Culture on the Front Line: Dimensions that Matter

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ABSTRACT

Current military operations often require U.S. Soldiers to effectively collaborate with a mix of multinational civilian and military personnel to achieve desired operational goals. While the US has acknowledged the importance of SSTR through DOD Directive 3000.05, there have been repeated arguments that Soldiers are not properly prepared to successfully operate and interact within such culturally diverse environments. This may be due, in part, to a lack of effective training programs that adequately address a wide range of variables important to successful multinational collaboration in different contexts. Instead, we have been inundated with a plethora of programs that are specific to a particular culture. These programs are incapable of adapting to and addressing the required knowledge, skills, and attitudes necessary for successful operation in the range of complex, culturally diverse environments in which Soldiers often find themselves immersed.

Therefore, the purpose of the current research is to address these issues by taking a more universal approach that is not specific to a particular region of the world. Specifically, we will advance a taxonomy of cultural dimensions, focused on delineating various behavioral markers for each dimension. This taxonomy can be utilized to assess appropriate culture-specific and culture-generic social behaviors, which can in turn create a flexible training environment able to adapt to any particular cultural context. This taxonomy has been derived from an extensive review of cultural dimensions theory and taxonomies currently available in extant literature. Furthermore, this taxonomy has a corresponding methodology for effectively assessing additional cultural behaviors. Finally, we will identify how this taxonomy can effectively be incorporated into cultural competency training programs, which can then be adjusted based where a given country lies on the various cultural dimension continuums. This training will be easily updateable as our understanding of a culture changes over time.

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INTRODUCTION

In the Continuum of Military Operations, U.S. Soldiers must collaborate with a mix of multinational civilian and military personnel to achieve desired operational goals. Such situations require that Soldiers be fully prepared with the appropriate cultural competencies which will enable effective communication and coordination regardless of the cultural context (Abbe, Gulick & Herman, 2007). To enable the development of such competencies and general cultural awareness, numerous training programs have been developed. These training programs range from simple information based programs that give a broad overview of a culture (e.g., "Iraq 101"), to highly complex and interactive computer based simulations, which immerse the trainee into a rich cultural context through videos, avatars, and dialogue.

However, while much attention has been paid to the design and delivery of cross-cultural competency training (e.g., Lane, Hays, Core, Gomboc, Forbell, & Rosenberg, 2008), it appears that less focus is currently given to the source and structure of the cultural data utilized to develop the contexts and implement learning objectives of such training programs. Training designers rely on a wide range of methodologies and sources for collecting the cultural information upon which their programs are built. While some programs rely upon the experiences of a few subject matter experts to guide their cultural content, others are designed around historical norms, traditions, and stereotypes that may not fully encompass the current dynamics of the region or nation they are designed to simulate.

Given the depths of rich cultural theory and data currently available to drive such training programs, we have an opportunity to draw upon a strong knowledge base to construct a systematic approach for structuring training programs. Social science has made vast strides in understanding how people retrieve, process and interpret cultural information by relying on internal mental structures (e.g., cognitive, affective, and motivational) to determine appropriate behavior given the dictates of the cultural-specific context.

Unfortunately, this data is often collected and catalogued qualitatively, which does not translate easily into the quantitative information needed by training developers. Additionally, while cultural theory is used by some training developers, there is no universally accepted theoretical framework that can be utilized to collect cultural data and integrate it into the development of training scenarios, actor behaviors, and virtual environments. Based on these observations, it is clear that there is a critical need to more effectively incorporate cultural theory into training design to provide an accurate context for cultural training programs.

Therefore, the purpose of the current paper is to advance a cultural taxonomy that can be the foundation of U.S. military cultural training programs to provide a unified theoretical and practical approach to training. This taxonomy has emerged from a blend of current cultural theories and is designed to: 1) provide a systematic theoretical approach to classifying and utilizing cultural data from any culture; 2) aid in identifying and selecting the cultural theory and data to be used for designing cultural develop training; and 3) be adaptive in terms of accounting for the evolving, multilevel nature of culture.

