

We live in a world that is becoming more and more diverse, with fewer homogeneous groups, and we are confronted with the issue of how to provide counseling and educational services to a diverse target population (Adams, 2012; Sandford, 2010; VanTassel-Baska, 2013). VanTassel-Baska (2013) noted that future educational research addressing diversity should involve comparative studies across cultures and countries. Culture has been defined in a number of different ways. Chiao et al. (2010) defined *culture* and stated it is “shared values, practices and beliefs of a group of people” (p. 357). There are other definitions of culture that have a focus on race or nationality, but these are different concepts and can provide further understanding of how humans react and respond based on culture. Chiao et al. suggested that adding race or nationality does not help in understanding culture since there is so much diversity within a culture and race, and nationality may or may not have an impact on understanding how group members respond. Hofstede (1980) provided one of the most often cited definitions of culture. He stated that culture is “the collective programming of the mind which distinguishes the members of one human group from another” (p. 43). Hofstede further differentiated culture into five dimensions: individualism–collectivism, power distance, uncertainty avoidance, masculinity–femininity, and long-term versus short-term orientation.

The first dimension, **individualism–collectivism**, concerns individualism as having a social perspective that individuals take care of themselves, whereas the collectivist perspective involves a view that there is clear differentiation between groups and the members see the group as creating support and providing a structure to care for members. The second dimension is the power distance, and Hofstede (1980) defined it as “the extent to which a society accepts the fact that power in institutions and organizations is distributed unequally” (p. 45). The power distance is assessed or determined based on societal status of power. The third dimension, according to Hofstede, is uncertainty avoidance. This concept refers to “the extent to which a society feels threatened by uncertain and ambiguous situations and tries to avoid these situations by providing greater career stability” (p. 45). The fourth dimension is masculinity–femininity. Hofstede defined masculinity–femininity as “the extent to which the dominant values in society are masculine—that is assertiveness” (p. 46). Femininity is defined as nonassertive and nondominant. Lastly, the dimension of long-term and short-term orientation (fifth dimension) is defined in terms of being future oriented (long-term) or present- or past-oriented perspectives (short-term; Hofstede & Bond, 1988).

The issues surrounding research from a cross-cultural and diversity perspective are based on concerns such as who should conduct cross-cultural research and how research

results can be ethically applied to a diverse population (population research). There are other significant issues for those conducting cultural research (Cha, Kim, & Erlen, 2007; McKee, Schlehofer, & Thew, 2013; Tayeb, 2001). Tayeb identified a number of issues confronting researchers studying culture. One issue concerns an agreement among researchers about the term *culture*: What does it mean and how is it defined (Tayeb, 2001)? Does the term *culture* refer to a national view? Is culture based on societal relationship—for example, individualistic versus collectivist? A second issue, according to Tayeb, is that researchers tend to restrict the research to a few dimensions that may impact a full understanding of the impact of culture (Tayeb). Another problem identified with cultural research is lack of information about the population used in a study—simply stating *Asian* does not give enough information about the population, since there is considerable variability in various regions. Another issue for cultural researchers is the consideration and reporting of noncultural factors that potentially impact cultural research (Tayeb, 2001). An issue for researchers is the translation of scales (measurements for the dependent variable[s]; Cha et al., 2007). Cha et al. (2007) noted that completing a translation from one language to another does not guarantee an accurate representation of the material.

The first issue, who should conduct cultural research, has involved spirited debate (Fitzgerald, 2006; Ponterotto, 1993; Sue, 1993). Parham (1993) questioned whether those from White racial backgrounds could effectively conduct minority research. Fitzgerald (2006) cited several concerns in conducting cross-cultural research. First, there are issues in the use of measurements for two reasons. One is that the stimuli of the measurements may not be sensitive to different cultures—for example, the translation of the instrument may not be consistent. Second, the instrument may not be appropriate for the cultural population. Another issue concerns assumptions made in making comparisons—that is, a cultural group is relatively homogeneous. Fitzgerald (2006) pointed out that there can be more differences within cultures than between cultures. Ponterotto (1993) noted that White researchers may experience concerns over rejection and challenge in conducting research focusing on minorities. The question then becomes this: Should only those from minority backgrounds conduct minority and cross-cultural research? Sue (1993) noted increased tension among different racial and ethnic minority groups. Consequently, can researchers from one racial or ethnic group conduct research that addresses all groups? Several investigators have suggested that one group may not be “qualified” to conduct cross-cultural research, and it has been proposed that the best solution is for researchers from different racial backgrounds to collaborate in developing and conducting research (Atkinson, 1993; Mio & Iwamasa, 1993).

