orientational, adaptational, developmental, and causal process" (p. 10). Developmental models illustrate stages of change individuals progress (and possibly regress) through

over time and include DMIS and intercultural maturity (Spitzberg & Changnon, 2009). IDD was not included in Spitzberg and Changnon's (2009) review but is similar to the intercultural sensitivity and intercultural maturity developmental models. All three models suggest development of intercultural competence occurs multidimensionally (along cognitive, intrapersonal/affective, and behavioral/interpersonal dimensions), and this development occurs across time and from various experiences. The models also suggest development begins cognitively, which influences intrapersonal/affective and interpersonal/behavioral development in each stage; however, each model acknowledges the interrelationship of the three dimensions and that development in each dimension is essential for increasing levels of intercultural competence to ensue.

Spitzberg and Changnon's (2009) remarked, "many conceptual wheels are being reinvented at the expense of legitimate process" (p. 45) and suggested the synthesis of various models would create a "more parsimonious" (p. 45) conceptualization of intercultural competence to guide research. Noting similarities among the three developmental models reviewed and responding to Spitzberg and Changnon's (2009) call for increased parsimony among intercultural competence models, this researcher proposes the Integrated Developmental Model of Intercultural Competence (IDMIC) in hopes of creating a synthesized framework for use in postsecondary educational programming and research.

The IDMIC synthesizes key concepts found in the DMIS, intercultural maturity, and IDD. The model also integrates aspects of UDO, CQ, and global perspective, as these constructs are conceptually similar to the aforementioned developmental models and describe intercultural competence development as multidimensional and occurring

over time. Similar to the models and constructs discussed in the literature review, the IDMIC is multidimensional and stage-based. Literature suggests intercultural competence models should include five essential elements: "motivation (affective, emotion), knowledge (cognitive), skills (behavioral, actional). . . . context (situation, environment, culture, relationship, function), and outcomes" (Spitzberg & Changnon, 2009, p. 7). The three dimensions of the IDMIC describe how an individual understands the world (cognitive dimension), how an individual feels about themselves and others (intrapersonal/affective dimension), and how an individual interacts with others (behavioral/interpersonal dimension; Braskamp et al., 2014; King & Baxter Magolda, 2005). The context of this model is the postsecondary educational environment, which provides curricular and co-curricular activities that encourage engagement with diversity and facilitates increasing intercultural competence. The outcome of the IDMIC is *effective and appropriate behavior and/or communication in situations involving individuals who are members of different/other social groups*: the definition of intercultural competence presented in Chapter One for the purpose of this study. This definition embraces the idea of verbal and nonverbal communication in CQ, which includes the use of "culturally appropriate words, tone, gestures, and facial expressions (Gundykunst et al., 1988)" (Ang et al., 2007, p. 338). Acknowledging intercultural competence develops over time, the IDMIC delineates four progressive stages of development: dualistic awareness, exploration, acceptance, and integration (Bennett, 1993, 2004, 2011; Chavez et al., 2003).

The DMIS focuses on the cognitive dimension of intercultural competence development; however, the model is "not merely cognitive . . . [and] necessarily includes

affect and behavior" (Hammer et al., 2003, p. 425). Further, Bennett (2004) suggests ethnocentrism and ethnorelativism reflect both "beliefs and behaviors" (p. 62). In the IDMIC, ethnocentrism and ethnorelativism describe ways individuals engage with diversity (Bennett, 1993, 2004; Hammer et al, 2003). Dualistic awareness represents the most ethnocentric stage of intercultural competence development. The exploration stage of the IDMIC describes a transitional state between ethnocentrism and ethnorelativism. Acceptance and integration represent more ethnorelative stages of development, where individuals demonstrate characteristics representing higher levels of the cognitive, intrapersonal/affective, and behavioral/interpersonal dimensions of intercultural competence.

In the IDMIC, the development of intercultural competence is multidimensional and occurring over time *for each dimension of social identity* (ability, age, ethnicity, first-generation status, gender, language use, national and geographic origin, political ideology, race, religion, sexual orientation, socioeconomic status, and veteran/military status; Worthington, 2012; Worthington et al., 2014). It is possible (and more likely, very plausible) that an individual can demonstrate different stages of development based on the dimension of social identity. For example, an individual's behavior or communication, given the intercultural situation, may indicate they are in dualistic awareness, exploration, acceptance, and integration stages as it relates to situations where they interact with individuals who are different from them in terms of ability, gender, race, and sexual orientation, respectively. This idea may be implied in other developmental models and constructs; however, is it clearly stated in the IDMIC to acknowledge the complexity of intercultural competence development. Similar to the

DMIS and IDD, the IDMIC acknowledges that developmental regression is possible (Bennett, 1993; Chavez et al., 2003).

Each stage—dualistic awareness, exploration, acceptance, and integration—describes development along a continuum from ethnocentrism to ethnorelativism (Bennett, 1993, 2004) and occurs along cognitive, intrapersonal/affective, and behavioral/interpersonal dimensions. The cognitive dimension of the IDMIC describes how individuals progress from an ethnocentric to a more ethnorelative cultural worldview (Bennett, 1993, 2004). As noted earlier in this chapter, the literature reviewed on the DMIS did not provide a clear definition of cultural worldview. Creswell and Plano Clark (2011) define worldview as one's "beliefs and assumptions about knowledge" (p. 39). The Intercultural Knowledge and Competence VALUE Rubric defines worldview as "the cognitive and affective lens through which people construe their experiences and make sense of the world around them" (Association of American Colleges & Universities (AAC&U), 2009, para. 5). In the IDMIC, cultural worldview is understood as one's frame of reference regarding diversity (Association of American Colleges & Universities (AAC&U), 2009, para. 5; Creswell & Plano Clark, 2011).

The intrapersonal/affective dimension of the model focuses on identity development (intrapersonal; Chickering & Braskamp, 2009 as cited in Merrill et al., 2012; King & Baxter Magolda, 2005) and related feelings (affective; Chickering & Braskamp, 2009 as cited in Merrill et al., 2012), describing how individuals move from an ethnocentric to a more ethnorelative social identity (Bennett, 1993; Hammer et al., 2003) and develop increased interest (or motivation) in understanding diversity and developing higher levels of intercultural competence (Ang & Van Dyne, 2009). The

behavioral/interpersonal dimension of the IDMIC describes how individuals progress from ethnocentric to more ethnorelative forms and modes of social interaction (Bennett 1993, 2004; Braskamp et al., 2014; Hammer et al, 2003).

Cognitive Dimension. The cognitive dimension of the IDMIC describes how individuals progress from an ethnocentric to a more ethnorelative cultural worldview (Bennett, 1993, 2004; Hammer et al., 2003). Individuals in dualistic awareness assume what they know about diversity is valid and do not consider the possibility of alternative perspectives (King & Baxter Magolda, 2005; Merrill et al., 2012). Individuals in this stage rely on authoritative sources of information for knowledge (Braskamp et al., 2014; King & Baxter Magolda, 2005; Merrill et al., 2012) and use "egocentric standards to judge cultural differences" (King & Baxter Magolda, 2005, p. 580). These authoritative sources of information can be "religious, familial [or] cultural teachings" (Chavez et al., 2003, p. 461). Diversity is framed dichotomously: social groups and related values and beliefs (or cultures) that are familiar are considered right/good, and those social groups and related values and beliefs that are unfamiliar are considered wrong/bad (Bennett, 1993, 2004, 2011; Chavez at al., 2003; King & Baxter Magolda, 2005).

Cognitively, individuals within the exploration stage of the IDMIC move from dualistic to multiplistic ways of understanding diversity (King & Baxter Magolda, 2005). Where individuals in the first stage of the IDMIC rely primarily on authority figures for information and see this knowledge as undeniable, within the exploration stage, individuals begin to rely on their own experiences and challenge information obtained from authority figures (King & Baxter Magolda, 2005). Instead of rejecting diversity, individuals in this second stage acknowledge there are differences among social groups;

however, they may make light of these differences as suggested in the minimization orientation of the DMIS (Bennett, 1993). Self-reflection is at the crux of the exploration stage as individuals attempt to reconcile their personal experiences with what they have been taught from others about different social groups (Chavez et al., 2003).