In order to present this taxonomy, we will first provide an in-depth look at the state of cultural training, highlighting gaps that can be addressed through cultural theory advancement. Next, we review the value of a cultural taxonomy and the process by which our taxonomy was developed, aimed at deriving a solution to the aforementioned training development gaps. Thirdly, we present our resulting cultural taxonomy, identifying its components and illustrating how this taxonomy is an emerging blend of cultural theories that provide a much needed systematic approach to incorporating culture into training. Finally, we discuss the practical application of this taxonomy to the U.S. military and broader contexts, and more

precisely outline its purpose for aiding to successful cultural competency training of Soldiers.

THE CURRENT STATE OF CULTURAL TRAINING PROGRAMS

Before presenting our cultural taxonomy, it is important to recognize the increasing number of cultural training programs available and the issues they face in terms of utilizing cultural data in their development. While culture has been a component of military training for years, the mounting number of SSTR operations over the past several years has placed greater emphasis on the need for Soldiers to successfully interact with civilians and military forces from cultures other than their own. Furthermore, as the nature of warfare has changed, culturally adept Soldiers are viewed as invaluable resources due to their ability to adapt to new cultural environments and refrain from making cultural errors that can cost lives (Boré, 2009).

This growing requirement for increased Soldier cultural competency has driven the U.S. military to fund a wide range of cultural training programs. Many such programs have been developed to address language needs, cultural familiarization, and leader cultural training (Johnson et al., 2004; Raybourn, 2004). Furthermore, advances in technology have led to many of these programs to be computer based, with extensive resources devoted to the development of appropriate technologies for making such programs easily accessible to both state-side and deployed military members (Lane et al., 2008).

However, while intensive focus and guidance has been provided regarding the successful technological development of state of the art, experiential learning-based training, less focus has been given to the actual cultural information used to develop the scenarios and human behaviors within such programs. While some developers do give careful consideration to the cultural information to be incorporated into training programs through the application of cultural theory, there is no systematic taxonomy or approach that is universally accepted by which cultural contexts can be developed.

This lack of a systematic approach can be seen in the variety of sources used to collect and integrate cultural information into training programs, as well as in the ways that such information is utilized. For example, the ELECT BiLAT (Enhanced Learning Environments with Creative Technologies for Bi-lateral negotiations) program was developed with the purpose teaching trainees to prepare for, execute, and understand bi-lateral meetings in a cultural context (Lane et al., 2008). This simulation program incorporates a dialogue manager, animation technology, an intelligent coach and tutors, and extensive feedback during after-action reviews. While the existing descriptions of this program are rich in their detail regarding the technical tools developed and employed, there is little information available regarding how the cultural data that guides the scenarios was obtained. A brief description is offered by Hill and colleagues (2006), and describes how scenarios were loosely based on real world experiences, with subject matter experts providing input regarding the appropriate reactions and responses to particular actions.

While this training program's cultural information was driven by subject matter experts, other programs are reliant upon different sources of information. For example, VECTOR (Virtual Environment Cultural Training for Operational Readiness), another simulation based cultural learning system, is designed to provide Soldiers with training on observing cultural rules to make trainees more culturally sensitive (Deaton et al., 2005). More extensive information is provided regarding the cultural theory and data collected for this program, which relies upon several dimensions of culture deemed to be important for the culture of interest, Kurdistan. A cultural model was developed that focused primarily on interactions through dialogue, with the dialogue itself representing a large portion of the encoded cultural knowledge. Additionally, cognitive and emotive models were added to further incorporate culture. The actual cultural data was collected from multiple types of written sources, including books, military technical reports, and articles (McCollum et al., 2004).

As can be seen from the examples provided, many technology-based, immersive cultural training programs provide rich contexts that aid in creating a realistic environment within with trainees can learn and practice cultural skills and competencies. However, without a systematic approach to collecting and utilizing cultural data to develop these environments, it is difficult to ensure that training is both reliable and applicable across a variety of settings.

