Cross-Cultural Competence
Review of Assessment Methodology and Available Assessment Tools

White Paper
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Human Dimension Capabilities Development Task Force
Capabilities Development Integration Directorate
Mission Command Center of Excellence (MC CoE)
Executive Summary

The US Army’s diverse strategic interests around the globe require its Soldiers and leaders to be comfortable and effective working in a variety of cultural contexts. Forecasts of the future operating environment indicate that the US Army will continue to engage with partners, threats, and local communities in cultures often considerably dissimilar from our own. As such, Soldiers and leaders will need to be able to effectively interact with and influence people from diverse locations and cultures. In order for the US Army to remain adaptive and effective amid this complex environment, it is necessary to develop appropriate training, education, and recruitment mechanisms to achieve improved cross-cultural competence among a wide range of Soldiers and leaders. These efforts require identifying, developing and implementing meaningful cross-cultural assessment mechanisms for Army Soldiers and leaders.

This white paper is the second in a series of three that the Human Dimension Capabilities Task Force (HDCDTF) is producing that focus on cross-cultural competence. The papers review the existing literature on cross-cultural competence in order to provide a common language and understanding of the key concepts and initiatives that have already been developed in the field, including those in the military. The intent of the series is to broaden the impact and advance the outcomes of cross-cultural competence training, education and development among Army personnel as further emphasis is placed on the Human Dimension and as the Army prepares for the operating environment of the future.

The first paper, published and distributed in April 2015, introduced the concept of cross-cultural competence. It explored a variety of definitions and models of “culture” and “cross-cultural competence” that have been generated in the academic, private sector and military literature. The second paper, presented here, discusses the process of measuring and assessing cross-cultural competence. It reviews a variety of tools that have been developed to measure and assess cross-cultural competence and its constituent elements. The third and final paper, expected to be published and distributed in October 2015, will discuss training and education tools that may contribute towards identifying, improving or accelerating cross-cultural competencies relevant to the US Army and its personnel.

The papers provide recommendations that the Army may consider in order to prepare its Soldiers and leaders for more meaningful and effective cross-cultural encounters. They each draw from established research to come to a broad understanding of the key terms and concepts in the realm of cross-cultural competence that may inform efforts to integrate the complementary tasks of developing cross-cultural competence among Army personnel and the Army’s interest in more effectively optimizing human performance through its efforts in the Human Dimension.
The current paper contributes to that end by reviewing past research to assess and measure cross-cultural competency. It builds on the conclusions of the previous HDCDTF white paper in this series, namely that culture and cross-cultural competence are complex concepts that require a concerted effort by the Army to clearly define. In order to properly assess cross-cultural competence and, in turn, develop meaningful training tools, the Army must first clearly define and conceptualize these notions in terms of specific outcomes that lead to mission success in the operating environment of the future. The study goes on to:

- State the need and purpose of cross-cultural assessments in the Army.

- Detail a number of methodological concerns the Army should consider as it continues to develop its own measurement tools. These concerns include:
  - The complexity of developing a culture-general assessment for the general force,
  - Identifying relevant components of cross-cultural competence (knowledge, skills, abilities, and attitudes, for instance) and describing corresponding proficiency levels,
  - Establishing the validity of the assessment instrument
  - Determining appropriate test types (formats, techniques, and strategies) that suit the specific purpose(s) of the assessment.

- Review available (“off-the-shelf”) assessment tools that have been developed in the academic and private sectors, as well as those that have been developed specifically for the military.

For each of these concerns, the paper draws from relevant academic, private sector and military literature to describe the challenges and highlight the opportunities for the Army. There is much to learn from the considerable work that has already been done in this field. The study builds upon the first paper in this series to establish a foundation of understanding about measuring and assessing cross-cultural competence that will inform efforts by the Army’s Human Dimension initiative to optimize human performance and prepare the general force for the future operating environment.
Introduction

Cross-cultural competence is essential to the US Army’s success in the current and future operating environment. It is a critical component in the Army’s efforts to adapt to emerging dynamics that shape the global security landscape. Population growth and climate change contribute to increasingly volatile competition for natural resources, while technological advances in communication and transportation reveal and exacerbate ideological and economic cleavages between communities, cultures and states.\(^1\) These forecasts, along with the lessons that the conflicts since 9/11 have provided, demand that Army personnel interact regularly and effectively with people from a variety of cultures dissimilar from their own in order to be successful.

Operational cross-cultural competence among a broad cohort of Army personnel requires effective and appropriate recruitment, assessment, training, education, and leader development. These needs have significant overlap with the Army’s renewed emphasis on the Human Dimension. Broadly, the Army’s interest in the Human Dimension is to more effectively tap into and develop the active and latent capabilities of its personnel. As part of this effort, the Human Dimension Capabilities Development Task Force (HDCDTF) is producing a series of white papers that focus on cross-cultural competence. These papers review the existing literature on cross-cultural competence in order to provide a common language and understanding of the key concepts that have already been developed through research. The intent is to broaden the impact and advance the outcomes of cross-cultural competence training, education and development among Army personnel as it prepares for the operating environment of the future.

The current study is the second of three papers in this series. The first paper, published and distributed in April 2015, introduced the concept of cross-cultural competence. It also reviewed a variety of definitions of “culture” and “cross-cultural competence” that have been developed in the academic, private sector and military literature. The second paper, presented here, discusses the process of measuring and assessing cross-cultural competence. It reviews a variety of tools that have been developed to measure and assess cross-cultural competence and its constituent elements. The third and final paper, expected to be published and distributed in October 2015, will discuss training and education tools that may contribute towards identifying, improving or accelerating


cross-cultural competencies relevant to the US Army and its personnel. The papers will provide recommendations that the Army may consider in order to prepare its Soldiers and leaders for more meaningful and effective cross-cultural encounters. The papers draw from established research to come to a broad understanding of the key terms and concepts of cross-cultural competence that may inform efforts to integrate the complementary tasks of developing cross-cultural competence among Army personnel and the Army’s interest in more effectively optimizing human performance through its efforts in the Human Dimension. The current paper contributes to that end by reviewing past research to assess and measure cross-cultural competency. Through this research, the HDCDTF will identify lessons from previous experiences that the Army may consider adapting or drawing from as it seeks to more effectively capitalize on the cross-cultural capabilities of its personnel.

The research presented here addresses a number of specific learning demands initially identified in Army Warfighting Challenge #9 and later developed by the Force 2025 HDCDTF. These learning demands provide the framework and much of the impetus for integrating fresh emphasis in the Human Dimension with a renewed interested in cross-cultural considerations throughout the Army.

Need and Purpose for Assessments

A number of emerging circumstances highlight the need in the Army for the meaningful assessment of cross-cultural competence. As noted above, first and foremost is the Army’s increased interest in developing cross-cultural competence among a broad cohort of its personnel in order to prepare for the operating environment of the future. In this regard, the Department of Defense continues to develop and implement a variety of initiatives designed to enhance cross-cultural competence. As one Army research study point out, this includes Field Support Guides and Language Survival Kits, specialized language training, Army Force Generation (ARFOGEN) pre-deployment regional training; Cadet Study Abroad, and the PMESII analytic tool. Notably, a variety of Department of Defense entities have developed, or attempted to develop, conceptualizations of cross-cultural competence, including the National Security Language Initiative, the Department of Defense Strategic Plan for Language, Regional,

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and Cultural Capabilities\textsuperscript{6}, and the Department of Defense Language Transformation Roadmap.\textsuperscript{7,8}

While the Army’s interest in cross-cultural competence is long established, its recent manifestation is very much aligned with the Army’s interest in the Human Dimension. Each of these efforts is part of the Army’s re-orientation away from relying primarily on materiel solutions and towards more efficiently and effectively optimizing its human capacity in preparation for a changed operating environment. This approach involves capitalizing on the Army’s talent, including preparing Soldiers and leaders to interact with and among diverse and dispersed communities and individuals in a variety of scenarios. Such scenarios certainly include traditional kinetic operations, but also stability operations such as establishing civil security or civil control, restoring essential services, or supporting governance and economic infrastructure development.\textsuperscript{9} A feature of the future operating environment also includes a more austere fiscal expenditure for the US government in general, and the Department of Defense in particular. The health of the US economy, while recovering, has nevertheless declined from what it was prior to the global financial crisis of 2008 and likewise has the American public’s appetite for defense spending.

Assessing training and performance is critical for any task in the Army, particularly new objectives that have not yet been fully developed. The Army has codified this with the ADDIE (Analysis, Design, Development, Implementation, and Evaluation) process, which states that any Army learning product must be properly assessed and evaluated.\textsuperscript{10} Such is the case with cross-cultural competence. As the Army continues to develop and implement cultural training initiatives to meet changing needs in the battlefield, there remains little effort to properly assess many of these programs and initiatives. This is largely due to a lack of sound methods designed, proven and available to do so.\textsuperscript{11} As such, the effectiveness and impact of these initiatives remains uncertain.