The advancement from exploration to acceptance marks a cognitive shift from multiplistic to more relativistic thinking (King & Baxter Magolda, 2005). In this stage, individuals begin to integrate what they know with information from various sources (King & Baxter Magolda, 2005). With this relativistic thinking, "knowledge is viewed more qualitatively; it is contextually defined, based on evidence and supporting arguments" (Evans, Forney, Guido, Patton, & Renn, 2010, p. 86). This shift in thinking allows individuals to acknowledge their similarities and differences with others (Chavez et al., 2003; Miville et al., 1999) as well as similarities and differences across social groups (Brislin, Worthy, & MacNab, 2006 as cited in Ang et al., 2007). The relativistic thinking characteristic of the acceptance stage deepens in the integration stage, comparable to the shift from relativism to commitment in relativism described in Perry's cognitive scheme (Bennett, 2011).

Intrapersonal/Affective Dimension. "Intercultural competence requires an internally defined sense of self to avoid feeling threatened by difference (Kegan, 1994)" (King & Baxter Magolda, 2005, p. 578). The intrapersonal/affective dimension of the IDMIC focuses on identity development (intrapersonal; Chickering & Braskamp, 2009 as cited in Merrill et al., 2012; King & Baxter Magolda, 2005) and related feelings (affective; Chickering & Braskamp, 2009 as cited in Merrill et al., 2012), and developing increased interest in understanding diversity and developing higher levels of intercultural

competence (Ang & Van Dyne, 2009). This dimension describes how individuals move from an ethnocentric to a more ethnorelative social identity (Bennett, 1993; Hammer et al., 2003). In dualistic awareness, individuals fail to understand their own complex social identity and define themselves by the most salient dimension of their social identity, which tends to be "externally defined" (King & Baxter Magolda, 2005, p. 578). Individuals in this stage fail to recognize the complex social identity of others. They also tend to have an egocentric attitude toward others, assuming an attitude that one's primary social group is superior (Bennett, 1993, 2004, 2011; Chavez et al., 2003). Individuals in this stage may also feel threatened by diversity (Bennett, 1993, 2004, 2011; Hammer et al., 2003; King & Baxter Magolda, 2005).

The exploration stage is "characterized by an intentional self-exploration that allows for the simultaneous examination of one's experiences in one's own cultural contexts and an examination of that culture in broader social contexts" (King & Baxter Magolda, 2005, p. 578). Individuals may feel they are betraying authority figures as they begin to reconsider information from these sources about other social groups and attempt to reconcile this information with that derived from personal experiences (Chavez et al., 2003). Feelings of stress and/or excitement may also occur as individuals experience tension between their current understanding of their social identity and an emerging internally-constructed understanding of their social identity during this stage (Chavez et al., 2003; King & Baxter Magolda, 2005). As well, individuals' self-esteem may be negatively impacted as they navigate a diverse world and begin to redefine themselves because of these experiences (Chavez et al., 2003).

Moving to the acceptance stage, individuals begin to understand the nuances of diversity. In this stage, self-esteem begins to increase as individuals continue to internally-construct an understanding of their social identity that reflects an acknowledgment of the complexity of their social identity (Braskamp et al., 2014; King & Baxter Magolda, 2005). Individuals cease to feel threatened by diversity and acknowledge the validity of differences among social groups (Bennett 1993, 2004, 2011; Chavez et al., 2003; King & Baxter Magolda, 2005), even developing a level of comfort with these differences (Fuertes, Miville, et al., 2000). The integration stage is a deepening of the acceptance stage. In this stage, individuals have a developed a social identity that integrates the dimensions of their social identity into a complex whole (Braskamp et al., 2014; Chavez et al, 2003; King & Baxter Magolda, 2005; Turner, 1982).

Behavioral/Interpersonal Dimension. The behavioral/interpersonal dimension of the IDMIC describes how individuals progress from ethnocentric to more ethnorelative ways of interacting with diversity (Bennett, 1993, 2004; Hammer et al., 2003). In dualistic awareness, individuals consciously choose not to interact with individuals who do not share primary, or the most salient, dimension(s) of their social identity (King & Baxter Magolda, 2005), reflecting Bennett's (2011) idea of deliberate segregation. When there is interaction with individuals who belong to different social groups in this stage, they relate to them egocentrically, dualistically, and/or negatively (Bennett, 1993, 2004; Chavez et al., 2003; King & Baxter Magolda, 2005). Beginning to transition to more ethnorelative ways of relating, an active exploration of diversity characterizes the second stage (Ang & Van Dyne, 2009; Ang et al., 2007; Chavez et al., 2003). To explore these

differences, students may participate in study abroad and/or community service-learning programs (Chavez et al., 2003) similar to those described in earlier sections of this chapter. It is also plausible to think individuals in this stage explore their own social identity (King & Baxter Magolda, 2005), especially those individuals who identify with social groups that tend to be marginalized or oppressed in society. Individuals may immerse themselves in cultures reflective of the salient dimension(s) of their social identity (King & Baxter Magolda, 2005).

In the acceptance stage, exploration of diversity continues. Individuals begin to display effective and appropriate behavior and/or communication in situations involving individuals who are members of different/other social groups—the outcome of intercultural competence. In this stage, individuals may begin to advocate on behalf of marginalized or oppressed social groups (Braskamp et al., 2014; Chavez et al., 2003; King & Baxter Magolda, 2005). Integration is the continued "application of acceptance" (Bennett, 2011, Adaptation to Difference section, para. 1). Individuals' "thoughts, feelings, and behaviors are congruent" (Chavez et al., 2003, p. 463) and they continue to demonstrate effective and appropriate behavior and/or communication in situations involving individuals who are members of different/other social groups.

Conceptual Conclusions

This review of literature demonstrates the models and constructs used to conceptualize intercultural competence are remarkably similar. DMIS, intercultural maturity, and IDD have more similarities than differences. These models all describe the development of intercultural competence along cognitive, affective or intrapersonal, and behavioral or interpersonal dimensions. Said another way, the models describe how

individuals perceive diversity, how individuals' sense of their social identity influences how they feel about diversity, and how individuals interact with individuals who are members of other social groups (Braskamp et al., 2014; King & Baxter Magolda, 2005). The same can be said of the global perspective, CQ, and UDO constructs. Braskamp et al. (2014) acknowledged these similarities, stating "various terms are used to portray the integration of the thinking, feeling, and relating" (p. 4). To illustrate the similarities between the models and constructs described in this literature review, a chart specific to this discussion is offered (Table 1).

Of the six models and constructs reviewed—DMIS, UDO, CQ, intercultural maturity, global perspective, and IDD—three have corresponding instruments. The limitations of these measures have been discussed. The IDI is not a direct measure of the DMIS. The IDI is based on the IDC which is an adaptation, not a replication, of the DMIS (IDI, LLC., 2016, "The Intercultural Development Continuum," para. 1). Global perspective is informed by intercultural maturity and intercultural communication (Braskamp et al., 2014); however, higher scores on any form of the GPI suggest higher levels of global perspective—these scores are not translated in terms of the developmental levels of intercultural maturity. Similarly, the scores on the M-GUDS and M-GUDS-S reflect levels of UDO, and the scores on the various forms of the CQS reflect levels of CQ; however, there is no way to understand how, developmentally, lower scores differ from higher scores. There are no known instruments to measure intercultural maturity or IDD.

Spitzberg and Changnon (2009) suggested synthesizing various models to create a "more parsimonious" (p. 45) conceptualization of intercultural competence to guide

research and practice. The IDMIC synthesizes six conceptually-similar models and constructs used in postsecondary administration and research: DMIS, UDO, CQ, intercultural maturity, IDD, and global perspective (see Figure 1 for a synopsis of the integrated model). However, another model that cannot be directly measured is not very useful. In Chapter Three, a corresponding instrument to measure intercultural competence, as described by the IDMIC, is proposed.

Considerations for Leadership

Regarding this study, there are considerations for both students and postsecondary education administrators in terms of leader development and leadership as an "influencing process" (Day & Antonakis, 2012, p. 5). Leader development "is the expansion of an individual's capacity to be effective in leadership roles and processes" (Day, 2012, p. 109). Arguably, a high level of intercultural competence is essential to effective leadership. A comprehensive intercultural competence tool (model and measure) could be integrated into college and university programs designed to support and encourage student leader development.