The first major issue is that the cultural data upon which these scenarios are developed come from a wide range of sources, limiting the integrated collection of data. While some programs rely primarily upon subject matter experts to model human behavior and develop scenarios, variance among who these experts are and their actual expertise in the area can mean vast differences in the type of information that is

incorporated into training scenarios. Without measuring the degree to which sources share a common understanding of a culturally diverse context through the use of inter-rater reliability, the validity of the data being relied upon for training is limited. For example, the cultural experiences of a U.S. Soldier recently returning from deployment in Iraq are most likely very different from those of a natural born Iraqi—and even different still from a natural born Iraqi who has migrated to the U.S. Each of these sources may provide some similar but also very different cultural data due to their own cultural influences.

Second, even when the contextual information about various regional areas is collected, little consideration is given to the factors that may impact how the contextual information is perceived from different cultural perspectives. For example, McAlinden and Clevenger (2006) describe a culturally-enhanced environmental framework for virtual training environments that incorporates environmental contexts, but largely excludes internal states such as cognition, affect, and motivation that also play a role. In another example, one of the common ELECT BiLAT references involves the cultural issue of alcohol (Lane et al., 2008). While the German character invites the sharing of alcohol, the Iraq character is insulted upon being offered due to his religion.

The problem with these scenarios is that broad cultural assumptions are being made, which due to the dynamic and multi-level aspects of culture, may not apply to all Germans or all Iraqis (e.g., the German might be Muslim). Additionally, aspects of the cultural or environmental contexts are also not considered (e.g., it is against the Iraqi's religious belief to accept alcohol, but because it is coming from an American who does not know better, he could adapt to the situation and respond differently). Such broad generalization can be dangerous in training cultural competency, as they may promote assumptions and detract from full development of competencies such as openness and adaptability necessary for survival. While it is understood that to some degree, cultural norms and stereotypes may be beneficial in training because they provide at least a general reference point, but presenting a more theoretical basis that may allow for broader understanding of how particular behaviors may be more appropriate in a given environmental contexts may be more critical for effective cultural competency development (Bhawuk & Brislin, 2000).

Finally, we currently lack a systematic approach to systematically collecting information about culture across different local, regional and national contexts. Hence, important data needed to effectively develop cultural understanding necessary for training may not be stored adequately for future use and new data may remain largely de-coupled from other useful data on culture. To address the concerns we have outlined above, we approve the use of a cultural taxonomy to theoretically orient the collection and use of data to foster more effective training programs. In the following sections, we will discuss the benefits of a taking a taxonomic approach to understanding culture, and the steps to develop such a taxonomy. We will then present our emerging approach to a cultural taxonomy, and discuss future research efforts to validate and apply such a taxonomy.

UTILIZING A CULTURAL TAXONOMY TO INFORM TRAINING

Culture has been defined in many ways, and has been a subject of interest for many disciplines, sparking a rich history of research in the social sciences (see Erez & Gati, 2004; DiMaggio, 1997; Tsui, Nifadkar, & Ou, 2007 for in-depth reviews). It is a complex construct that is multifaceted and multidimensional, including both internal and external components that can manifest at multiple levels. This complexity of culture is illustrated through many of the current approaches to defining, understanding, and analyzing culture's influences on human behavior (e.g., Chao & Moon, 2005; Hofstede, 1980; Sutton, Pierce, Burke, & Salas, 2006). For the purposes of the current paper, we view culture as a patterned way of thinking, feeling, and behaving that distinguishes individuals or human social aggregates from one another (Hofstede, 1980; DiMaggio, 1997; Chao & Moon, 2005).

In order to begin bringing the multiple complexities of culture together in a way that will transfer effectively to the development of cultural training, a taxonomic effort appears to be the most useful. The purpose of a taxonomy is to provide an integrative framework and a common language that is applicable in a range of both basic and applied areas (Fleishman, 1975). Furthermore, a taxonomy should have a clear purpose for classification, and must be built upon a strong conceptual basis.

There are numerous benefits to taking a taxonomic approach to culture. First, a taxonomy provides a systematic approach to the area most lacking in cultural competency training today: the content. By providing a guiding framework that addresses the critical areas affected by culture a taxonomy can be utilized by developers to consider both sets of factors more effectively when incorporating cultural data into

scenarios, agent behaviors, and the virtual environment. Developers can systematically assess environmental characteristics, such as the social context, physical geography, and demography of the region of interest, and how this may impact internal states—and vice versa.