Meaningful assessments of cross-cultural competence can help address this gap in a number of ways. By assessing Soldier cross-cultural competence the Army can evaluate whether the resources they are investing are providing a commensurate return. Evaluations of cross-cultural competence levels provide information needed to make decisions about where to direct future investments into training, research, and

\textsuperscript{6} Department of Defense, \textit{Strategic Plan for Language Skills, Regional Expertise, and Cultural Capabilities}, 2010.
\textsuperscript{8} Some of these were discussed in more detail in the previous HDCDTF paper.
\textsuperscript{10} Department of the Army, TRADOC Regulation 350-70, Army Learning Policy and Systems, 2011, 61-62.
education efforts and/or whether it is necessary to request additional resources. More directly, assessments serve as a necessary step toward supporting cross-cultural operational readiness for Army missions. Thus, assessments of cross-cultural competence inform training and guide investment decisions. With the information generated by cross-cultural competence assessments, the Army can develop its work appropriately within a consistent and verified framework. The Army’s recent cultural pivot is both refreshing and necessary; however, its effects will not be known nor the Army’s investments defensible unless appropriate assessment methods are developed and implemented.

With this broad explanation of the importance of cross-cultural competence to the Army in mind, there are a number of specific purposes the assessment of cross-cultural competence can serve in the military context. These are highlighted in Figure 1.

<table>
<thead>
<tr>
<th>Function</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Selection or placement for special assignments</td>
<td>• Higher scorers on such assessment might be given greater consideration for assignments requiring high levels of cross-cultural competence or in cases where an individual might serve as a point person within units where needs for such skills are particularly critical.</td>
</tr>
<tr>
<td>Diagnosis of training needs</td>
<td>• Individuals who are assessed as low in cross-cultural competence might be directed toward specific training that would not be necessary for those already achieving a baseline of cross-cultural competence.</td>
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<tr>
<td></td>
<td>• In a team setting, such an assessment may include an examination of communication and coordination among team members, the network for using individual-level skills and the unit climate for developing and using cross-cultural competence.</td>
</tr>
<tr>
<td>Individual feedback for further development</td>
<td>• To be used to increase an individuals’ awareness of their own levels of cross-cultural competence, increasing readiness for learning intervention that address their weaknesses and facilitate the application of their strengths.</td>
</tr>
<tr>
<td>Evaluation of training and other interventions</td>
<td>• To be administered before and after training to assess changes in cross-cultural competence of those participating in training.</td>
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<tr>
<td></td>
<td>• Provides a check point for ensuring that all individuals are proficient in certain elements of cross-cultural competence, or met a threshold of cross-cultural competence.</td>
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</table>

12 Ibid., 2.
Readiness assessments

- Would indicate whether the Soldier is able to accurately read the cultural environment and respond in an appropriate manner, or whether the unit is sufficiently prepared to consider and incorporate cultural factors in its planning and operations.21

Identify constructs necessary for intercultural adaptation and adjustment

- Helps to create models of cross-cultural competence that can improve understanding of cross-cultural competence.22
- Helps scholars and practitioners build and refine theory about cross-cultural competence and way to develop/improve it.23

Identify goals of intervention

- In addition to helping to evaluate training (as noted above), assessments can also help identify the specific goals of a training or intervention, allowing practitioners to design (or improve) effective training programs and more accurately assess efficacy.24

Identify those with high intercultural potential

- Certainly in order to prepare the Army to operate in foreign cultures and other multicultural contexts, but also to gather lessons from those that excel in such situations in order to inform training and recruitment programs to target such individuals.25

Figure 1. Functions of cross-cultural competence assessment for the Army.26

As evidenced by a variety of publications and programs over the last decade, the Army recognizes the importance of cross-cultural competence for mission effectiveness in the current and future operating environment.27,28,29,30 As a result, it has accordingly intensified its relevant efforts in order to raise the level of cross-cultural competence of the force. The use of assessments to evaluate the effectiveness of these efforts is a necessary step in the process. Furthermore, these efforts can be complementary to the current priorities of the Human Dimension initiative. Indeed, efforts in the Human Dimension and cross-cultural competence have much to learn from one another.

The brief narrative above explains important elements concerning the “why” of cross-cultural assessment in the Army. The complexities of implementing a sound and strategic cross-cultural competence policy across the force and with robust assessment

19 Ibid.
25 Abbe et al., “Measuring Cross-Cultural Competence in Soldiers and Cadets,” 1
30 Department of the Army, AR 350-1, Army Training and Leader Development, August 2014, 140-141.
mechanisms becomes apparent in the following sections, as we explore the “how” of assessing cross-cultural competence.

Methodological Concerns

Complexity

Cross-cultural competence is a highly complex phenomenon. Throughout the literature, scholars and practitioners emphasize that cross-cultural competence is a process and not an end-state. Cross-cultural competence has been referred to as an “enduring challenge” for the Army going forward, and not simply as a task to be achieved or a skill to be acquired. Deardorff’s *Process Model of Intercultural Competence* (Figure 2), though it focuses on cross-cultural competence in the education field, provides a helpful illustration of the developmental and cyclical nature of cross-cultural competence. This kind of conceptualization, while useful as an abstract tool, can be challenging for practitioners and institutions to operationalize. Social and behavioral scientists, as well as military trainers, educators and leaders, are accustomed to evaluating knowledge and skill (as anyone in any branch of the military who has been submitted to a survey or assessment can likely attest to), but not attitudes and awareness. As Selmeski points out in his excellent review of cross-cultural competence in the military, while culture (and, by extension cross-cultural competence) consists in part of measurable traits, factors, dimensions, elements, it also, by its very nature, includes deeper and more indistinct beliefs and emotions. This multi-layered conceptualization of culture is perhaps most clearly illustrated in the “Iceberg Model” of culture, presented in Figure 3, with the measurable components consisting of the top layer, while the middle- and deep-level structures make up the vast majority of the concept. As the theoretical constructs of culture and cross-cultural competence presented in Figure 2 and Figure 3 suggest, the nuanced and often subjective nature of culture and cross-cultural competence does not lend itself well to easy and meaningful assessment.

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Figure 2. Process Model of Intercultural Competence.\textsuperscript{40}

Figure 3. Iceberg model of culture.\textsuperscript{41}

\textsuperscript{40} Darla K. Deardorff, “ Identification and Assessment of Intercultural Competence as a Student Outcome of Internationalization,” \textit{Journal of Studies in International Education} 10, No. 3 (Fall 2006): 256.
Definition

While it is not necessary to repeat here in depth what the HDCDTF covered in the previous white paper on cross-cultural competence, it is important to re-emphasize the conclusions that paper came to: namely, the lack of consensus regarding a definition of “culture” and “cross-cultural competence” and how critical it is for the Army to define its understanding of these concepts in order to meaningfully move forward with developing cross-cultural competence among its Soldiers and leaders.\(^{42,43,44,45}\) In short, in order to develop or implement an effective assessment mechanism it is essential to first know exactly what is to be assessed.\(^{46,47}\) In this case, it is absolutely critical that the Army in conjunction with the other Branches arrive at a definition of culture and cross-cultural competence and identify the relevant knowledge, skills, abilities and attitudes (KSAAs) that are necessary to develop it before proceeding with any meaningful assessment tools.

Constituent Elements

Despite the lack of an agreed upon definition of “culture” or “cross-cultural competence” in doctrine, manuals and publications, the Army has, in a variety of venues, identified sets of cultural capabilities and skill descriptors that it believes are necessary in order to better equip its Soldiers and leaders to operate effectively among foreign cultures in the operating environment of the future.\(^{48,49}\) For instance, the Army’s Culture and Foreign Language Strategy (ACFLS), published in 2009, submitted a list of descriptions for a variety of “Major Subject Areas”, including “culture skills”, “culture fundamentals”, and “culture self-awareness”, that are necessary for the Army in

\(^{41}\) Adapted from Jan M. Ulijn and Kirk St. Amant, “Mutual Intercultural Perception: How Does It Affect Technical Communication? Some Data from China, the Netherlands, Germany, France, and Italy,” \textit{Technical Communication} (Second Quarter 2000), 221.


\(^{44}\) Deardorff, “Identification and Assessment of Intercultural Competence as a Student Outcome of Internationalization,” 241.


\(^{46}\) Perry and Southwell, “Developing Intercultural Understanding and Skills,” 476.


\(^{48}\) Abbe \textit{et al.}, “Measuring Cross-Cultural Competence in Soldiers and Cadets,” 1

\(^{49}\) Department of the Army, \textit{Army Culture and Foreign Language Strategy}, 2009, 29-32.

\(^{50}\) Defined as “the cognitive and behavioral abilities needed to work effectively in cross-cultural settings.”

\(^{51}\) Defined as “the knowledge of the major factors that describe any culture (values, beliefs, behavior, norms, and other factors) and other aspects that describe a culture.”