Professional associations in postsecondary education support and encourage administrators' leader development through conferences, webinars, and defined professional competencies. ACPA, College Student Educators International (ACPA) and NASPA, Student Affairs Administrators in Higher Education (NASPA) developed professional competencies for student affairs administrators. Similar to ACPA and NASPA, the National Association for Diversity Officers in Higher Education (NADOHE) adopted professional standards for CDOs to support their development as college and university leaders.

Administrators working at the intersection of student affairs and DEI capable of effectively using the IDMIC and its corresponding measure in student development programs and initiatives, including student leader development programs, may demonstrate intermediate to advanced levels in several of the ACPA/NASPA competencies: for example, assessment, evaluation, and research, leadership, and student learning and development (ACPA–College Student Educators International, NASPA–Student Affairs Administrators in Higher Education, 2016). NADOHE professional practice standards eight and nine discuss how CDOs should understand how to utilize multiple forms of data beyond "compositional data and satisfaction surveys" (Worthington et al., 2014, p. 232) and have "an understanding of the application of campus climate research in the development and advancement of a positive and inclusive campus climate" (Worthington et al., 2014, p. 232). A survey that measures students' levels of intercultural competence can serve as an additional form of data that CDOs could use to infer, and subsequently devise strategic efforts to improve, the campus climate.

Methodology

Intercultural competence, as conceptualized by the IDMIC, is operationalized by the IDMIC Index, a proposed measure of intercultural competence. The following pages state research hypotheses and the employed methodology for examining the reliability and validity of the IDMIC Index.

Research Hypotheses

H_1: The IDMIC Index has a unidimensional structure.

H_2: The IDMIC Index is a reliable measure of intercultural competence.

H_3: The IDMIC Index is a valid measure of intercultural competence.

Research Methodology

Participants. Students attending a mid-sized, predominately White, public university in the mid-Atlantic region of the US were recruited to participate in this study to test the three research hypotheses. One hundred and five students (N = 105) participated in this study.

Procedures. Using a single-stage, convenience-sampling design, undergraduate and graduate students at a mid-Atlantic public institution were recruited via email for voluntary participation in this study. There was one point of data collection to test the three research hypotheses.

Instrumentation. The IDMIC Index was created to measure intercultural competence development as described by the IDMIC. A number of instruments used to measure intercultural competence ask respondents to rate their level of agreement/disagreement with presented statements, or items. The IDMIC Index deviates from this approach, describing various situations students may likely experience in a

postsecondary setting. Each item presents a scenario based on the 13 dimensions of social identity outlined in Chapter One. The religion scenario is a modification of Problem 5 of the Liberal Studies Assessment Philosophy/Religion/Values (Erwin & O'Meara, 1990). Four responses to these situations are presented, each representing a way an individual may behave or communicate, or the behavioral/interpersonal component of intercultural competence. Implicit in each behavioral option are cognitive and intrapersonal/affective components of each of the four developmental stages of the IDMIC. Respondents are asked to pick the option that best represents how they would respond in the hypothetical scenarios.

- Option A presents a behavioral response to a scenario that reflects corresponding cognitive and intrapersonal/affective dimensions of the dualistic awareness stage of the IDMIC. This option is given a score of 1.
- Option B presents a behavioral response to a scenario that reflects corresponding cognitive and intrapersonal/affective dimensions of the exploration stage of the IDMIC. This option is given a score of 2.
- Option C presents a behavioral response to a scenario that reflects corresponding cognitive and intrapersonal/affective dimensions of the acceptance stage of the IDMIC. This option is given a score of 3.
- Option D presents a behavioral response to a scenario that reflects corresponding cognitive and intrapersonal/affective dimensions of the integration stage of the IDMIC. This option is given a score of 4.

IDMIC Index scores are computed by adding the score of each item and dividing that number by the total number of scenarios. Total IDMIC Index scores range from 1–4.

IDMIC Index scores from 1–1.99 reflect the dualistic awareness stage of the IDMIC; scores from 2–2.99 reflect the exploration stage of the IDMIC; scores from 3–3.99 reflect the acceptance stage of the IDMIC. A score of 4 reflects the integration stage of the IDMIC; however a score of 4 does not represent an absolute level of intercultural competence, but rather suggests individuals may demonstrate effective and appropriate behavior and/or communication in situations involving individuals who are members of different/other social groups with greater consistency.

The IDMIC Index is different from other measures of intercultural competence and should provide stronger evidence of how individuals would behave in hypothetical, but very possible, intercultural situations in a postsecondary educational environment. A number of existing instruments are limited in that the items that concentrate on behavior focus on the frequency of, and levels of interest in experiencing, intercultural interactions. The IDMIC Index focuses on how individuals would respond (communicate and/or behave) in intercultural situations. To illustrate the utility of the IDMIC Index, versus other measures of intercultural competence, the relationship between participants' scores on the IDMIC Index and a commonly used measure of intercultural competence, the M-GUDS-S, was analyzed through bivariate correlation.

Miville-Guzman Universality-Diversity Scale. As described in Chapter Two, the M-GUDS-S is a 15-item questionnaire where participants rate their level of agreement/disagreement with statements on a six-point Likert scale. The M-GUDS-S has three subscales: Diversity of Contact, Relativistic Appreciation, and Comfort with Differences (Fuertes, Miville, et al., 2000). Each subscale contains five items and has a maximum score of 30. The aggregate of the three subscale scores represent an

individual's UDO, for a maximum total score of 90. Higher scores should indicate increasingly more positive attitudes and behaviors related to diversity. Findings from factor analyses on the M-GUDS-S suggest a total score should not be calculated (Fuertes, Miville, et al., 2000; Lau & Finney, 2006). Confirmatory factor analyses (CFA) performed by both Fuertes, Miville, et al. (2000) and Lau and Finney (2006) revealed a three-factor model demonstrated a better fit to the data than a one-factor model. Considering these findings, in this study, the three subscale scores will be considered with the understanding that, as a whole, they represent a level of UDO.

The M-GUDS-S "measures UDO as a multidimensional construct with three distinct but modestly interrelated domains: behavioral, emotional, and cognitive" (Fuertes, Miville, et al., 2000, p. 167). The instrument's three subscales represent these domains. Previous research reports evidence to support the measurement reliability and validity of the M-GUDS-S. Reported internal consistency reliability estimates for each subscale, represented by Cronbach's alpha coefficient of internal consistency, range from .82–.84 for Diversity of Contact, .59–.83 for Relativistic Appreciation, and .80–.92 for Comfort with Differences (Fuertes, Miville, et al., 2000; Fuertes, Sedlacek, et al., 2000; Lau & Finney, 2006; Singley & Sedlacek, 2004; Singley & Sedlacek, 2009). Salisbury (2011) also reported alpha coefficients ranging from .77–.78 for the subscales; however, the researcher did not report the precise alpha coefficients for each subscale.

Reported Cronbach's alpha coefficients for total M-GUDS-S scores range from .77–.85 (Fuertes, Miville, et al., 2000; Fuertes, Sedlacek, et al., 2000; Kegel & DeBlaere, 2014; Pascarella & Colleagues, 2007 as cited in Salisbury, 2011; Salisbury et al., 2013; Singley & Sedlacek, 2004; Singley & Sedlacek, 2009). While this study will not total

M-GUDS-S scores, this information provides additional evidence to support the reliability of the measure. The evidence based on internal structure provides limited support for the measurement validity of the M-GUDS-S. Fuertes, Miville, et al. (2000) performed a CFA and reported the following indicators of fit: NNFI =.94; GFI = .92; CFI =.95—indicating an acceptable fit to the three-factor model. Lau and Finney (2006) also conducted a CFA that supported the data fit the three-factor model and reported the following indicators of fit: SRMR = .055; RMSEA = .06; CFI = .97. Both Fuertes, Miville, et al. (2000) and Lau and Finney (2006) reported significant chi-square tests and test indices below .90 (.85 and .87, respectively)—test results inconsistent with the concept of good fit. The researchers acknowledged chi-square tests can be "unacceptably conservative" (Fuertes, Miville, et al., 2000, p. 164) and "overly sensitive" (Lau & Finney, 2006, p. 8) and maintained the fit of the data to the three-factor model.