A taxonomy can also serve as a guiding framework for applying quantitative techniques to a field that has been traditionally dominated by qualitative data. This is not to say the qualitative approach is not informative—indeed much of the information that drives the taxonomy will be provided by qualitative data collection means. However, a taxonomy provides a means by which to convert this data to numbers in that it can serve as a classification system for designing behaviorally and cognitively based metrics that can be used to assess and make predictions. For example, social scientists observing a new culture could use such metrics to analyze documents, videos, and interviews to determine where a culture lies on a given classification scheme within the taxonomy. Such metrics provide a distinct advantage because a variety of sources can be used as opposed to a single source (e.g., interviews) that may be more difficult to obtain.

This leads directly to the second goal of a cultural taxonomy, to aid in identifying all aspects of cultural data necessary for developing cultural contexts. Instead of only developing a culturally rich environment that does not contribute adequately to agent behavior, or developing behaviors that do not effectively match the content, training designers can more holistically consider the cultural data they have to ensure the best fit between both areas. This way, even if developers do use subject matter experts or generic cultural norms, they can more appropriately assess how this cultural data can impact—and be impacted by—other cultural factors, and obtain additional information to fill in gaps as needed.

Finally, a well developed cultural taxonomy should account for the adaptive, dynamic nature of culture and cultural theory. From the prolific amount of cultural research conducted, it is clear that there are many perspectives as to how culture influences behavior. Therefore, it is important that any systematic approach to culture takes this into account and allows for change and growth. This is particularly important for military training programs, because the ever-changing demands of the military may mean that what we currently know in regards to the cultures of interest may in the future be completely different. Therefore, having an approach to culture that can be flexible and adjusted as needed depending on military training needs and cultural theory development provides a distinct advantage.

We believe that a taxonomic approach to culture not only provides a means for classifying various cultural theories based on their common characteristics, but also provides a guide for the development of theoretically-based cultural training efforts. Through the use of a theoretically-driven taxonomy of culture to forecast behavior we may identify conditions when culturally-expected behaviors may be suppressed, reversed or accentuated. This insight is critical and necessary for the development of training programs. Below we provide further insight into how we specifically developed our taxonomy of culture designed to meet this need in training.

DEVELOPING A TAXONOMY OF CULTURE

We recognize that ours is not the first effort to create such a taxonomy of culture. Culture has not only been approached from a variety of theoretical perspectives, but has also operationalized in many different ways throughout the literature. Traditionally, much of the culture literature has focused upon measuring cultural values and dimensions (e.g., Hofstede, 1980; Triandis, 1989; Sutton et al., 2006). Such dimensional approaches have served as taxonomies in the past as a way to define and classify important aspects of culture relevant across multiple cultures.

While each of these current taxonomies provides insight into unique aspects of culture, each has its own limitations. For example, Hofstede's (1980) cultural dimensions do not necessarily consider the environmental context. Additionally, while other models such as the cultural lens model (Klein, 2004) and the cultural mosaic (Chao & Moon, 2005) present the ideas and theory to describe some of the intricate processes of culture, they do not necessarily provide a systematic classification scheme with which to build training. However, it is important that a taxonomic effort builds upon these theories so as to incorporate their important components into a more holistic approach.

Therefore, the goal of this taxonomic effort is not necessarily to "reinvent the wheel" per se, but instead to draw from the wealth of knowledge currently available and build a sound classification system upon these conceptual foundations that will more effectively capture as many components of culture as possible. Additionally, since we recognize that the understanding of culture continues to change and grow, we aim to produce a taxonomy that can be changed and adapted as new cultural theories emerge.

To do this, the first step of the current effort was to conduct a thorough multidisciplinary review of current and relevant cultural theory across several domains, including psychology, management, sociology, anthropology, and communication. Theories, taxonomies, and frameworks from each of these disciplines were reviewed to determine 1) their approach to explaining culture (e.g., taxonomy, framework, lens, internal states, external cues); 2) relevance to the problem of interest (i.e., informing cultural training); 3) their level of analysis (e.g., individual, team, society); 4) validity (e.g., amount of support for this approach); and 5) ability to measure the cultural characteristics described. This information allowed us to determine the relevance of such theories to the taxonomy as well as to begin integrating different aspects of such theories.