\(^{52}\) Defined as “the knowledge and attributes regarding the diverse American cultures, including US military and interagency culture, and the potential biases that may exist.”
order to develop cross-cultural competence. Figure 4 highlights these descriptions and competencies.

<table>
<thead>
<tr>
<th>Description</th>
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<tbody>
<tr>
<td><strong>Culture fundamentals</strong></td>
</tr>
<tr>
<td>• The US Army’s definition of culture; different definitions of culture</td>
</tr>
<tr>
<td>• Major factors that form the basis of a culture</td>
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<tr>
<td>• Other relevant aspects or characteristics of culture</td>
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<tr>
<td>• How cultures differ</td>
</tr>
<tr>
<td>• How cultures are learned, conditioned or passed</td>
</tr>
<tr>
<td>• Characteristics that enable learning and adaptation to unfamiliar cultures</td>
</tr>
<tr>
<td><strong>Culture self-awareness</strong></td>
</tr>
<tr>
<td>• Different cultures in America</td>
</tr>
<tr>
<td>• Army culture</td>
</tr>
<tr>
<td>• US military and other Service cultures</td>
</tr>
<tr>
<td>• US non-governmental organization cultures</td>
</tr>
<tr>
<td>• Other cultures’ perception of US culture</td>
</tr>
<tr>
<td>• Individual cultural identity</td>
</tr>
<tr>
<td>• Bias and cognitive dissonance</td>
</tr>
<tr>
<td>• Individual attributes that affect interaction with unfamiliar culture</td>
</tr>
<tr>
<td><strong>Culture skills</strong></td>
</tr>
<tr>
<td>• Building rapport with people from a different culture</td>
</tr>
<tr>
<td>• Controlling one’s own nonverbal communication when interacting with people</td>
</tr>
<tr>
<td>• Consider others perspectives when interacting with people from another culture</td>
</tr>
<tr>
<td>• Suspending judgment when interacting with people from another culture</td>
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</table>

Figure 4. ACFLS description of capabilities necessary for cross-cultural competence in the Army.

The “Major Subject Areas” that the ACFLS identifies also includes descriptions of “regional competence,” “communication skills,” “impact of culture on military operations,” and “influence.” Importantly, these descriptions include distinctions between the skills that are necessary for officers (including warrant officers) and those that are necessary for enlisted soldiers/NCOs. Furthermore, the ACFLS provides a timeline that detail the objectives for each of the subject areas by stage in the Soldier or leader’s career. The AFLCS also describes three general proficiency levels that Army leader and Soldiers will need to develop in cross-cultural competency over time. These identify levels of performance that culture (and language) training are intended to

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55 Defined as “a set of knowledge, skills, and attributes related to a particular country, region, organization, or social group, which enables effective interaction with and/or adaptation to that specific culture.” This is what would be considered a culture-specific competency.
56 Defined as “an ability to effectively listen, speak, write, and read in one’s own language; an ability to recognize and react to verbal and non-verbal cues in other cultures; an appreciation and sensitivity for diverse methods of communication in other cultures.”
57 Defined as “the ability to apply knowledge, skills, and attributes regarding culture to the planning and execution of military tasks in support of accomplishing the unit’s mission.”
58 Defined as “the ability to shape others’ attitudes and behavior through both direct and indirect approaches to include cultural boundaries. It also includes negotiation and mediation.”
achieve over the course of a leader’s and Soldier’s career. These are listed in Figure 5 below.

<table>
<thead>
<tr>
<th>Level</th>
<th>Description/Capabilities</th>
</tr>
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</table>
| Cultural expertise      | • “Advanced” level of cross-cultural competence  
• Sophisticated level of regional competence pertaining to a specific geographic area  
• Leaders and Soldiers able to integrate and synthesize terms, factors, concepts, and regional information into plans, operations, programs, and advice to commanders with a more sophisticated ability to anticipate implications of culture  
• In most cases, they will have some degree of proficiency in a language or a few relevant languages  
• Able to advise commanders of the region on military operations |
| Cultural understanding  | • “Well-developed” cross-cultural competence  
• Comprehensive level of regional competence that allows them to accomplish the mission in a specific geographic region  
• Able to anticipate the implications of culture and apply relevant terms, factors, concepts, and regional information to their tasks and mission  
• Familiar with a specific region  
• Able to identify economic, religious, legal, governmental, political, and infrastructural features of a specific region  
• Aware of regional sensitivities regarding race, ethnicity, local observances, and local perception of the US and its allies |
| Cultural awareness      | • “Foundational” cross-cultural competence  
• Minimal regional competence  
• Able to describe key culture terms, factors and concepts  
• Begin to understand the implications of these considerations and how they might affect planning and conduct of operations  
• Sets the conditions to learn about foreign cultures and people  
• Developed an appropriate mind-set and a basic culture capability |

Figure 5. Culture proficiency levels, according to the ACFLS.  

In 2010, scholars at the US Army Research Institute for the Behavioral and Social Sciences (ARI) generated two studies that helped create a developmental model of cross-cultural competence for the Army. The first study drew from previous research (in the military and elsewhere) to detail four stages of cross-cultural competence development and the KSAAs that are necessary to reach each stage. The developmental stages of cross-cultural competence developed in this model are described in Figure 6. Through their literature review and interviews with Soldiers, the authors of the study identified 29 core KSAAs that are critical to developing cross-cultural competence. Each of these are presented in Figure 7, categorized by how they nest under one of the three dimensions of cross-cultural competence. Through a variety of methods, including a literature review and critical incident interviews with Soldiers, the second study in the ARI series distilled these 29 KSAAs down to 17 (due to overlap and redundancy) and then placed them into one of five general components (also called “factors”) of cross-

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cultural competence. The factors, their descriptions and the KSAAs they subsumed are detailed in Figure 8.

<table>
<thead>
<tr>
<th>Level</th>
<th>Description</th>
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<tbody>
<tr>
<td>Pre-Competent</td>
<td>Pre-Competent Soldiers lack Cultural Knowledge and rely on simplistic, inaccurate stereotypes. They are not open to new cultures, and they have strong in-group bias. They do not seek out interactions with members of other cultures. When interactions are necessary, they may be directive and openly negative. Pre-Competent Soldiers may not benefit from training until their barriers to Cultural Maturity, Cultural Knowledge, and Cognitive Flexibility are overcome.</td>
</tr>
<tr>
<td>Beginner</td>
<td>Beginner Soldier show variability in empathy level toward foreign nationals; ranging from lack of sensitivity to some compassion. These Soldiers are dedicated and are willing to engage, but they display lack of confidence about their abilities. Their understanding of cultures is superficial. Their ability to take the perspective of others is limited to imagining how they would feel in a specific situation without regard to cultural differences.</td>
</tr>
<tr>
<td>Intermediate</td>
<td>A Soldier at the Intermediate level is effective at relationship-building and persuasion due to displaying interpersonal abilities, empathy, and cultural awareness. However, these skills are not optimized due to limited openness and perspective taking ability. An Intermediate leader takes responsibility for the cultural interactions of his/her Soldiers and provides effective guidance on how to avoid cross-cultural incidents.</td>
</tr>
<tr>
<td>Advanced</td>
<td>Advanced Soldiers possess the highest level of cross-cultural competence. These Soldiers integrate true awareness of cultural differences into all aspects of the mission. They display appropriate affect, which supports perspective taking, negotiation, persuasion, and manipulation abilities. They develop genuine relationships with locals. Their pre-deployment preparation efforts include study of relevant cultural aspects of the region, as well as assignments of subordinates' abilities.</td>
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Figure 6. Four levels of cross-cultural competence development, as developed for the Army.

<table>
<thead>
<tr>
<th>Cognitive</th>
<th>Affective/Attitudinal</th>
<th>Behavioral</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Perspective Taking</td>
<td>• Willingness to engage</td>
<td>• Self-presentation</td>
</tr>
<tr>
<td>• Anticipate/Predict</td>
<td>• Cultural openness</td>
<td>• Relationship-building</td>
</tr>
<tr>
<td>• Diagnose nature of resistance</td>
<td>• Withhold on closure</td>
<td>• Rapport building</td>
</tr>
<tr>
<td>• Self-awareness/Self-monitoring</td>
<td>• Self/Emotional regulation</td>
<td>• Manipulate/persuade</td>
</tr>
<tr>
<td>• “Big picture” mentality</td>
<td>• Dedication</td>
<td>• Flexibility</td>
</tr>
<tr>
<td>• Interpretation</td>
<td>• Open-mindedness</td>
<td>• Communication skills</td>
</tr>
<tr>
<td>• Observation</td>
<td>• Patience</td>
<td>• Leveraging own personality attributes</td>
</tr>
<tr>
<td>• Frame shifting</td>
<td>• Emotional empathy</td>
<td></td>
</tr>
<tr>
<td>• Awareness of cultural differences</td>
<td>• Emotional endurance</td>
<td></td>
</tr>
<tr>
<td>• Planning</td>
<td>• Tolerance for ambiguity</td>
<td></td>
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<tr>
<td></td>
<td>• Resilience</td>
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<td></td>
<td>• Self-efficacy</td>
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</tbody>
</table>

Figure 7. Original 9 KSAAs identified from the literature and interview data during phase 1.