***Descriptive Characteristics*.** Descriptive characteristics were collected to explore differences in scores between social groups and report general descriptive statistics about participants. To provide a complete and more accessible presentation of this information, these statistics are reported in the appendix.

Analysis. An initial analysis of the data was performed, including an exploratory factor analysis (EFA). As a part of this analysis, the Eigenvalue and item loadings were reported and scree plot provided. To test the first research hypothesis, a CFA was performed to demonstrate the unidimensional structure of the IDMIC Index. While there are three dimensions of intercultural competence—cognitive, intrapersonal/affective, and behavioral/interpersonal—Chavez et al. (2003) acknowledge these elements "interact in a meaningful gestalt" (p. 458). To provide evidence to support the measurement reliability

of the IDMIC Index, internal reliability consistency was examined and reported with Cronbach's α. To provide evidence for the third hypothesis, the relationship between participants' scores on the IDMIC Index and the M-GUDS-S were analyzed through bivariate correlation to provide evidence of concurrent validity: The M-GUDS-S served as the criterion in this analysis. Fuertes, Miville, et al. (2000) suggested "individuals in racial and ethnic minority groups might be expected to have higher levels of UDO" (p. 165). Considering this, differences in scores between social groups were analyzed through independent-means *t*-tests and effect sizes were computed using Cohen's *d*. Statistical techniques were performed using Statistical Package for the Social Sciences (SPSS) and SPSS Amos, as appropriate.

Limitations. There are several cultural and methodological limitations in this study to acknowledge. While this is a quantitative study, position and reflexivity—ideas from qualitative research—are relevant here. Creswell (2013) notes, "How we write is a reflection of our own interpretation based on the cultural, social, gender, class, and personal politics that we bring to research. All writing is 'positioned'" (p. 215). Reflexivity refers to the ability of a researcher to acknowledge how their position (i.e., their social identity, beliefs, life events, etc.) might influence their research (Creswell, 2013). While scenarios and response options for the instrument were informed by the IDMIC, they were also influenced by the researcher's social identity, experiences in undergraduate, graduate, and doctoral studies, and experiences as an administrator in postsecondary education.

The instrument was reviewed by two measurement experts and two DEI practitioners; students did not participate in the review of the survey instrument prior to

its administration. The scenarios may not realistically reflect the student experience. And while social desirability bias was a concern, the length of the overall instrument had to be considered and the short form of the Marlowe-Crowne Social Desirability Scale was not included in the final instrument. A student review of the IDMIC Index may have been another way to learn if the scenarios may have prompted participants to provide socially-desirable responses.

The Pew Research Center (2015) found for Americans that identify as Hispanic/Latino/a/x, their ethnic identity is very much a part of their racial identity, illuminating the intersectional relationship of race and ethnicity. This was considered when developing the ethnicity scenario; however, there was also concern about how participants who identify as Hispanic/Latino/a/x might react to this scenario (the scenario highlights the narrow categorization of ethnicity in the US). Creswell (2013) suggests the following questions should be considered when writing a qualitative study; however, they are equally relevant when thinking of the potential impact on these students: “Will they be marginalized because of it? Will they be offended?” (p. 215). A student review of the instrument may have been useful in answering these questions as well.

Results

This chapter presents the results of the examination of the IDMIC Index. Prior to testing the research hypotheses, initial analyses of the data were performed, including an EFA. To provide evidence for the first hypothesis and demonstrate the unidimensional structure of the measure, a CFA was performed. To provide evidence to support the second hypothesis and demonstrate the IDMIC Index is a reliable measure of intercultural competence, a reliability analysis was performed. To provide evidence to support the third hypothesis and illustrate the IDMIC Index is a valid measure of intercultural competence, relationships between participants' scores on the IDMIC Index and M-GUDS-S were analyzed through bivariate correlation to test for concurrent validity. Finally, independent-means *t*-tests were performed to examine differences in scores between social groups.

Initial Analyses

After examining the data with both a histogram and box plot, one outlier was identified and removed from the dataset, resulting in the final sample of 105 participants ($N = 105$). Descriptive statistics for each item in the IDMIC Index were produced to understand which developmental stage participants' responses reflected: dualistic awareness, exploration, awareness, integration (Table 4.1). For all items, the majority of responses reflected either the acceptance or integration stage of the IDMIC. Mean scores for each item were reviewed (Table 4.2); items 6 and 7 were removed due to their high mean scores and, consequently, low discrimination, resulting in an 11-item measure.

Table 4.1

Distribution of IDMIC Index Item Responses (in percentages)

Stage	IDMIC Index Items												
	Item 1[a]	Item 2[b]	Item 3[c]	Item 4[d]	Item 5[e]	Item 6[f]	Item 7[g]	Item 8[h]	Item 9[i]	Item 10[j]	Item 11[k]	Item 12[l]	Item 13[m]
Dualistic Awareness	16.2	-	3.8	-	1.9	3.8	-	22.9	2.9	5.7	-	2.9	-
Exploration	34.3	21.0	14.3	2.9	-	3.8	5.7	-	11.4	1.0	6.7	7.6	17.1
Acceptance	-	35.2	38.1	39.0	61.9	4.8	4.8	31.4	7.6	52.4	48.6	13.3	11.4
Integration	49.5	43.8	43.8	58.1	36.2	86.7	89.5	45.7	78.1	41.0	43.8	76.2	71.4
Missing	-	-	-	-	-	1.0	-	-	-	-	1.0	-	-

[a]Item 1 focuses on ability. [b]Item 2 focuses on age. [c]Item 3 focuses on ethnicity. [d]Item 4 focuses on first-generation status. [e]Item 5 focuses on gender. [f]Item 6 focuses on language. [g]Item 7 focuses on national and geographic origin. [h]Item 8 focuses on political ideology. [i]Item 9 focuses on race. [j]Item 10 focuses on religion. [k]Item 11 focuses on sexual orientation. [l]Item 12 focuses on socioeconomic status. [m]Item 13 focuses on veteran/military status.

Table 4.2

Mean Scores of IDMIC Index Items

IDMIC Index Item	*N*	*M (SD)*
Item 1[a]	105	2.83 (1.21)
Item 2[b]	105	3.23 (0.78)
Item 3[c]	105	3.22 (0.83)
Item 4[d]	105	3.55 (0.55)
Item 5[e]	105	3.32 (0.58)
Item 6[f]	104	3.76 (0.70)
Item 7[g]	105	3.84 (0.50)
Item 8[h]	105	3.00 (1.18)
Item 9[i]	105	3.61 (0.80)
Item 10[j]	105	3.29 (0.76)
Item 11[k]	104	3.38 (0.61)
Item 12[l]	105	3.63 (0.75)
Item 13[m]	105	3.54 (0.77)

[a]Item 1 focuses on ability. [b]Item 2 focuses on age. [c]Item 3 focuses on ethnicity. [d]Item 4 focuses on first-generation status. [e]Item 5 focuses on gender. [f]Item 6 focuses on language. [g]Item 7 focuses on national and geographic origin. [h]Item 8 focuses on political ideology. [i]Item 9 focuses on race. [j]Item 10 focuses on religion. [k]Item 11 focuses on sexual orientation. [l]Item 12 focuses on socioeconomic status. [m]Item 13 focuses on veteran/military status.

An iterative principal factor analysis was performed on the 11 items with orthogonal rotation (varimax with Kaiser normalization). The Kaiser-Meyer-Olkin measure was greater than the minimum acceptable value of .5 (Kaiser, 1974 as cited in Field, 2009), KMO = .66, confirming the overall sampling accuracy; as well, KMO values for the majority of individual items were .59 or greater (one item's KMO value was .48). Bartlett's test of sphericity was statistically significant, χ^2 (55) = 194.23, $p < .001$. The correlation matrix presented several items with correlations greater than .3; however, there were no correlations greater than .9—as such, multicollinearity was not suggested among the data. A review of reported eigenvalues suggested a five-factor model; five components had eigenvalues values greater than 1, explaining 46.58% of the

variance. The scree plot also suggested a five-factor model (Figure 4.1) and questionable evidence of unidimensionality. Table 4.3 illustrates the factor loadings after rotation.