Cha et al. (2007) discussed issues in translation of instruments or assessments across languages. Many of the issues in making translations concern obtaining the exact meaning from the translation. There are many terms that are not the same in translation across languages. You have heard the saying “lost in translation,” and this can be a significant issue for researchers who want to compare across cultures. Bracken and Barona (1991) noted that “translating tests from a source language into a second language has not generally provided an acceptable solution” (p. 119). The meanings of the translated questions or instruments may not accurately represent the intent.

A key issue in translation across languages is using a systematic approach. Cha et al. proposed that independent translators should be used in making the translations from one language to another. This means the researchers who are conducting the research should not be the ones completing the translations. Cha et al. also proposed that those used in making the translations should be proficient in both languages—the language of the original instrument and the language where it is translated. Additionally, it has been suggested that those involved in the text translation should be knowledgeable about test construction and test properties (Cha et al., 2007). Lastly, it has been suggested that any translation should involve decentering; decentering concerns making translations that are not literal but promote the true meaning and intention of the test items (Cha et al., 2007). A common and well-accepted process of translation is the use of blind back translation (Bracken & Barona, 1991). Blind back translation involves a translation from the second language back to the source language by a translator not involved in the initial translation from the source to the second language (Bracken & Barona, 1991; Cha et al., 2007). This provides an opportunity to systematically check the accuracy of the original translation.

An issue that is sensitive for most professionals as they work with their populations is the role of spirituality and religion (Adams, 2012; Walker & Aten, 2012). Adams noted how slowly professionals have embraced the relevance of spirituality in practice. Additionally, she noted that most professionals are uncomfortable addressing these topics—spirituality and religion. However, survey research has found that over three fourths of the U.S. population believes in God or report spirituality and religion are important to them. An additional issue beyond the view that most professionals are uncomfortable with addressing spirituality and religion in practice is the issue that training programs do not prepare professionals to address these topics. Future research needs to be conducted that explores how spirituality and religion are taught and how professionals may best utilize this natural connection to those with whom they work.

Another concern is whether research results can be ethically applied to diverse populations, which is particularly relevant to you as a practitioner. As has been noted previously in Chapter 2, the application of research results may cause harm to a population—particularly if the results portray a particular ethnic group negatively. Population research may be a problem when the interpretation of the results is based on a particular orientation, such as that of the dominant majority. It has been suggested that to avoid interpreting and applying research results inappropriately, which could possibly harm a population, there should be training in and awareness of cross-cultural issues for practitioners (LaFromboise & Foster, 1992).

Researchers conducting cultural research need to be knowledgeable about the unique characteristics and perspectives of those they are studying. For example, Harding et al. (2012) discussed the specific issues that need to be addressed in studying those from Native American cultures. They stated that few non-Native American researchers understand the unique viewpoints of Native American populations. Mihesuah (1993) identified concerns by non-Native American researchers conducting research. Mihesuah suggested that many researchers studying Native American populations are motivated by their own interests, achieving tenure and promotions.

Similar to issues of trust and acceptance with other cultural populations (e.g., African Americans), Native Americans may be hesitant and even hostile to working with those who are not Native American and distrust researchers. Native Americans have a long history of abuse and issues of trust of those from European American descent. Many Native American treaties were not followed by those in the U.S. government over the past several hundred years. Harding et al. noted that Native American communities are unique among minority cultures; they have independent sovereignty and a separate relationship with the U.S. government. A sovereign perspective may impact how they respond to U.S. human subject rules and regulations. Harding et al. pointed out that Native American tribes may set unique terms for researchers in conducting research. Researchers deciding to work with populations from Native American cultures need to develop trusting relationships and fully include tribal leaders throughout the research process.

Mihesuah (1993) offered several guidelines in working with Native American populations. One of the guidelines concerned a proposal that only tribal leaders should review and ultimately approve any research conducted with their populations. A second guideline identified by Mihesuah was that researchers should remain sensitive to the economic, social, physical, and religious aspects as well as the welfare of those Native American populations that are of interest. A third recommendation or guideline is that researchers should be careful in using cameras and video recording. Any recordings should receive prior approval. Any research findings should be communicated to the community with a discussion how the results may impact the community (Mihesuah, 1993).