The next step of our approach was to begin identifying common themes in cultural theories, particularly among the multiple dimension classifications that were found. Conducting a content analysis of the various theories and approaches, found that the theories naturally divided into those that addressed internal mental structures, those that addressed external environmental context, and those that addressed both to some degree. As the internal mental states were comprised primarily of different dimensional approaches to culture, such as those by Sutton et al. (2006) and Hofstede (1980), we then conducted an analysis to determine an appropriate sub-categorization system upon which these dimensions could be combined. These subcategories included cognition, motivation, and affect, and are described in more detail below. In terms of the environmental context, we drew primarily from the theories that address issues of cultural variation and interaction, as these theories emphasize ways in which the environmental context or situation may drive culture. Furthermore, since existing cultural theories address different levels of analysis, we incorporated this aspect into our taxonomy as well.

The resulting taxonomy (see Figure 1 for the complete taxonomy) is a product of crossing these internal mental structures with the external environmental cues, with each aspect being constructed both by the cultural theories that address each individually, as well as the theories that discuss their combined effects. It is important to note that the taxonomy has been developed as a product for the U.S. military, and while it is hoped that it can be adapted to a wide range of contexts, the current version is driven by this military perspective. In the following sections, we present a more detailed discussion of the theories used to comprise our taxonomy, and how we have integrated them to provide a more holistic perspective for use in training.

Internal Mental Structures

Our emerging taxonomy provides a useful tool to group these various cultural dimensions and other components based on their specific characteristics and their relationship to one another. We define all of these dimensions under the supra-category of internal mental structures and suggest that existing cultural dimensions and associated processes may be grouped under the subcategories of cognition, affect, and motivation. We postulate that cultural dimensions will fall under one of these three categories because these mental processes determine cultural understanding, interpretation, and behavior.

Cognition. People are thought to perceive process, retrieve and respond to information through the reliance on mental structures such as schemata or mental models, emotion, and motivation. Default assumptions about people, objects, and events and their characteristics and relationships are stored as cognitive representations. Representations of the self (Markus and Kitayama, 1994), events (Garfinkel, 1987) and roles (Fiske & Taylor, 1991) have been empirically tested and proven to influence social interaction and guide behavior through their influence on bias and expectations. Since these representations can shape cultural-specific behavior, we categorize cognition about oneself, others, social interaction, and situations all under the theme of cognition.

Affect. Hochschild (1979) proposed that emotion can and is subject to acts of management. Depending on the situation, an individual exerts effort to induce or inhibit feelings so as to render their emotional expression appropriate. Culturally prescribed scripts and roles in a particular context provide individuals and larger social aggregates with the rules for managing feelings (Hochschild, 1979; Rafaeli & Sutton, 1987). Furthermore, variation in the degree of tolerance for the unfamiliar, uncertain or open-ended across culture may also influence emotional display of affect. Hence, we categorize culturally-shaped emotional responses associated with the needs for certainty, closure, and change along with the propensity to display emotion under the broader them of affect.

INTERNAL MENTAL STRUCTURES	Taxonomy of Cultural Dimensions	Levels of Analysis				EXTERNAL ENVIRONMENTAL CONTEXT					
		Ind	Team	Org	Nation	Social Actor	Social Events	Geography	Demography	Physical Events	Cultural Context
	A. COGNITION										
	1. About Self: -Individualism vs. Collectivism -Social Identity -Efficacy -Locus of Control										
	2. About Social Interaction with Others: -Power Distance -Role Schemas										
	3. About Situations & Scenarios: -Rule Orientation -Time Orientation -Thinking Orientation -Activity Orientation										
	B. AFFECT										
	1. Propensity to display Emotion: - Neutral/Affective										
	2. **Emotional Attribution:** -Subjective/Objective										
	C. MOTIVATION										
	1. **Intrinsic Sources:** -Need for achievement -Uncertainty Avoidance										
	2**. Extrinsic Sources:** - Relationship motives - Need for security										