61 Ibid., 27.
62 Ibid., 32.
63 Ibid. 37.
### Cultural Maturity

The ability to remain confident, calm and dedicated in cross-cultural settings, and to further seek interactions to promote mission success

- Emotional self-regulation
- Self-efficacy
- Dedication
- Willingness to engage
- Emotional empathy

### Cognitive Flexibility

The ability to withhold judgment in the face of limited information, remain open to alternative explanations and easily adjust perceptions based on new information

- Flexibility
- Uncertainty avoidance
- Openness

### Cultural Knowledge

The knowledge that cultural differences are deeper than customs, with an awareness of how they influence one’s own behaviors and perceptions and those of others

- Awareness

### Cultural Acuity

The ability to form accurate cross-cultural understandings and assessments of: situational dynamics, the perspectives of others, and the impact of cultural actions on the broader mission

- Perspective taking
- Sense-making
- Big picture mentality

### Interpersonal Skills

The ability to consistently present oneself in a manner that promotes positive short- and long-term relationships in order to achieve mission objectives

- Self-monitoring
- Rapport building
- Relationship building
- Manipulation/Persuasion

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Other scholars in the military have produced similar lists of relevant components and characteristics of cross-cultural competence. For instance, Ross and Thornson, writing for the Defense Equal Opportunity Management Institute (DEOMI), identified thirteen dimensions of cross-cultural competence from the literature in their attempt to better define the concept. Furthemore, Caligiuri et al., writing for ARI, identified 18 skills, abilities, characteristic and traits that they believe contribute to cross-cultural competence. Langkamer-Ratwatni and colleagues, also writing for ARI, developed a framework of cross-cultural competencies and contextual attribute that developed outlines for 15 general competencies needed for effective cross-cultural performance.

In addition to the lists provided in the military references above, the academic and business communities have generated a host of models that identify and describe a variety of traits, factors, characteristics, skills, and so forth, that, to varying degrees, predict or contribute to developing cross-cultural competence (or, in many cases, some sub-component of cross-cultural competence). In many regards, these models provide useful insight to the Army as it continues to develop its own models of cross-cultural competence.

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competence; however, the Army and its scholars should be cautious to not directly apply these “off-the-shelf” models to address the Army’s own very specific and complex requirements. There may be considerable overlap regarding the outcomes of cross-cultural competence for business and the Army, but as Figure 9 illustrates, there remain important differences between the needs and natures of the two kinds of institutions.

<table>
<thead>
<tr>
<th>Similarities</th>
<th>Differences</th>
</tr>
</thead>
<tbody>
<tr>
<td>Often operate in unfamiliar cultural contexts</td>
<td>Military often faces more/greater cultural differences</td>
</tr>
<tr>
<td>Augment their workforce with local hires</td>
<td>Military takes the bulk of their workforce with them</td>
</tr>
<tr>
<td>Can improve efficiency and efficacy through training and education</td>
<td>IB prepares executive, military (like health) must involve all members</td>
</tr>
<tr>
<td>Prefer quick and easy answers (e.g. checklists)</td>
<td>Consequences: military (life/death) &gt; IB (profit/loss)</td>
</tr>
<tr>
<td>Members are frequently unaware of their own cultural biases/projection</td>
<td>Military operations entail greater power differential with the local population</td>
</tr>
<tr>
<td>Professionals must work collectively, across cultural difference, to accomplish the objective</td>
<td>Military professionals understand and accept the principle of unlimited liability</td>
</tr>
</tbody>
</table>

Figure 9. Similarities and differences between international business and the military.69

The differences in Figure 9 highlight the need for the Army to develop models and tests of cross-cultural competence that address the concerns and mission requirements that are particular to it. As evident from the discussion above, the Army has no shortage of models of cross-cultural competence or accompanying lists of KSAAs that may contribute to it. What is missing, however, are validated testing mechanisms that can be used to meaningfully assess Soldiers’ and leaders’ cross-cultural competence, including its antecedent elements as well as its developmental ones. One challenge in developing a comprehensive or holistic assessment mechanism of this kind is the size and complexity of the Army. In their study of cross-cultural competence efforts in the Department of Defense, DeVisser and Sands point out that “standardization and alignment of such assessment mechanisms to multiple and diverse organizations with multiple operational goals within the DoD requires a concerted effort...” and considerable resources.70 The complexities noted here, of both the concept of cross-cultural competence as well as of the Army, underscore the need to develop original and robust tests and assessments.

Establishing Validity

An important step in choosing an effective test of cross-cultural competence is establishing its validity. Validity is concerned with the meaningfulness of research. That


is, when researchers measure behaviors or skills (in our case, cross-cultural competence and its sub-components), they are concerned with whether they are measuring what they intend to measure. There are a number of different forms of validity. Some of the more commons variations of validity are highlighted in Figure 10. For the purposes of the current study, however, we will focus on the two that Matsumoto and Hwang (2013) identified as most appropriate and important to tests of cross-cultural competence in their recent review of the field.71 These are 1) construct validity, and 2) ecological validity.

<table>
<thead>
<tr>
<th>Validity Type</th>
<th>Description</th>
</tr>
</thead>
</table>
| External validity | • Concerned with generalizability: to what extent can an effect in research be generalized to populations and settings  
                    • Includes population validity and ecological validity, which are critical in assessing the strength of an experimental design |
| Internal validity | • Indicates the degree to which conclusions of a test are causal (cause and effect) |
| Test validity    | • Indicates how much meaning can be placed upon a set of test results  
                    • Includes criterion validity, concurrent validity, predictive validity, content validity, construct validity, convergent validity, and discriminant validity |
| Face validity    | • An estimate of how effective a test appears |

Figure 10. Examples of types of validity.

**Construct Validity**

Construct validity is the verification that a test measures the construct(s) it was designed to measure. As an example, a test of cross-cultural competence may purport to measure “openness”, a psychological construct often cited in the literature as critical to cross-cultural competence.72 To establish the construct validity of this test would require verification that it accurately measures “openness”.73 Matsumoto and Hwang tell us that there are a number of off-the-shelf methods available to establish construct validity. These include Exploratory Factor Analysis (EFA), Principal Components Analysis (PCA), and Confirmatory Factor Analysis (CFA).74,75 In a variety of ways these methods of verification can:

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71 Matsumoto and Hwang, “Assessing Cross-Cultural Competence.”


73 The idea of such a test is that an organization could measure openness as a psychological construct among a pool of candidates it is considering for a position, perhaps with a cross-cultural dimension, that requires such a capability. By measuring openness among these candidates the organization could then use the data it gathers to inform their selection and/or placement process.


75 While the details of such methods are beyond the scope of this paper, they are nevertheless important to identify in order to contribute to the vocabulary and understanding of the fundamental concepts underlying assessing cross-cultural competence.
1) Establish relationships with other psychological constructs associated with those assessed in the cross-cultural competence test (this is also known as structural validity, a form of construct validity),

2) Demonstrate inter-correlations among scales of multi-scale cross-cultural competence (also referred to as convergent validity), and

3) Demonstrate that the cross-cultural test is associated with other psychological constructs that other cross-cultural tests are not (also known as divergent validity).  

<table>
<thead>
<tr>
<th>Validity</th>
<th>Description</th>
<th>Variations, or other names</th>
</tr>
</thead>
</table>
| Construct validity | • Content related  
  • Establishes that a test contains appropriate content  
  • Establishes whether the test relates to underlying theoretical concepts and constructs | • Structural validity  
  • Convergent validity  
  • Divergent validity |
| Ecological validity | • Criterion related  
  • Establishes that a test has meaningful relationships with other measures  
  • Establishes whether the test predicts measures (criterion variables) of desired outcomes (adaptation, adjustment, performance, etc.) of cross-cultural competence | • Incremental ecological validity  
  • Predictive validity  
  • External validity  
  • Criterion validity |

Figure 11. Description of different kinds of test validity. 

Ecological Validity

Ecological validity is established when a test for cross-cultural competence accurately predicts measures of the desired outcomes (of cross-cultural competence). These measures serve as criterion variables. The distinction between predictor (or antecedent) variables and criterion variables was discussed in the previous HDCDTF white paper on cross-cultural competence. Such outcomes, as illustrated under the description “intercultural effectiveness” in Figure 12, may include improved job performance and work adjustment, personal adjustment, or interpersonal relationships in a cross-cultural setting. Like construct validity, ecological validity can be established in a number of ways. One method is to demonstrate correlations between cross-cultural competence and criterion variables. Ecological validity can also be established and assessed by demonstrating changes (or the lack of changes) in pre- and post- test scores that look at the effectiveness of training or relevant experiences (such as a deployment or the Cadet

77 Adapted from Matsumoto and Hwang, “Assessing Cross-Cultural Competence,” 851-852.
79 In short, predictor variables are independent variables that are used to predict the outcome of a model or test; criterion variables are dependent variables (that is, they are the outcome of a model or test).
Study Abroad program). Similarly, it can be established by examining the scores for such a test between groups of individuals who are known to be cross-culturally competent and those that are known not to be.