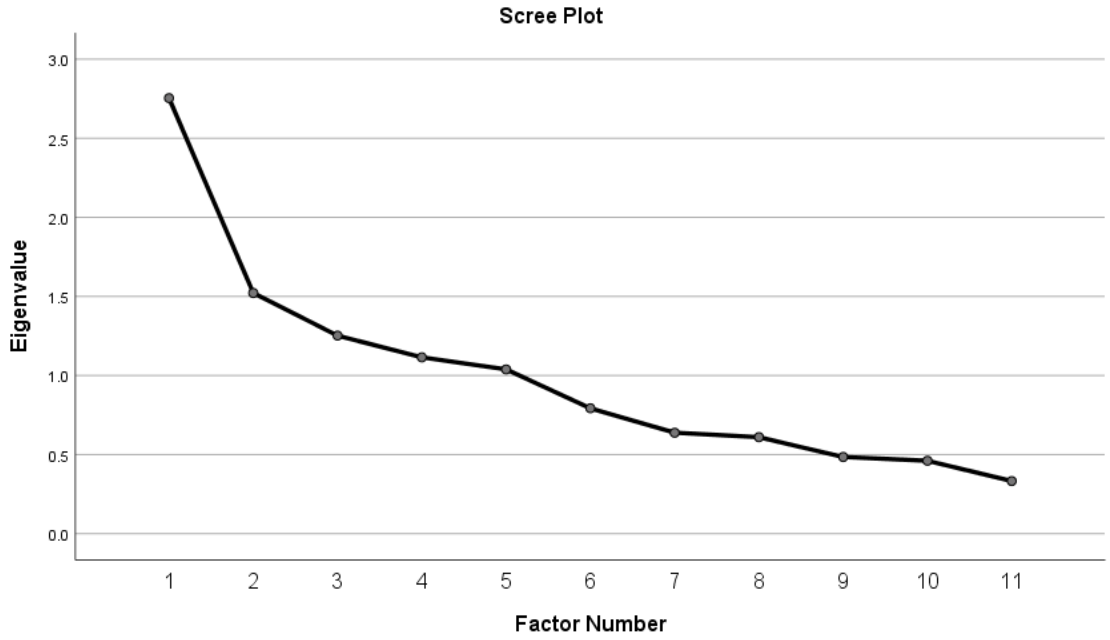

Figure 4.1. Scree Plot. This figure illustrates the scree plot produced as part of the EFA.

Hypothesis One

A CFA was performed using SPSS Amos to further evaluate the unidimensional structure of the IDMIC Index and provide evidence for the first hypothesis. The hypothesized one-factor model is presented in Figure 4.2, where the circle represents the latent variable: intercultural competence. The squares represent the 10 measured variables: ability, age, ethnicity, gender, political ideology, race, religion, sexual orientation, socioeconomic status, and veteran/military status (one variable, first-generation status, was excluded from the CFA due to its low EFA factor loading). Based on their high correlation in the EFA correlation matrix, error variances for gender and

Table 4.3

Summary of Exploratory Factor Analysis Results

IDMIC Index Item	Rotated Factor Loadings				
	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
Item 1[a]	.08	.21	**.74**	.07	-.08
Item 2[b]	.24	.24	.15	-.09	.33
Item 3[c]	.15	**.78**	.08	.15	.02
Item 4[d]	-.06	-.11	-.03	.07	**.61**
Item 5[e]	**.79**	.23	-.01	-.02	.04
Item 6[f]	.05	**.51**	.24	.10	-.15
Item 7[g]	.37	**.51**	-.21	.05	-.02
Item 8[h]	.04	.14	.13	**.74**	.12
Item 9[i]	**.73**	.07	.18	.22	-.10
Item 10[j]	.15	.10	.10	.27	-.22
Item 11[k]	.03	-.03	**.57**	.12	.06
Eigenvalues	1.41	1.31	1.07	.74	.59
% of variance	12.86	11.94	9.71	6.71	5.36

Note: Factor loadings over .40 appear in bold.
[a]Item 1 focuses on ability. [b]Item 2 focuses on age. [c]Item 3 focuses on ethnicity. [d]Item 4 focuses on first-generation status. [e]Item 5 focuses on gender. [f]Item 6 focuses on political ideology. [g]Item 7 focuses on race. [h]Item 8 focuses on religion. [i]Item 9 focuses on sexual orientation. [j]Item 10 focuses on socioeconomic status. [k]Item 11 focuses on veteran/military status.

sexual orientation were allowed to correlate to improve model fit. One subject was removed from the analysis due to missing data.

Maximum likelihood estimation was used to test the model. Tabachnick and Fidell (2007) note, "the issue of which indices to report is a matter of personal preference and. . . . the CFI and RMSEA are perhaps the most frequently reported fit indices" (p. 720). Consequently, several fit indices are reported: goodness of fit (GFI), comparative fit index (CFI), and root mean square error of approximation (RMSEA). All three fit indices, in addition to the chi-square test, indicated the model did not fit, χ^2 (35, N = 104) = 120.09, p < .001; CFI = .42, GFI = .82, RMSEA = .15. Given the

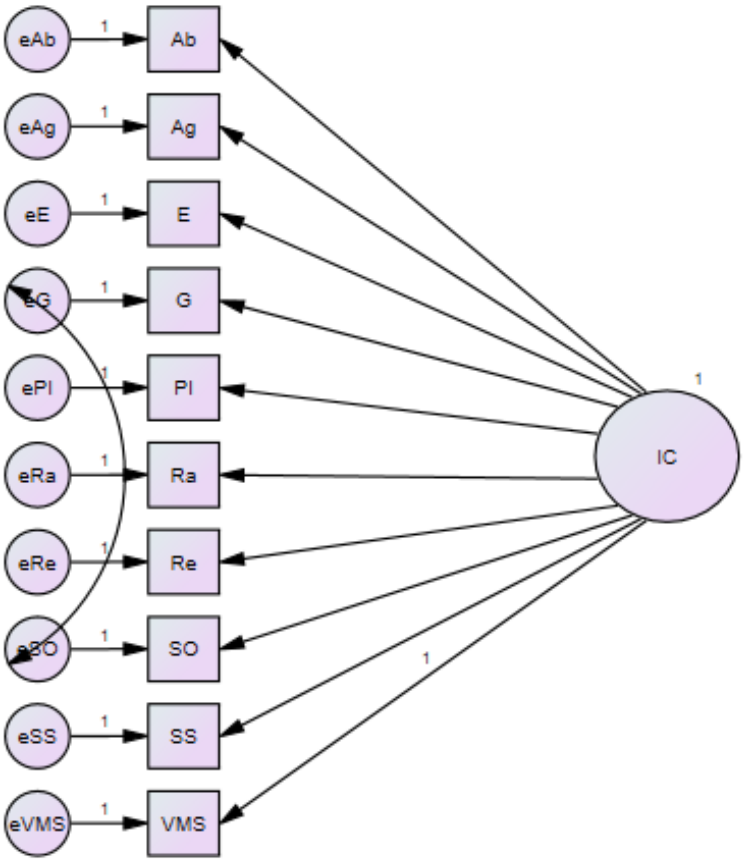

Figure 4.2. Hypothesized One-Factor Model. This figure illustrates the hypothesized one-factor model of the IDMIC Index.

evidence in the scree plot and CFA misfit, we cannot reject the null hypothesis and can reasonably infer the IDMIC Index has a multidimensional factor structure.

Hypothesis Two

A reliability analysis was performed with SPSS to examine the internal consistency of the IDMIC Index and demonstrate the instrument is a reliable measure of intercultural competence. The IDMIC Index demonstrated moderate reliability for use in survey-based educational research, Cronbach's $\alpha = .65$ (see Table 4.4 for inter-item correlation coefficients).