Figure 1. A Cultural Taxonomy

Motivation. Motivation can exert an influence on whether an individual or larger social unit, such as a team or nation, initiates, terminates or persists in taking a particular action in a given situation. Cultural influences may influence the motives of a social unit (e.g., individual, team, organization or nation). Specifically, we posit that the external and internal sources of motivation for individuals, teams, organizations and nations may vary across different local, regional and national contexts. Depending on the sources of motivation, we anticipate that there will be variance along dimensions such as achievement orientation, need for uncertainty avoidance, need for harmony in social relations

One of our primary goals in constructing this taxonomy of culture was to be able to make predictions about when and how culture may be "activated" in particular contexts. Particular behavioral repertoires may be more or less likely to be triggered in a particular scenario depending on the extent to which a team (e.g. military unit) or organization (e.g., Navy, Army or Air Force) may be characterized along a particular cultural dimension. For this reason, a criterion for the inclusion of a cultural dimension into our taxonomy was whether we could measure the cultural characteristic in populations using a scale that is proven to be valid, reliable and generalizable. Understanding where a team, organization or nation falls along a cultural dimension scale enables us to predict the likelihood that members from these social units would be more or less apt to behave in a culturally appropriate way with greater accuracy. See Figure 1 for a list of the dimensions included in our taxonomy.

Hence, existing dimensions in the theoretical and empirical literature on culture, such as individualism/collectivism and power/distance, and propensity to display emotion are each classified under one of the themes of cognition, affect or motivation to comprise components of one's internal mental state. These dimensions can thusly be used to classify different social units and their cultures given the prominence of particular attitudes and values within these cultures (e.g., Hofstede, 1980; Sutton et al., 2006). The following section provides a brief discussion of a selection of theories used to discern this internal mental structure approach.

Sources of Cultural Variation

Chao and Moon (2005) recognize that culture is influenced by both global and local cultures, similar to the views of Erez and Gati (2004). Chao and Moon use the term cultural mosaic to suggest that individuals have a multicultural heritage much like a mosaic:

"…both the overall picture and the multitude of colored tiles are simultaneously distinguishable" (p. 1129). They argue that demographic (inherited characteristics), geographic (regional characteristics), and associative affiliations (formal and informal groups with which one identifies like family, religion, or politics) shape and comprise a person's cultural mosaic. Chao and Moon (2005) used the term cultural identity complexity to describe that people have multiple cultural identities, noting that multiple and different identities (or tiles) can be activated at any given time. The tiles may work in harmony or separately to influence behavior, depending on the situation.

Similarly, Klein (2004) argues that national group differences arise from the shared experiences. These experiences stem from similarity in (a) how individuals are raised, (b) available resources, and (c) ecological and social pressures. Consequently, individuals from one nation tend to think and behave in a similar manner as compared to another nation. Additionally, people expect that others from their country of origin will think and behave like them. In short, people from the same group "…share a 'lens' for making sense of the world" (p. 256). This Cultural Lens Model suggests that everyone has a cognitive lens through which information is filtered, organized, and stored and this lens is based in large part on our origins. When people view the world through the same lens, they take similar approaches to solve problems and make decisions based on what they feel is the "right way" to interpret the world.

However, when interacting with others who utilize a different lens, problems in communication, coordination, and problem solving result as there are perceptual differences in the "right way" to interpret the world, and thus, solve the problem or accomplish the task at hand. Klein (2004) argues that the differences in lenses can be explained by differences in cultural dimensions. When culturally-diverse members or distinct cultural communities interact with one another, assumptions, differences and similarities may become salient and inhibit or foster successful cross-cultural interaction (Wenger, 1998). Effective intercultural communication may be critical for developing shared understanding of cultural norms and behavior (Raybourn, Kings and Davies, 2003) that can improve cross-cultural interaction.