![Figure 12. A general framework for cross-cultural competence in Army leader, highlighting the distinction between antecedent variables and criterion variable ("intercultural effectiveness").](image)

One helpful way to look at the difference between construct validity and ecological validity is by considering them both essential to developing a meaningful assessment mechanism; they are, in fact, two sides of the same coin. Construct validity ensures that the test is measuring the *appropriate* variables that predict individual cross-cultural competence. In the military context, accurately assessing these variables may especially help the Army identify individuals with antecedent qualities that predispose them to cross-cultural competence (i.e. in the recruitment and placement phase). On the other hand, ecological validity ensures that a test accurately measures *performance effectiveness* regarding the desired outcomes relevant to cross-cultural competence. Such ecologically validated tests would allow the Army to accurately assess training, education and experiential measures that may improve relevant cross-cultural competence.

One potential shortcoming of this approach to assessment and validation is that it focuses too heavily on measurable behavior and action. As acknowledged earlier in the paper, this kind of approach works well for many different tasks within the Army and

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other organizations; however, it becomes problematic when dealing with cross-cultural competence due to its complex and multi-dimensional nature. Much of the literature, including some produced by the Army, agrees that cross-cultural competence generally consists of three dimensions: knowledge, affect/motivation, and skills.\textsuperscript{81,82,83} This greatly complicates assessment efforts. For one, it renders interpretations of “successful performance” or “positive traits” vulnerable to ethnocentric cultural bias.\textsuperscript{84} This highlights a challenge for any cross-cultural competence assessment, commonly acknowledged in the literature: balancing the \textit{etic} view with the \textit{emic} view. The \textit{etic} view is that of the outsider and may assess the effectiveness of the test, or the performance it measures, from the perspective of the test-taker. In this case, this perspective would be that of the Army Soldier or leader either taking or administering the test. On the other hand, the \textit{emic} view is that of the foreign community, and reflects how they perceive the effectiveness of the performance of the Army Soldier or leader in the local context according to their own values and expectations.\textsuperscript{85} Figure 13 is a simple illustration highlighting the relationship between the \textit{etic} and the \textit{emic} in cross-cultural competence.

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{etic_emic.png}
\caption{Model of etic and emic perspectives.}
\end{figure}

Secondly, tests of cross-cultural competence relevant to the Army’s needs require assessment not just of skills and affect, but also of comprehension (i.e. the knowledge component of cross-cultural competence cited above and illustrated in Figure 12). This alludes to the distinction between culture-general competence and culture-specific competence.\textsuperscript{86} Measures of the former are able to address, at least in part, skills and

\begin{itemize}
\item \textsuperscript{81} Department of the Army, \textit{Army Culture and Foreign Language Strategy}, 6.
\item \textsuperscript{83} Langkamer-Ratwani, “Identifying Dynamic Environments for Cross-Cultural Competencies,” 10-11.
\item \textsuperscript{84} Selmeski, “Military Cross-Cultural Competence,” 11-12.
\item \textsuperscript{85} Fantini, “Assessing Intercultural Competence,” 458.
\item \textsuperscript{86} The first HDCDTF white paper provided a more elaborate discussion of the distinction between culture-general competence and culture-specific competence.
\end{itemize}
affect, while measures of the latter are necessary to address knowledge and comprehension. Both are necessary for holistic cross-cultural competence. In this regard, relying solely on construct validity and ecological validity to support tests of cross-cultural assessment are not enough to develop robust and comprehensive cross-cultural competence measures and tools for the US Army. Despite this shortcoming, however, proven forms of test validity, such as ecological validity and construct validity, are essential for the Army as it seeks to develop appropriate and effective mechanisms to support cross-cultural competence.

Test Types

In addition to determining what aspect(s) of cross-cultural competence one is interested in assessing, what purpose that aspect of cross-cultural competence serves (i.e. its desirable outcomes for the Army), and ensuring that the testing mechanism is valid, it is also critical to consider what type of test is most appropriate for the task. The education and training literature showcases a wide range of assessment tests, each with a specific purpose. Figure 14 lists a number of test types and the purposes they serve. Each of these tests may be of use for the Army in a number of capacities as it continues to investigate appropriate methods to assess and develop the cross-cultural competence of its Soldiers and leaders.

<table>
<thead>
<tr>
<th>Test</th>
<th>Purpose / Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Readiness tests</td>
<td>To determine preparedness for a cross-cultural experience</td>
</tr>
<tr>
<td>Placement tests</td>
<td>To ascertain compatibility with specific cultural contexts (NOT culture-general)</td>
</tr>
<tr>
<td>Diagnostic tests</td>
<td>To determine which areas of competency are strong as well as which may require further training or strengthening</td>
</tr>
<tr>
<td>Aptitude tests</td>
<td>To ascertain one’s potential for learning a specific set of skill or knowledge; these tests are commonly used in advance of language training but may apply to cultural areas as well (again, generally NOT culture-general)</td>
</tr>
<tr>
<td>Attitude tests</td>
<td>To investigate one’s disposition toward a specific culture or group of people</td>
</tr>
<tr>
<td>Proficiency, communicative, or competency-based tests</td>
<td>To measure performance within a given aspect of competency</td>
</tr>
<tr>
<td>Criterion-referenced and norm-referenced tests</td>
<td>To examine one’s mastery of a given aspect as compared with a specific set of criteria or a given population or group</td>
</tr>
<tr>
<td>Bilingual or culture-language dominance tests</td>
<td>To determine one’s relative ability with two languages and/or cultures</td>
</tr>
<tr>
<td>Formative tests</td>
<td>To measure one’s developmental progress at given moments over time</td>
</tr>
<tr>
<td>Achievement and standardized tests</td>
<td>To measure one’s attainment with regards to a given set of criteria and/or a given population or group that serves as the norm.</td>
</tr>
</tbody>
</table>

Figure 14. Summary of cross-cultural competence test types.87

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87 Adapted from Fantini, “Assessing Intercultural Competence,” 462-463.
Assessment Formats

For each of these test types there are a variety of formats that are available to use. It is important to choose the format or a combination of formats that best align with the objectives of the assessment. Format options are illustrated in Figure 15, consisting of direct or indirect and discrete or global variations.

![Figure 15. Quadrant of assessment formats.](image)

Direct assessment is administered at a pre-arranged time, and, as its name suggests, directly exams student learning.\(^8^9\) In this case, students are required to demonstrate (to observers, trainers or teachers) knowledge and skills and provide data that directly measure achievement of expected outcomes. Examples of direct assessment include traditional tests and quizzes, capstone projects, pre-test/post-test evaluations, and student/learner presentations.

Indirect assessment formats, in contrast, assess opinions or thoughts about student/learner knowledge, skills, attitudes, learning experiences, and perceptions. Oftentimes, indirect assessments are ongoing, sporadic and not apparent to the learner.\(^9^0\) For instance, an educator might observe learners during a session and evaluate their performance based on previously established criteria. Other examples of indirect assessment methods include self-report surveys, attendance records, focus groups, employer surveys, and interviews.

Discrete assessments focus on very specific aspects of learning, often for very specific circumstances. In contrast, global assessments consider knowledge, skills, abilities and attitudes that require generalizability to other contexts. In general, it is best to use a variety of the formats detailed here in order to generate fruitful information about learners’ progress over time.\(^9^1\)

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\(^8^8\) Adapted from Fantini, “Assessing Intercultural Competence,” 463.

\(^8^9\) Fantini, “Assessing Intercultural Competence,” 463.

\(^9^0\) Ibid.

\(^9^1\) Ibid., 464.
Assessment Techniques and Strategies

With these test types and formats in mind, it is also necessary to use appropriate techniques and strategies when identifying, developing or implementing a cross-cultural assessment. Examples of assessment techniques and strategies include:

- Closed and open-ended questions
- Objective strategies that involve scoring (matching items, true/false questions, multiple choice questions, “cloze” or gap-filing items)
- Oral and written activities (paraphrasing, translation, essay)
- Active and passive activities
- Individual and interactive activities in pairs or groups
- Dialogue, interviews, debate, and discussion
- Demonstrations, poster sessions, role-plays, and simulations
- Structured and unstructured field tasks and experiences
- Questionnaires that require self-evaluation, peer evaluation, group evaluation and/or teach evaluation.92

Despite the wide variety of test types, formats and techniques available to assess cross-cultural competence, several observers, from both the military and academic fields, lament the fact that most existing assessments rely on self-report mechanisms.93,94,95,96,97 In these cases, the measures of student or trainee cultural competence success is determined by the subject’s own estimations. While these kinds of tests have their advantages—for instance, they are generally more cost effective to administer, can reach a wide sample, and are easily quantifiable—they often reflect an individual’s belief about his or her own success or aptitude in cross-cultural contexts rather than a true and accurate assessment of their cross-cultural competence or their actual performance in a cross-cultural setting.98,99 For instance, one study that tested individuals’ humor, grammar and logic found that the test subjects tended to “grossly

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94 Gabrenya et al., “Theoretical and Practical Advances in the Assessment of Cross-Cultural Competence.”
overestimate” their performance.100 In this case, the poorest performers were those who rated themselves most highly despite their shortcomings. This has serious implications for test validity if the same tendencies translate to cross-cultural self-assessments.