Table 4.4

Inter-Item Correlation Matrix

IDMIC Index Item	Item 1[a]	Item 2[b]	Item 3[c]	Item 4[d]	Item 5[e]	Item 6[f]	Item 7[g]	Item 8[h]	Item 9[i]	Item 10[j]	Item 11[k]
Item 1[a]	1.00										
Item 2[b]	.13	1.00									
Item 3[c]	.23	.25	1.00								
Item 4[d]	-.08	.15	-.09	1.00							
Item 5[e]	.10	.24	.30	-.05	1.00						
Item 6[f]	.34	.09	.42	-.13	.13	1.00					
Item 7[g]	.00	.15	.43	-.08	.42	.25	1.00				
Item 8[h]	.18	.02	.24	.10	.05	.16	.11	1.00			
Item 9[i]	.24	.18	.19	-.10	.58	.17	.28	.23	1.00		
Item 10[j]	.11	-.02	.17	-.15	.13	.13	.07	.21	.22	1.00	
Item 11[k]	.43	.11	.06	.02	.03	.10	-.13	.17	.12	.11	1.00

[a]Item 1 focuses on ability. [b]Item 2 focuses on age. [c]Item 3 focuses on ethnicity. [d]Item 4 focuses on first-generation status. [e]Item 5 focuses on gender. [f]Item 6 focuses on political ideology. [g]Item 7 focuses on race. [h]Item 8 focuses on religion. [i]Item 9 focuses on sexual orientation. [j]Item 10 focuses on socioeconomic status. [k]Item 11 focuses on veteran/military status.

Hypothesis Three

Bivariate correlations between scores on the IDMIC Index and the M-GUDS-S were performed to demonstrate the IDMIC Index is a valid measure of intercultural competence. Recalling the discussion in Chapter 3 not to calculate a total M-GUDS-S score, bivariate (two-tailed) correlations were performed between the total IDMIC Index scores and total scores for each of the M-GUDS-S subscales. There were significant relationships between the IDMIC Index and each of the three subscales: Diversity of Contact, $r = .44$, $p < .001$; Relativistic Appreciation, $r = .37$, $p < .001$; and Comfort with Differences, $r = -.38$, $p < .001$.

Additional Analyses

Differences in scores between social groups were analyzed through three independent-means *t*-tests and effect sizes for significant differences were computed using Cohen's *d*. Research illustrates there are differences in levels of intercultural competence based on dimensions of social identity, specifically race and/or gender (e.g., Engberg & Davidson, 2016; Engberg & Fox, 2011; Fuertes, Sedlacek et al., 2000; Singley & Sedlacek, 2009). One can hypothesize that across dimensions of social identity there would be differences in levels of intercultural competence, and specifically, that members of dominant social groups in terms of race, race-gender, and race-gender-sexual orientation would have lower IDMIC Index scores. Differences in IDMIC Index scores were examined based on race and at the intersections of race-gender and race-gender-sexual orientation hypothesizing that students who identified as White, White men, and White heterosexual men would have lower IDMIC Index scores.

Students who identified as American Indian or Alaska Native, Asian, Black or African American, Hispanic or Latino/a/x, or Native Hawaiian or Other Pacific Islander were classified as students of color. On average, White students had lower IDMIC Index scores (M = 3.32, SE = 0.05) than students of color (M = 3.35, SE = 0.07); however, this difference was not significant, $t(101) = -.41$, $p = .681$, and represented a small effect, d = 0.09. On average, students who identified as White men had lower IDMIC Index scores (M = 3.19, SE = 0.11) compared to all other students (M = 3.36, SE = 0.04); however, this difference was not significant, $t(102) = -1.75$, $p = .08$, and represented a small effect, d = 0.39. On average, students who identified as White heterosexual men had lower IDMIC scores (M = 3.21, SE = 0.13) than all other students (M = 3.35, SE = 0.04); however this

difference was not significant, $t(102) = -1.24$, $p = .22$, and represented a small effect, $d = 0.31$.

Discussion

The overarching goal of this study was to present a model and corresponding measure of intercultural competence for use in postsecondary education: the IDMIC and IDMIC Index. Undergraduate and graduate students were surveyed during the Spring 2019 semester to collect evidence to demonstrate the measurement reliability and measurement validity of the IDMIC Index. This study hypothesized the IDMIC Index 1) has a unidimensional structure; 2) is a reliable measure of intercultural competence; and 3) is a valid measure of intercultural competence. This final chapter will discuss the results and implications of the study and offer thoughts on future research.

Discussion of Results and Implications

The IDMIC Index has a multidimensional structure, as evidenced by the results of both the EFA and CFA. Interestingly, the EFA suggested a five-factor model with items on gender and sexual orientation loading on factor 1; items on ethnicity, political ideology, and race loading on factor 2; items on ability and veteran/military status loading on factor 3; the item on religion loading on factor 4; and the item on first-generation status loading on factor 5. Items on age and socioeconomic status did not have high loadings on any factor. The minimum threshold for interpretive significance of factor loadings is 0.4 (Stephens, 2002 as cited in Field, 2009) and significant loadings across the five factors ranged from 0.51 to 0.79. The results of the CFA included a significant chi-square statistic and poor fit indices: results that do not provide support for the hypothesized one-factor model.

It is commonly held the internal consistency coefficient should be .7 or higher to demonstrate measurement reliability; however, “Kline (1999) notes that. . . . when

dealing with psychological constructs values below even .7 can, realistically, be expected" (Field, 2009, p. 675). Gliner, Morgan, and Leech (2009) also acknowledge coefficients between .60 and .69 are "marginally acceptable" (p. 348), but acceptable nonetheless. Considering this, there is evidence of measurement reliability and the IDMIC Index is a reliable measure of intercultural competence with a Cronbach's α of .65.

The IDMIC Index moderately correlated with each of the three M-GUDS-S subscales, providing concurrent validity evidence. Gliner et al. (2009) state,

> if the correlation coefficient is quite large (e.g., .8 or .9), then your instrument is not providing different information from the criterion instrument. If the correlation is too small, then your instrument is measuring a different construct than the criterion instrument. (p. 170)

Gliner et al. (2009) suggest applying Cohen's standards for effect sizes to determine how strongly the correlation coefficient is evidence of measurement validity. With correlation coefficients of approximately +/- .4 for each of the three subscales, these moderate (or medium; Cohen, 1992) correlations illustrate the two instruments measuring are similar but different constructs and provide evidence that the IDMIC Index is a valid measure of intercultural competence as conceptualized in the integrated model.

There were positive correlations between the measure and the Diversity of Contact and Relativistic Appreciation subscales; there was a negative correlation between the measure and the Comfort with Differences subscale. This negative correlation suggests individuals may not develop comfort interacting with diversity as their levels of intercultural competence increase: an idea contradictory to the developmental models

discussed in Chapter Two as well as the integrated model presented as a part of this study. However, Fuertes, Miville, et al. (2000) observed,

> this affective subscale comprises items that can tap two distinct but related emotional dimensions of UDO: a sense of connection with others who are different from oneself and an ambivalence and potential discomfort regarding such contact. The psychological experience of UDO for some people may be that although they approach others, particularly from different social groups, with openness, curiosity, and feelings of connectedness, they may also feel discomfort and anxiety regarding aspects that are perceived as truly different, emotionally and intellectually foreign, or simply unknown. (p. 167)

It was also hypothesized that students who identified as White, White men, and White heterosexual men would have lower IDMIC Index scores. While students who identified as White, White men, and White heterosexual men had lower scores, these differences were not statistically significant. These findings do not provide overwhelmingly strong discriminant evidence; however, the small effect sizes do provide some evidence to support the measurement validity of the IDMIC Index.

To summarize, this study did not find evidence to support the unidimensional structure of the IDMIC Index; however, there is evidence to support the measurement reliability and measurement validity of the measure. What are the implications of these results? Broadly, one can still assert the IDMIC Index is a viable tool for DEI practitioners and particularly those administrators working at the intersection of student affairs and DEI. That the one-factor model did not fit the data is inconsequential when considering the practical implications of the findings. As Chavez et al. (2003)

acknowledge, development along the three dimensions occur "in a meaningful gestalt" (p. 458). The IDMIC Index aimed to measure students' levels of intercultural competence—or the degree to which students would be able to demonstrate effective and appropriate behavior and/or communication in situations involving individuals who are members of different/other social groups—acknowledging that development is staged-based, occurs over time, and multidimensional. The IDMIC Index did not aim to measure development along the three discrete dimensions of development proposed in the model.