Scholars of culture suggest that both cognitive and motivational bias, as well as emotion can inhibit successful cross-cultural communication and interaction. Cargile & Giles (1998) draw upon social identity theory, which suggests that individuals gain a social identity from the groups that they belong to and that members perceive and evaluate members of their own groups more favorably than others (Tajfel & Turner, 1986), to suggest that evaluations of language will be biased or less favorable for those in other cultural groups. These authors suggest that perceptions of different accents which differentiate one culture from another may trigger negative evaluations that could inhibit positive interaction. Gudykunst and Nishida (2001) also draw upon social identity theory to posit that anxiety and threat can arise from interaction with members from other cultural communities and that these emotions can negatively impact cross-cultural communication.

Our taxonomy draws upon the research of these and other scholars to understand the varying conditions under which cross-cultural interaction and communication will be most successful. We include dimensions that can measure individuals' cognitive representation and importance of their social group memberships to their self-definition as well as their propensity to display or experience emotion related to their need for ambiguity avoidance. Moreover, we also include dimensions of motivation and the intrinsic or extrinsic factors that may encourage engagement in cross-cultural interaction or communication. Furthermore, knowledge of where teams, military organizations or nations fall along these various cultural dimensions can provide additional insight into when in-group favoritism or anxiety from inter-cultural contact may be most likely to arise.

Levels of Analysis

Culture is a construct that exists within and across various levels of analysis. It is a social phenomenon that exerts an influence on the responses of individuals, but also on collections of individuals, ranging from small teams and groups to societies. Although the influence of individuals, teams, and organizations can influence national culture, the same is true in the opposite direction. Erez and Gati's (2004) model of culture suggests this relationship and incorporates four components. First, their model suggests the existence of a global culture, which is the most macro level of culture. Second, they argue that culture is multilevel and nested from individual, group, organizational, national, to global cultural levels. Third, they suggest that the different levels of culture reciprocally influence each other through top-down and bottom-up change. And, fourth, culture can be identified at a surface level (external and visible behaviors and artifacts), mid-level (values), and deep level (internal and invisible level of basic assumptions).

Among the teams to which an individual belongs, some may share values and attitudes in common, while others may not. Since each person may have a distinct set of affiliations compared to others, individuals may vary from one another along various cultural dimensions (Tsui, Nifadkar and Ou, 2007). Team culture emerges through repeated social interaction among members. This is thought to consist of a set "of rules and actions, work capability expectations, and members perceptions that individuals a team develop, share and enact" after interaction together (Earley & Mosakowski, 2000, p.27). The degree to which members share the same beliefs about rules, roles and expectations will drive the strength of the team culture (Sutton et al., 2006). Given that much of the work conducted in organizations is done by teams, another level for consideration is organizational culture. Organizational culture emerges around a shared system of values and assumptions that guide behavior, norms, rituals, and other cultural activities (Schein, 1985). Finally, extrapolating to the highest level of analysis, culture can also be considered at the national level. The expectations about norms, behaviors, routines and other cultural activities in a nation are shaped by the values and beliefs that are most dominant, which are, in turn, shaped by the social, political, economic, and historical experiences of a nation. These factors exert influence on national culture, shaping the social interaction patterns and expectations that an entire population of people share and accept as culturally appropriate.

We posit that culture influences behavior similarly across different levels of analysis. Specifically, we propose that the antecedents, processes, and outcomes, consisting of the internal mental structures, cultural processing, and socio-cultural behaviors, function similarly at the individual, team, organizational and national levels. Hence, at the individual level, a person's internal mental structure, made up of their person-specific cognitive, affective, and motivational cultural dimensions, influences their processing and interpretation of external stimuli and shapes their socio-cultural behavioral interactions. Similarly, at the group level, a team's combined mental structure influences their cultural processing and interpretation of external information and informs subsequent behaviors.

Incorporating the External Environment

As mentioned previously, our aim to encourage equal consideration of both the cultural dimensions that comprise one's internal mental structures and the external environment in which a behavioral response is elicited. In this vein, we acknowledge and address a limitation of the dimensions approach to understanding and studying culture which is that it is often void of context. Hence, in our cultural taxonomy, we take the perspective that differing cultural frames or understanding may be situationally cued and exert an influence on the behavioral response of an individual, team, or larger social aggregate (Kozlowski & Hultz, 1986).