One potential method to address this challenge is to use 360-degree assessments (also known as multi-rater or multi-source assessments).101 This type of assessment is familiar to most individuals in the Army. It relies on feedback from a variety of individuals familiar with one’s work and progress, including superiors, peers, subordinates and oneself. In addition to providing a well-rounded assessment of an individual’s development or aptitude in cross-cultural competence and avoiding reliance on self-reports, it may also help reduce potential bias in the test of any subjective interpretation of “successful performance”.102

Portfolios are an additional approach to assessment that the Army may consider investigating to use regarding cross-cultural competence. It is a relatively new approach, but has been gaining interest in the cross-cultural field over the past decade.103,104 Portfolio assessments are a systematic collection of a variety of student work that depicts their activities and achievements. The collection consists of samples of the learner’s work over a period of time and includes space for self-reflection and assessment as well as observations from the teachers or evaluators. It is intended to be a more comprehensive measure of a student’s progress over time than other, more traditional mechanisms. In many ways, they are a good fit for assessing cross-cultural competence. For one, they are more intricate instruments that might better reflect the complexity of the cross-cultural experience.105 Furthermore, portfolios are able to collect rich evidence of learning over time that can help the Army and its instructors tailor training mechanisms to meet the needs of its personnel. With this in mind, however, it is important to note that portfolios are time consuming and difficult to assess.106

Whether Army assessments of cross-cultural competence adapt the 360-degree format, portfolios or otherwise, it is important that future assessments in the Army broaden the measurement spectrum to include multiple methodologies, formats, techniques, and types. As discussed above, cross-cultural competence alone is complex. Trying to

integrate relevant cross-cultural competence training and tools throughout an organization as diverse as the Army is doubly daunting. Due to such complexity, no single assessment format or technique is capable of providing comprehensive measures of cross-cultural competence or for its sub-components. Limiting assessment to only one tool or format will generate correspondingly limited information for the Army. As such, scholars and practitioners in the field are increasingly calling for adequate cross-cultural competence assessments to include multiple approaches to create hybrid or combination assessments tailored for a specific purpose, task or cohort.\textsuperscript{107,108,109,110} This approach will help provide more rich and robust indicators of progress or achievement in cross-cultural competence.

\section*{Assessment Tools}

As cross-cultural encounters have become more common and more critical for nearly every kind of business, organization or institution, scholars and practitioners for diverse disciplines have developed an ever-growing number of cross-cultural competence assessment and measurement tools over the past several decades. These have been created for a variety of purposes in fields as diverse as international business, engineering, education, medicine, psychology, and international communication.\textsuperscript{111} For example, one recent inventory just of the communication field revealed 87 relevant tools.\textsuperscript{112} While the needs of the military are distinct, these measures of cross-cultural competence are useful for a number of reasons. First, the efforts to develop meaningful models of cross-cultural competence and corresponding assessment tools have been ongoing in earnest for at least the past 35 years.\textsuperscript{113} As such, the tools in the academic realm are, for the most part, rooted in substantial peer-reviewed research (including discussions of validity and reliability). For that reason, as the Army continues to develop its own measurements of cross-cultural competence, the existing academic tools can provide a framework on which to build. Secondly, the tools that already exist were often developed in order to assess a specific cohort of people (international business managers, students, or engineers, for instance). As such, the Army may consider using these “off-the-shelf” tools, not for force-wide assessment, but instead for specific cohorts of individuals within the Army that align with the original intent of the test. For

\begin{thebibliography}{99}
\bibitem{108} Fantini, “Assessing Intercultural Competence,” 463.
\bibitem{109} Gabrenya \textit{et al.}, “Theoretical and Practical Advances in the Assessment of Cross-Cultural Competence.”
\bibitem{110} Deardorff, “Identification and Assessment of Intercultural Competence as a Student Outcome of Internationalization,” 241.
\bibitem{111} Kwok Leung, Soon Ang, and Mei Ling Tan, \textquoteleft\textquoteleft Intercultural Competence,\textquoteright\textquoteright\ \textit{The Annual Review of Organizational Psychology and Organizational Behavior} 1 (2014): 490.
\end{thebibliography}
instance, there may considerable overlap between the intent of assessments concerning cross-cultural competence for students and the interests of the Army when sending its Cadets abroad for their student immersion programs. In this case, the Army may be able to utilize (or modify) one of these existing instruments.

The following sections review a number of available measurements of cross-cultural competence. This study reviews instruments that were identified by scholars in the field as 1) particularly valid and reliable, and/or 2) because they were especially appropriate for the needs and interests of the military. It should be noted that all of the instruments reviewed here focus on culture-general competence. We begin by looking at tests developed specifically for the military.

**Military Tools**

Various militaries have developed a number of measures for culture-general competencies over the past forty years. For instance, in the 1970s the United States Navy developed the Navy Overseas Assignment Inventory and the Cross-Cultural Interaction Inventory in an effort to better select and train personnel for overseas assignments. More recently, the Australian and Canadian forces used the Cross-Cultural Adaptability Scale to help select personnel to carry out peacekeeping operations. As Abbe et al point out, however, none of these efforts were institutionalized, scaled, or broadly adopted. Two additional tools developed to assess cross-cultural competence were developed more recently and designed to meet the needs of the Army in the current security environment. These are discussed in more detail below.

**Cross-Cultural Assessment Tool**

The Cross-Cultural Assessment Tool (C-CAT) was developed in 2010 by ARI and a company called 361 Interactive with the support of funding through the Small Business Innovation Research effort. The tool is a standalone battery of questions that is administered on a computer and assesses an individual Soldier’s cross-cultural competence. The questions generate mission-relevant competence ratings, descriptions of individual strengths and weaknesses and how these can impact mission performance,
as well as suggestions for improvement.\textsuperscript{120} The test is based on research conducted by the same team that created a developmental (“stage”) model of cross-cultural competence, describing affective, behavioral and cognitive dimensions of competence. The stages (discussed above on page 14) are identified as 1) pre-competence, 2) beginner 3) intermediate, and 4) advanced. The model identifies a variety of KSAAs that are critical to cross-cultural competence and places each of them in one of five components.\textsuperscript{121} The purpose of the test is to assess culture-general \textit{performance} skills—from general, to task-oriented, to mission-centric—and is based on the specific mission demands of Army Soldiers in cross-cultural environments. Importantly, it combines multiple methodologies, including self-report measures and situational judgment tests and scenarios.\textsuperscript{122} Furthermore, leaders and trainers are able to review assessment data at the individual or unit levels. It can be used longitudinally to assess changes in cross-cultural competence among Soldiers or units over time.\textsuperscript{123} It can be used to help highlight gaps in individual cross-cultural competence. C-CAT is currently being used by the John F. Kennedy Special Warfare Center and School (JFKSWCS) within cultural training curricula and by the Army ROTC to assess the impact of their overseas immersion program.\textsuperscript{124}

\textbf{Cross-Cultural Competence Inventory}

The Cross-Cultural Competence Inventory (3CI) was developed by researchers from the Cognitive Performance Group working with DEOMI. The tool was designed specifically to assess the cultural competence of military personnel.\textsuperscript{125,126} More specifically, it was designed to assist commanders in evaluating the readiness of their troops to interact effectively and appropriately with foreign nationals, multi-national forces, and other individuals, agencies, and organizations.\textsuperscript{127} It consists of a 58-item self-report instrument that measures six dimensions of cross-cultural competence, which the authors argue are critical to cross-cultural competence among military personnel in the cross-cultural contexts of the current operating environment.\textsuperscript{128} These six dimensions are 1) willingness to engage, 2) cognitive flexibility and openness, 3) emotional regulation, 4)  

\textsuperscript{121} McCloskey \textit{et al.}, “Measuring Learning and Development in Cross-Cultural Competence,” 1.
\textsuperscript{122} \textit{Ibid.}, v
\textsuperscript{123} \textit{Ibid.}, vi.
\textsuperscript{125} Karol G. Ross, Daniel P. McDonald, Barbara A. Fritzche, and Huy Le, “Development of the Cross-Cultural Competence Inventory (3CI),” in \textit{Advances in Cross-Cultural Decision Making}, edited by Dylan Schmorrow and Denise Nicholson (Boca Raton, FL: Taylor and Francis Group, 2011): 87-96.
\textsuperscript{127} Ross \textit{et al.}, “Development of the Cross-Cultural Competence Inventory (3CI),” 87.
\textsuperscript{128} \textit{Ibid.}
tolerance for uncertainty, 5) self-efficacy, 6) ethnocultural empathy. The authors admit that the tool needs additional empirical work to explore is predictive validity.