In comparison to most surveys, which ask students about their perceptions and experiences (e.g., diversity-focused modules in the Diverse Learning Environments Survey and National Survey of Student Engagement) or are Likert-scaled self-reports (e.g., both forms of the M-GUDS, CQS Self Report, Mini-CQS, and three versions of the GPI), this scenario-based instrument asks students how they would respond in intercultural situations based on dimensions of social identity. Arguably, such information provides a more accurate depiction of where students are developmentally and provides information that is more useful for planning and implementing programs, initiatives, and courses to help students develop greater intercultural competence and programs designed to support students of certain social groups.

When reviewing the distribution of responses in this study, over 15% of participants selected response options reflecting the dualistic awareness stage for items on ability and political ideology and response options reflecting the exploration stage for ability, age, and veteran/military status. As postsecondary education administrators are tasked with using "strategy and intentionality in practice" (S. R. Harper, 2011, p. 287),

such information could inform on-campus events and student success programs. For example, the distribution of responses in this study could prompt administrators working at the intersection of student affairs and DEI to organize programs (film series, campus discussions, speakers, campaigns) on ability and/or ableism, prompt units that support students with accessibility needs and non-traditional students in terms of age and veteran/military status to reevaluate their support programs and/or outreach and education efforts, and/or encourage campus-wide conversations on the importance of respecting differences in political ideologies (the last especially as we enter into the 2020 elections). The scenarios in the IDMIC Index could be used as discussion prompts for conversations on DEI in new and transfer student orientation programs, and individual items could serve as prompts for intergroup dialogues. However, programming alone will not foster intercultural competence. King et al.'s (2013) findings highlight the importance of reflection in developing intercultural competence. For these programmatic efforts to influence students' development of intercultural competence, administrators will need to encourage students to reflect on these exchanges and experiences and may possibly need to create opportunities for reflection as a part of these programs.

Administrators working at the intersection of student affairs and DEI are often leading from the middle in this fashion, supporting and advocating for underrepresented students and creating opportunities for conversations about and programs on DEI. Reflecting on the role of student affairs administrators, Roper (2009) wrote

> It is in the middle that we are best positioned to use the core skills of our profession and most effectively advance our institutions' educational goals. From the middle we can appropriately facilitate needed interactions, convene important

> conversations, bridge relationships, hear the multiple voices of our colleagues and community members, and pursue healing. We will be the most effective leaders during the times when we can successfully "manage the middle" and elevate issues in ways that allow campus challenges to be seen and heard with greater clarity and possibility. (para. 7)

The differences in IDMIC Index scores for students who identified as White men and White heterosexual men could prompt administrators working at the intersection of student affairs and DEI to develop targeted initiatives to engage students who identify as members of these social groups in activities to encourage greater engagement with diversity and foster higher levels of intercultural competence. Research in this area includes the Straight White College Men Project and subsequent book, *Got Solidarity? Challenging Straight White College Men to Advocate for Social Justice*. Focusing on the thoughts and experiences of heterosexual White men as it relates to diversity, inclusion, and identity development (Vianden, 2020), *Got Solidarity?* could provide useful in approaching this challenge in a contemporary fashion.

There are practical implications for student leader development, understood as "the expansion of a [student's] capacity to be effective in leadership roles and processes" (Day, 2012, p. 109). In this discussion, the idea of student leader extends beyond positional leaders (e.g., elected student government members, student organization executive board members) and includes students who serve as resident hall assistants, orientation staff, diversity peer educators, alternative spring break leaders, etc. These students can be described as "tempered radicals . . . [who] work to effect significant changes in moderate ways. . . . they exercise a form of leadership within organizations

that is more localized, more diffuse, more modest, and less visible than traditional forms – yet no less significant" (Meyerson, 2001, p. 93). Research suggests engaging with individuals who are members of various social groups positively influences leader development among college students (Dugan & Komives, 2010; Komives, Longerbeam, Owen, Mainella, & Osteen, 2006) and activities encouraging such engagement should be infused into leader development programs (Dugan & Komives, 2010). College leader development theories (i.e., Social Change Model of Leadership Development) acknowledge the essential role of intercultural competence in leader development and effective leadership. The IDMIC Index could be used as a pre/post-assessment to measure the effectiveness of intercultural competence elements in college student leader development programs.

As well, there are implications for CDOs and other DEI leaders tasked with, broadly, creating and sustaining more inclusive college and university campuses. A strategic diversity leadership scorecard (SDLS; Williams, 2013) is one tool CDOs can use towards this end. The SDLS is a tool specific to DEI in postsecondary education that measures organizational performance in several dimensions, including the campus climate; however, there can be many challenges to administering formal campus climate assessments (Williams, 2013). While not a direct campus climate measure, instruments such as the IDMIC Index can provide information to help CDOs and other DEI leaders infer the psychological and/or behavioral dimensions (Hurtado, Griffin, Arellano, & Cuellar, 2008; Hurtado, Millem, Clayton-Pedersen, & Allen, 1999) of the campus climate (i.e., "perceptions and attitudes" [Hurtado, Millem, et al., 1999, pp. 5–6], including sense of belonging to the campus community [Peterson & Spencer, 1990] and/or interactions

with or "level of engagement with diversity" [Hurtado, Griffin, et al., 2008, p. 209], respectively) for students by dimension(s) of social identity.

In addition to serving as an indirect measure of the campus climate, the IDMIC Index could also be used as a part of exit surveys for graduating students, as a pre/post measure of intercultural competence development (comparing students as incoming and graduating students), or as a part of a general education assessment program that articulates intercultural competence as a learning outcome. Administration of any one of these assessments would be a complex undertaking requiring cross-campus collaboration and shared leadership (Kezar, 2005). Wassenaar and Pearce (2012) suggest task complexity is one of the "facilitating factors" (p. 379) for shared leadership. DEI leaders' able to both administer these assessments using a shared leadership model and use the data to improve the campus climate could increase their expert power (French, Jr. & Raven, 1959) and informational power (Raven, 2008) within a college or university.

Finally, there are implications for the three professional associations discussed in Chapter Three: ACPA, NASPA, and NADOHE. In 2010, ACPA and NASPA adopted competencies to establish standards to guide the student affairs profession; revised versions of these competencies were adopted in 2015 and, subsequently, rubrics were developed for each competency (ACPA–College Student Educators International, NASPA–Student Affairs Administrators in Higher Education, 2016). NADOHE adopted the Standards of Professional Practice for Chief Diversity Officers in Higher Education in 2014 (Worthington et al., 2014) and recently introduced the Standards of Professional Practice for Chief Diversity Officers in Higher Education 2.0 (Worthington, Stanley, & Smith, 2020). These organizations, to some extent, may be demonstrating leadership.

Expanding on the definition of leadership developed through the Global Leadership and Organizational Behavior Project, in this sense, leadership is "the ability of [a professional organization] to influence, motivate, and enable others to contribute towards the effectiveness and success of the organizations of which they are members" (Den Hartog & Dickson, 2012, p. 395), where U.S. colleges and universities are the organizations student affairs and DEI administrators and leaders are members of. Professional competencies and standards may influence and, to some extent, motivate, but do they enable administrators and leaders to contribute to their institutions' effectiveness and success?

In the same fashion these professional organizations create and charge taskforces to define and revise professional standards related to DEI, innovative tools should be developed to enable DEI administrators and leaders to contribute to their institutions. The model and measure of intercultural competence presented in this research is one example of what these innovative tools can be. The IDMIC Index can be used to measure student development and infer the campus climate for students by dimension(s) of social identity, and the corresponding model allows for developmental interpretation. The individual items can function as journal prompts for intergroup dialogues and discussion prompts for a variety of small groups discussions related to DEI.

As discussed in Chapter Three, ACPA, NASPA, and NADOHE encourage leader development among administrators; these professional organizations also encourage leadership development, or "the expansion of an organization's capacity to enact basic leadership tasks needed to accomplish shared, collective work (Van Velsor & McCauley, 2004)" (Day, 2012, p. 109), where, again, the organizations are U.S colleges and

universities. This joint work includes fostering students' intercultural competence development.