Recent research in psychology has demonstrated how mental structures can be used to perceive, process, and retrieve information in the environment to make inferences about the external context. Findings from these studies suggest that mental structures may also vary in the extent to which they are accessible and relevant in particular domains. As such, individuals are likely to draw on different aspects of their cultural background to determine the appropriate behavior or response based on the dictates of a particular situation (Chao & Moon, 2005). Due to the variation in expectations about appropriate behavior across cultures, we predict that individuals, teams, and nations will have distinct behavioral responses to identical environmental stimuli.

Furthermore, in our taxonomy, the environment can moderate the relationship between internal mental structures and the interpretation and processing of external stimuli. We define the environment as the team, organizational, or national context in which the lower levels of analysis are embedded. We propose that characteristics of these contexts can constrain or enable processing that may suppress, strengthen or reverse the socio-cultural behavioral outcomes. For example, if a team context tends to be characterized as rule oriented with regulated process and plans, a team member who has a field independent thinking orientation and typically opts to approach problems very analytically, may engage in less thoughtful processing in this team than they would in a less rule-oriented team. This, in turn, may result in sup-optimal solutions or behavioral responses depending on the nature of the problem at hand.

FUTURE RESEARCH EFFORTS

Certainly, this is only the initial phase of development for our cultural taxonomy. A primary goal of future research with the cultural taxonomy is to develop behaviorally and cognitively based metrics that can be used to assess and make predictions of internal mental states. These metrics will be designed to take advantage of the extensive qualitative information available and assign numerical values that can be used

to determine probabilities as to where a given culture lies on any given dimension. For example, social scientists observing a new culture could use these metrics to analyze documents, videos, and interviews to determine where a culture lies on individualism/collectivism, power/distance, or any other dimension in the taxonomy. Such metrics provide a distinct advantage because a variety of sources can be used as opposed to a single source (e.g., interviews) that may be more difficult to obtain. Further, to account for the dynamic nature of culture, scores on dimensions can be adjusted as additional information is learned regarding the culture of interest.

In order to ensure our taxonomy's validity and applicability in training, several efforts are currently underway or planned for the future. First, as new approaches to culture emerge on a consistent basis, we are continuing to review and incorporate new theories across a wide range of disciplines. This also aids in ensuring that our approach is adaptable to changes and growth in our understanding of culture. Moreover, we plan to conduct empirical studies that test specific hypotheses focused upon validating the connections between the internal mental structures and environmental context. This will be done through both laboratory experimentation as well as field studies to ensure application in real world contexts. Additionally, the process of identifying metrics that can be used to assess cognitive and behavioral markers necessary for cultural training programs is currently underway. Finally, we plan to explore the utilization and practicality of this approach to training. This will be done through both the creation of a new training cultural training program, as well as through the adaptation of a previously developed program. The goal of this approach is to ensure the usability of the taxonomy for both new and prior training development efforts.

CONCLUSION

Understanding the influence of culture is important within and across every level of the Department of Defense. However, preparing individuals to operate in culturally complex environments is not a simple task, and requires well-developed training programs that are solidly rooted in culture theory and based on accurate cultural data. As most training developers use a range of approaches to incorporating cultural information—which may or may not be accurate or biased depending on the source—it is critical that a more unified approach be created for the U.S. military that can serve to better meet these needs.

In this paper, we have presented a cultural taxonomy designed to do just this through the successful integration of multiple facets of cultural complexity. Building upon previous literature, we consider both internal mental states as well as environmental dimensions that are relevant to culture, as well as incorporate the multi-level nature of culture. In terms of application, this taxonomy is not only useful in the creation of new training programs for the military, but also for reviewing previously created programs to ensure their cultural validity. It is expected that while this taxonomy is currently targeted towards a military perspective, in the future it will be applicable to a broader audience as well. As our cultural taxonomy is an emerging concept, future research is needed to verify its applicability as well. However, it is hoped that its presentation will drive training developers to think more carefully about the type of cultural data that is incorporated into cultural training programs. Cultural training programs are only as effective as the principles upon which they are built, and accurate cultural data is a key building block for success. Our hopes are that this framework provides a point of departure for an increased focus on the cultural content on training—a highly important component of any effective cultural competency training endeavor.

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