Discussion

These tools are important for the Army to consider implementing or tailoring as it continues to focus efforts on improving the cross-cultural competence of its personnel. Importantly, the two tools highlighted above were developed specifically for the Army—with its personnel, mission and organizational structure informing their design and with specific outcomes in mind. Of the two, C-CAT appears most promising. It employs a multi-methodological approach and is already in use at a number of institutions in the Army. In contrast, the 3CI relies entirely on a self-report mechanism. While their authors validated both instruments, each need additional validation studies in order to provide further evidence of their effectiveness. Furthermore, any such instrument designed for a force as large as the Army will lack effectiveness. The shortcomings of these tools lie not with the tools themselves but by the ambiguous nature of what they are intended to measure. Once again, this speaks to the lack of a codified ontology to define the specific strategies, goals, and outcomes of a cross-cultural competence effort—either within the Army or among relevant institutions within the Army that are invested in specific outcomes of cross-cultural competence. Indeed, future work will need to establish an inventory of culture-general skills that can be used for accurate assessment of training outcomes and to guide instructional goals, as well as instructional delivery.

Academic/Private-Sector Tools

Academic and private sector literature have produced a substantial number of tools to measure cross-cultural competence, for a variety of purposes. These tools have done much to inform the military’s assessment mechanisms mentioned above and are referenced thoroughly in ancillary military research on the topic. The sheer volume of these tools can be a challenge in reviewing the field. With this vast catalogue of assessments in mind, the current study identifies four assessment tools that are of potential interest to the Army. They are: 1) the Intercultural Development Inventory (IDI), 2) the Cultural Intelligence Scale (CQS), 3) Multicultural Personality Questionnaire (MPQ), and the 4) Intercultural Adjustment Potential Scale (ICAPS). In their recent study, Abbe et al. identified CQS, MPQ and IDI as particularly promising for military application. All four are cited in a number of meta-analyses of the field as leading

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131 For example, see Abbe et al. (2010), Abbe et al. (2007), McCloskey et al. (2010), McCloskey et al. (2012), and Ross et al. (2009).
examples. They are presented here as examples the Army may consider drawing lessons learned from as it continues to develop its own assessments; furthermore, the Army may consider directly implementing them as “off-the-shelf” assessments for specific purposes—with the limitations we discuss below in mind.

**Intercultural Development Inventory (IDI)**

The IDI measures individuals’, groups’ and organizations’ orientation toward cultural differences. In this sense, the instrument does not measure behavior or skill; rather, it assesses the subjective experiences of cultural differences. The IDI is based on the theoretical framework of the Development Model of Intercultural Sensitivity (DMIS). The DMIS posits that individuals (and groups of individuals) operate along a developmental continuum of cultural experience that consists of five stages: 1) denial and defense (least culturally sensitive), 2) reversal, 3) minimization, 4) acceptance and adaptation, and 5) encapsulated marginality (most sensitive). The IDI assesses individuals to determine where on the continuum they are, which in turn indicates their readiness for intercultural training. The inventory consists of 50 items, to be completed through a pencil-and-paper or online questionnaire that takes approximately 15-20 minutes.

Research indicates that the IDI successfully measures intercultural sensitivity, and that this influences the success of the subject’s intercultural experience. The tool has been used in a number of fields, including education, study abroad programs, healthcare, business, and government agencies. It has been found to predict such outcomes as satisfaction with studying abroad, percentage of intercultural friends, and effectiveness in meeting diversity and inclusion staffing goals. It is widely considered a valid and reliable measure of intercultural sensitivity.

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142 Matveev and Merz, “Intercultural Competence Assessment,” 125.
144 Fantini “Assessing Intercultural Competence,” 471.
While the IDI is used for a variety of purposes, there have been a number of criticisms. Southwell and Perry submit three.\textsuperscript{146} First, they state that while the IDI assumes that individuals develop intercultural sensitivity linearly, there is little empirical evidence to support such a notion. Second, they argue that it is inappropriate for the IDI to place people into strict categories ("stages") along the DMIS continuum; they state that people can often express complex, multiple and conflicting aspects of intercultural sensitivity at once. Lastly, they suggest that the stages in the model should be divided into dimensions, to allow for the possibility of an individual demonstrating the ways in which they are simultaneously interculturally sensitive and insensitive. Furthermore, though it has been found to be robust among American population, there have also been multiple studies that question whether the instrument is generalizable across cultures.\textsuperscript{147,148} In their review of a variety of measures for potential application in the Army, Abbe et al found that the IDI did not demonstrate adequate predictive validity. They state that the IDI is often used to demonstrate how study abroad or other cross-cultural experiences impact their performance on the IDI, but there is little evidence to indicate what implications such changes might have for functioning in an intercultural environment in the future.\textsuperscript{149} In short, Abbe et al found that the IDI was not helpful for assessing attributes linked with intercultural (performance) outcomes.\textsuperscript{150}

**Cultural Intelligence Scale (CQS)**

Cultural Intelligence (CQ) is defined as an individual’s capability to deal effectively in situations characterized by cultural diversity.\textsuperscript{151} In short, it is a multi-dimensional intelligence that predicts an individual’s capacity to perform effectively in cross-cultural environments.\textsuperscript{152} It is based on Sternberg and Detterman’s multi-factor perspective of intelligence.\textsuperscript{153} Along these lines, the CQ model comprises four factors: 1) metacognitive cultural intelligence (the mental capability to acquire and understand cultural knowledge), 2) cognitive cultural intelligence (knowledge and knowledge structures about cultures and cultural differences), 3) motivational cultural intelligence (the capability to direct and sustain energy toward functioning in intercultural situations), and 4) behavioral cultural intelligence (the ability of behavioral flexibility in intercultural interactions).\textsuperscript{154}

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\textsuperscript{146} Perry and Southwell, “Developing Intercultural Understanding and Skills,” 477.

\textsuperscript{147} Perry and Southwell, “Developing Intercultural Understanding and Skills,” 477.


\textsuperscript{150} Ibid., 36.

\textsuperscript{151} Soon Ang, Linn Van Dyne, and Christine Koh, “Personality Correlates of the Four-Factor Model of Cultural Intelligence,” Group & Organizational Management 31, No. 1 (February 2006), 101.


\textsuperscript{153} Leung et al., “Intercultural Competence,” 494.

\textsuperscript{154} Ibid.
Based on CQ, international business scholars developed the Cultural Intelligence Scale (CQS) as a tool to assess these four dimensions in order to predict an individual’s capability for functioning effectively in a cross-cultural setting.\(^{155}\) The CQS is a 20-item self-report mechanism, though one observer with the Army argues that its simplicity and brevity could easily lend itself to a multi-rater (360-degree assessment) system.\(^{156,157}\)

Compared to the IDI, the CQS is a new measurement tool.\(^{158}\) As such, there are fewer empirical studies assessing its validity and reliability, though there has been considerable interest and effort to fill this gap in the measurement’s short lifespan. Matsumoto and Hwang argue that there is considerable evidence for the ecological validity of CQS.\(^{159}\) They point out that CQS has accurately predicted such outcomes as cross-cultural judgment and decision-making, task performance on a problem-solving simulation, and work performance.\(^{160}\) The tool’s ability to accurately predict effective decision-making and judgment in cross-cultural settings is likely of particular interest to the Army.

In their review of potential measurement tools for the Army, Abbe et al found that the self-report format of the test may result in inaccurate responses.\(^{161}\) They suggested that the CQS might only be accurate at measuring intermediate levels of CQ expertise; on the other hand, those subjects who are “unconsciously competent” or “unconsciously incompetent” may not have the proper awareness to rate themselves accurately. Finally, Abbe et al. argue that the transparency of the actual items on the tool may reflect social desirability and other biases, which would adversely influence the responses.\(^{162}\) In short, Abbe et al state that it is essentially unclear what the CQS measures.