Future Research

Both the integrated model and measure of intercultural competence presented in this study require further research and refinement. The model does not describe how individuals progress/regress through the four stages of development—perhaps integrating aspects of Deardorff's (2004) process model of intercultural competence or the transitional phases in the refined model of intercultural maturity into the IDMIC, or considering the CQ developmental process described in practical literature on the construct are starting points. Livermore (2015) suggests CQ development occurs in the following sequence (the corresponding dimensions discussed in Chapter Two are in parentheses): CQ Drive (motivational CQ), CQ Knowledge (cognitive CQ), CQ Strategy (metacognitive CQ), CQ Action (behavioral CQ; p. 27). Additionally, only two DEI experts reviewed the model and measure before its administration. A more intensive peer review may assist with model refinement and provide greater evidence to support the content validity of the IDMIC Index. Undergraduate and graduate students should also review the measure to ensure the scenarios realistically reflect possible student experiences.

For the purposes of the factor analyses, items focusing on language use, national and geographic origin, and first-generation status were removed; however, the IDMIC Index should be administered at other colleges and universities using the original 13-item instrument. Additionally, a total score should not be summed. In the description of the integrated model in Chapter Three, it was suggested individuals may demonstrate

different stages of development based on the dimension of social identity; as such, a total score may not be useful (and perhaps misleading). A review of the individual responses for all participants in this study provides evidence to support the idea that individuals may demonstrate different developmental stages based on the dimension of social identity and support for not providing a total IDMIC Index score, as only three participants' individual responses were all in the same stage. Rather than a total score, descriptive statistics for each item should be reported (e.g., mean, mode, frequency tables). Additional data collection may also help to clarify if the five-factor model is accurate (this researcher is careful to not assume relationships between dimensions of social identity that, at face value, may appear to be related).

In this study, there was a negative relationship between the IDMIC Index and M-GUDS-S Comfort with Differences subscale, possibly suggesting individuals may not develop comfort with diversity as their levels of intercultural competence increase. Including the M-GUDS-S with future administrations of the IDMIC Index may provide more details on whether this is indeed true or simply unique to this study. Future research should investigate what types of curricular and co-curricular activities influence intercultural competence. Such activities could include intra/intergroup dialogues, courses focusing on diversity broadly or a dimension of social identity (or the intersection of dimensions of social identity), program series, leader/leadership development programs, experiential learning programs, etc. Mixed methods studies, employing qualitative methods such as focus groups and individual interviews, would be worth considering to explore how individuals progress/regress through the four stages of development, to understand responses (i.e., why a participant selected a particular

response option), to further examine the relationship between intercultural competence and comfort with diversity, and the types of activities that influence intercultural competence. Finally, developing multimedia versions of the scenarios should be explored for use in activities designed to foster intercultural competence (Delpechitre & Baker, 2017) and efforts to measure intercultural competence (Ang et al., 2015). "The primary appeal of using multimedia over text-based vignettes lies in their greater fidelity (i.e., correspondence to real situations) due to richer portrayals of detailed cultural information (e.g., nonverbal gestures)" (Ang et al., 2015, p. 435).

Conclusion

Considering this research from inception to the discussion of results and future research, this study offers several possible contributions to the field of postsecondary education, especially in the area of DEI. A definition of diversity was developed, integrating seminal literature on social identity, concepts from the American Association of Colleges and Universities, and Worthington's (2012) model of diversity in postsecondary education. An enhanced definition of intercultural competence was presented, drawing from definitions presented by Spitzberg and Changnon (2009) and Deardorff (2011) and connecting these ideas to diversity.

Spitzberg and Changnon (2009) remarked, "theorists will be in a better position to develop more useful and conceptually integrated models (and measures) to the extent the underlying theoretical structures, dimensions, and processes examined in these models are identified and synthesized" (p. 45). Focusing on synthesizing developmental models of intercultural competence and related constructs, the IDMIC was conceptualized. Conscious of the lack of cohesion among constructs, models, and measures of

intercultural competence (i.e., models without corresponding measures, measures based on constructs with no models to describe the developmental process), the IDMIC Index was developed and administered to undergraduate and graduate students attending a mid-Atlantic university.

It was hypothesized the IDMIC Index 1) had a unidimensional structure; 2) was a reliable measure of intercultural competence; and 3) was a valid measure of intercultural competence. Results of data analyses did not provide evidence to support the hypothesized unidimensional structure; however, data analyses did provide evidence to support measurement reliability and measurement validity. Finally, this research report discussed the implications for leadership and opportunities for future research on both the integrated model and measure.

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Dimension of Development	Stages of Development			
	Dualistic Awareness	**Exploration**	**Acceptance**	**Integration**
Cognitive	Social groups and related cultures are viewed dichotomously. Diversity is perceived as bad/wrong; similarities are perceived as good/right.	Individuals acknowledge diversity; however, these differences may be minimized.	Claims about diversity require evidence to be accepted; individuals are able to acknowledge their similarities and differences with others and across social groups	Deepening of acceptance stage.
Intrapersonal/ Affective	Individuals define themselves by the salient dimension(s) of their social identity; fail to see the intersection of social identity dimensions; feel threatened by diversity.	Individuals experience stress, excitement, tension, and/or anxiety as they explore their social identity and diversity; self-esteem may decrease.	Individuals develop comfort with diversity; self-esteem increases.	Individuals understand their social identity; self-esteem continues to increase.
Behavioral/ Interpersonal	Individuals choose not to interact with diversity or experience negative interactions.	Intentional and active exploration of diversity and one's own social identity.	Continued exploration; beginning of advocacy/allyship; begin to demonstrate effective and appropriate communication and behavior in intercultural situations.	Individuals demonstrate effective and appropriate communication and behavior in intercultural situations with more consistency.

Ethnocentrism ⟶ Ethnorelativism

Figure 1. Integrated Developmental Model of Intercultural Competence. This figure provides a synopsis of the proposed Integrated Developmental Model of Intercultural Competence.

Table 1

Similarities Among the Developmental Model of Intercultural Sensitivity (DMIS), Universal-Diverse Orientation (UDO), Cultural Intelligence (CQ), Intercultural Maturity, Global Perspective, Individual Diversity Development (IDD), and the Integrated Developmental Model of Intercultural Competence (IDMIC)

	Dimension of Development		
Model/Construct	Understanding	Feeling	Interactions
DMIS	Cognitive	Affective	Behavioral
UDO	Cognitive	Affective	Behavioral
CQ	Meta/cognitive	Motivational	Behavioral
Intercultural Maturity	Cognitive	Intrapersonal	Interpersonal
Global Perspective	Cognitive	Intrapersonal	Interpersonal
IDD	Cognitive	Affective	Behavioral
IDMIC	Cognitive	Intrapersonal/Affective	Behavioral/Interpersonal

Appendix

Demographic Characteristics of Participants

Table 1

Primary Status of Participants

Status	N	%
Undergraduate student	93	88.6
Graduate student	12	11.4

Table 2

Class Year of Undergraduate Student Participants

Class Year	N	%
Freshman	20	21.5
Sophomore	12	12.9
Junior	25	26.9
Senior	36	38.7

Table 3

Program Year of Graduate Student Participants

Program Year	N	%
1st year	4	33.3
2nd year	3	25.0
3rd year or higher	5	41.7

Table 4

Racial/Ethnic Identity of Participants

Race/Ethnicity	N	%
American Indian or Alaska Native	-	-
Asian	5	4.8
Black or African American	11	10.5
Hispanic of Latino/a/x	11	10.5
Native Hawaiian or Other Pacific Islander	-	-
White	73	69.5
Other	4	3.8
I prefer not to answer	1	1.0

Table 5

Gender Identity of Participants

Gender Identity	N	%
Gender non-conforming	1	1.0
Genderqueer	1	1.0
Man	27	25.7
Woman	74	70.5
Transgender man	-	-
Transgender woman	1	1.0
Other	-	-
I prefer not to answer	1	1.0

Table 6

Sexual Orientation of Participants

Sexual Orientation	N	%
Asexual	4	3.8
Bisexual	9	8.6
Gay	3	2.9
Heterosexual	80	76.2
Lesbian	3	2.9
Questioning	-	-
Other	3	2.9
I prefer not to answer	3	2.9

Table 7

Age of Participants

Age	N	%
Under 18	-	-
18-19	29	27.6
20-21	37	35.2
22-24	25	23.8
25-29	5	4.8
30+	9	8.6

Table 8

Military/Veteran Status of Participants

Military/Veteran Status	N	%
Current or former member of the U.S. Armed Forces	3	2.9
Never a member of the U.S. Armed Forces	102	97.1