**Multicultural Personality Questionnaire (MPQ)**

The Multicultural Personality Questionnaire (MPQ) was developed to measure multicultural effectiveness. The scholars who developed the test defined multicultural effectiveness as successfully operating in a new cultural environment, a feeling of psychological well-being in that environment, and interest in and ability to deal with

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\(^{157}\) *Ibid.* 25  
\(^{159}\) Fantini, “Assessing Intercultural Competence,” 407.  
\(^{161}\) *Ibid.*  
individuals from a different cultural background.\textsuperscript{163} The MPQ measures five specific traits: 1) cultural empathy, 2) open-mindedness, 3) emotional stability, 4) flexibility, and 5) social initiative.\textsuperscript{164} The instrument was developed for general use among people working in international and multicultural environments, though much of the research has focused on students and the business community.\textsuperscript{165,166} There is good evidence that the MPQ accurately predicts psychological and social well-being in foreign environments, international aspirations of students and employees, and expatriate job satisfaction.\textsuperscript{167,168,169} In general, the MPQ is based on the notion that stable personalities are reliable (i.e. consistent) predictors of performance in a multicultural setting.\textsuperscript{170}

For use in the military, Abbe et al found that the MPQ measurement was, among all that they reviewed, most likely to be able to accurately predict performance in a cross-cultural setting.\textsuperscript{171} However, the authors were unable to determine if the traits identified as important by MPQ would be responsive to training or education intervention.\textsuperscript{172} This, clearly, would have important implications for the Army. Importantly, the MPQ uses mixed methodologies.\textsuperscript{173} While Matsumoto and Hwang identified the MPQ as one of the three most promising measurements of cross-cultural assessment (along with CQS and ICAPS), they noted that the test does not demonstrate positive effects from pre-post training (echoing Abbe’s concerns above).\textsuperscript{174} They also claimed it demonstrated strong ecological validity.

**Intercultural Adjustment Potential Scale (ICAPS)**

Matsumoto and colleagues developed the ICAPS to measure a person’s potential ability to adjust to a cross-cultural environment.\textsuperscript{175} The measurement is a product of the

\begin{footnotesize}
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\item Van Oudenhoven and van der Zee, “Predicting multicultural effectiveness of international students: the Multicultural Personality Questionnaire,” 679.
\item *Ibid.*
\item Leung et al., “Intercultural Competence,” 493.
\item Matsumoto and Hwang, “Assessing Cross-Cultural Competence,” 868.
\item Leung et al., “Intercultural Competence,” 494.
\item Abbe et al., “Measuring Cross-Cultural Competence in Soldiers and Cadets,” 32.
\item Matsumoto and Hwang, “Assessing Cross-Cultural Competence,” 867.
\item Matsumoto and Hwang, “Assessing Cross-Cultural Competence,” 865.
\end{enumerate}
\end{footnotesize}
psychological skills that individuals possess. As such, ICAPS measures four constructs that the authors determined are necessary to cross-cultural adjustment: 1) emotion regulation, 2) openness, 3) flexibility, and 4) critical thinking. The current form of the ICAPS uses a mixed methodology approach and consists of 55 items.

Research strongly indicates that the psychological skills assessed by ICAPS can predict cross-cultural adjustment above and beyond what is already accounted for by the Big Five personality traits (extroversion, agreeableness, conscientiousness, neuroticism, and openness). In the academic literature ICAPS demonstrates good validity among students and immigrants. It has also been documented to be affective across cultures (in Japan, the US, India, Sweden, and Latin America). In the military context, nearly all of the recent investigations into cross-cultural competence have cited ICAPS. For instance, Ross and Thornson used ICAPS’s constructs to inform some of their own work in developing dimensions for 3CI due to the tool’s demonstrated strong validity. However, there are distinct limitations for adaptation in a military context. Perhaps most obviously, the tool is intended to predict adjustment rather than performance, something that is necessary for military models. Furthermore, Gabrenya and colleagues, in their meta-analysis of potential models for use in the military, found that despite the academic evidence suggesting otherwise, that ICAPS had poor construct and face validity and only mixed results for its criterion validity.

Discussion

The measurement tools discussed above provide a limited overview of the variety and utility of the off-the-shelf tools that are available to assess cross-cultural competence. It is important to note that each serves a specific purpose (and none are able to comprehensively and perfectly predict cross-cultural success, if such an experience is possible). For instance, the CQS measures “cultural intelligence,” the IDI measures “cultural sensitivity,” the MPQ measures “multicultural effectiveness,” and the ICAPS measures “intercultural adjustment.” An essential building block that each of these

176 Matsumoto and Hwang, “Assessing Cross-Cultural Competence,” 857
177 Ibid.
178 Matsumoto et al., “The International Adjustment Potential Scoale (ICAPS) Predicts Adjustment Above and Beyond Personality and General Intelligence,” 751.
181 Ibid.
182 Ross and Thornson, “Toward an Operational Definition of Cross-Cultural Competence From the Literature,” 5.
measurements includes is a corresponding model and definition of what they purport to assess (cultural intelligence, multicultural effectiveness, and so on). Indeed, the refrain throughout the literature is “a method must suit its purpose.” The Army must keep this in mind when developing its own measures of cross-cultural competence. This means that before developing and implementing any meaningful assessment mechanisms the Army must first make clear its understanding of culture and cross-cultural competence (to suit its own specific needs that are critical for mission success). With this conceptualization will come clear performance objectives (i.e. what tasks and outcomes require cross-cultural competence). The measures of cross-cultural competence developed for military use and reviewed above, for instance, are based on specific and tailored conceptualizations of cross-cultural competence; however, they each rely on rather broad definitions of culture and do not clearly predict performance outcomes. Certainly the academic measures reviewed here avoid this shortcoming and may be useful for the Army for specific tasks; however, they too are unable to accurately predict performance outcomes (e.g. mission success) among military populations and instead are largely limited to assessing motivation for cross-cultural work and ability to adapt.

Conclusion

As this review demonstrates, there are a wide variety of assessment mechanisms for cross-cultural competence. Many of these come from the academic and private-sector fields, which can nevertheless provide important lessons for the Army to consider at it develops its own assessment tools for the general force. Importantly, this review has highlighted a number of tools that the military has already developed (or is in the process of developing) that are specifically designed to measure cross-cultural competence among its personnel, focusing on performance outcomes linked to mission success. These too provide critical direction and insight into current and future efforts.

While each of the assessments described above have different intents, with attendant strengths and weaknesses, they each underscore the complexity of the task. Indeed, many succeed in predicting or measuring specific components of cross-cultural competence (most often, as we have seen, adaptation and motivation of cross-cultural competence experiences), but none are able to holistically anticipate successful cross-cultural performance according to specific mission-centric outcomes. This reflects the

complex challenges of the Army’s current endeavor. Furthermore, there are a number of considerations in developing an assessment tool that can address each of these challenges, including validity, test format, and assessment techniques and strategies.

Despite these challenges, cross-cultural competence and corresponding mission success in cross-cultural environments will remain a priority for the Army in the current and future operating environment. Doing so requires significant investment of people, finances and resources. In order to understand how to invest these resources and determine if their outcomes are effective, the Army must develop meaningful, valid and reliable assessment tools for cross-cultural competence.

With this in mind, we propose the following recommendations for the Army as it continues to research, develop and implement assessment mechanisms for its personnel:

- **Use multiple assessment methods.**

  Cross-cultural competence is complex has been a theme throughout this study. The best way to address this is to use multiple tools or methods in the assessment in order to uncover the complexity of the competence. The multi-methodological approach should use a multi-perspective approach as well. As we have learned, a portion of cross-cultural competence is determined by the outsider’s perspective (the etic). Self-report or single-evaluator reports are convenient and necessary; however, they are not able to adequately take fulfill this requirement. Potential solutions, as discussed above, include portfolio assessments and 360-degree assessments.

- **Assess one component of cross-cultural competence.**

  Instead of trying to develop a holistic or comprehensive measure of cross-cultural competence, focus on developing a tool that effectively measures one or two critical components of cross-cultural competence. What is considered “critical” may be different for different roles or responsibilities within the Army. For instance, it may be important for a senior leader taking command of a multinational force to have superior cross-cultural communication skills. Alternatively, a small unit going to a specific geographic location for the first time to conduct extensive security training for a local force may require advanced cross-cultural adaptation skills. Specific requirements such as these for specific purposes do not supersede the need for the Army to develop general force cross-cultural competence capabilities and corresponding levels of proficiency.

- **Borrow or tailor existing assessment tools when appropriate.**
It is absolutely critical that the Army develop its own assessment tools in order to suit the specific requirements of its mission in order to succeed in the current and future operating environment. As we acknowledged, there are considerable differences between the cross-cultural needs of the Army and those of other fields, such as international business, communication and education. With this in mind, however, it may be useful for the Army to borrow or tailor existing (and validated) cross-cultural measurements when they are appropriate for specific purposes within the Army. This is very much tied to the previous recommendation above. Let’s consider the example of a senior leader being sent to command a multi-national force. The Army may consider administering a cross-cultural leadership test that has been developed in the international business field to a number of its senior leaders as part of its selection process to determine who might be best prepared and best suited for such a role. For the example of the small unit deploying to train a local security force, the Army may assess the unit or individuals in the unit using appropriate tools that measure cross-cultural adaptation (such as ICAPS, discussed above) that have been developed in the education and business sectors.

- **Develop assessment mechanisms for the unit-level.**

The vast majority of the tools we have discussed in this paper assess individual cross-cultural competence. As very little is done in the military on a purely individual level, it is critical that the Army review, adapt and develop tools that measure cross-cultural competence at the unit level.
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