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## CULTURAL NEUROSCIENCE RESEARCH

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**Cultural neuroscience** provides a good basis for further understanding and interpreting research and culture (Chiao, 2009; Han et al., 2013). Chiao (2009) proposed the discipline and stated that cultural neuroscience is influenced by anthropology, social psychology or neuroscience, and cognitive neuroscience (Chiao et al., 2010). Chiao et al. (2010) described the uniqueness of cultural neuroscience as “it focuses explicitly on ways that mental and neural events vary as a function of cultural traits (e.g., values, practices and beliefs) in some meaningful way” and “illustrates how cultural traits may shape the emergence of genomic, neurobiological and psychological processes over time and how such effects in turn, facilitate complex social experiences and even broader behavioral processes such as perception and cognition” (p. 357). The evolution of cultural neuroscience is, in part, a consequence of advances in technology and methods to understand brain processes. Functional magnetic resonance imaging (fMRI) involves monitoring brain activity through acquisition of blood flow and changes in oxygenation related to neuronal activity. A positron emission tomography (PET) scan shows blood flow, oxygen usage, and uses of sugar in the brain. Electroencephalogram (EEG) is a measure of neuronal activity on the scalp surface. EEG shows brain waves in different brain regions—brain activity—electrical activity. Additionally, raw EEG brain wave data can

be converted to low resolution imagery—low resolution brain electromagnetic tomography (LORETA; a recent version is sLORETA)—which gives information about source generators, or sources where there is increased firing of neurons in various regions of the brain. These technologies provide cultural neuroscientists with methods of studying the impact of culture and the brain. Before advances in brain technology, the primary methods for studying culture was through survey and other behavioral methods. Now researchers can investigate how the brain impacts cultural responses and neural processes on related cultural influences.

Some perceive the term *race* as a way to categorize others (humans) based upon biological bases (Satcher, 2001). People seem to associate certain biological characteristics with race, such as skin color or the shape of eyes or face. However, there is no clear biological basis for differentiating or categorizing humans in such a way: genotype. One way to conceptualize the difference is that racial differences may be understood through the definition of phenotype, which is a reference to the physical characteristics interacting with social influences of an organism or human. One way to conceptualize the difference is that racial differences may be understood through the definition of phenotype, which is a reference to the physical characteristics interacting with social influences of an organism or human.

A primary goal of cultural neuroscience is to promote research into brain functioning and interaction with cultural contexts (Han et al., 2013). Chiao (2009) further described cultural neuroscience as a research discipline that “investigates cultural variation in psychological, neural, and genomic processes as a means of articulating the bidirectional relationship of these processes and their emergent properties” (p. 289). Key in this description is the bidirectional interaction among culture and genes as well as neural and psychological processes. Chiao (2009) identified the goal of cultural neuroscience as identification and understanding of methods that illuminate neural processes and how they vary as a consequence of culture traits such as values, practices, and beliefs.

Chiao (2009) discussed the benefits of understanding genetics and culture on the brain in developing psychological theory: cultural neuroscience. One benefit is that cultural psychology, a related discipline, illustrates the impact of culture on psychological processes. A second reason to study cultural neuroscience, according to Chiao, is that understanding whether neural variations for humans living in different regions or contexts differ during completion of the same task or activity. Thirdly, Chiao proposed that not having a comprehensive understanding of the bidirectional influence of genomic and cultural processes on brain functioning limits our understanding of human behavior.

Chiao, Cheon, Pornpattananangkul, Mrazek, and Blizinsky (2013) further discussed the benefits of cultural neuroscience as a consequence of understanding the cultural and genetic variation on neural and psychological processes: identification of population disparities. For example, further understanding of specific problems such as substance abuse found to be associated with specific populations may allow for focused interventions and funding. Research into cultural neuroscience may illuminate disparities and differences in mental health problems.

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## EXAMPLES OF CULTURAL AND NEUROSCIENCE RESEARCH

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Recent research provides examples of how cultural neuroscience may be used in practice and promotes understanding of various social science or counseling and education issues. There have been attempts to make comparisons between cultural responses and neural responses between Western and East Asian cultures. There appear to be distinct differences in how information is processed among different regions (East and West). Other comparisons between Western and Middle Eastern cultures include self-representations. Cultural neuroscience researchers have studied self-representation across cultures (Kitayama & Park, 2010). One explanation that self-representation is studied in cultural neuroscience research is that there is a theoretical basis for making comparisons between those from Western and East Asian cultures—individualistic versus collectivist perspectives. Chiao (2009) noted that individualistic and collectivistic perspectives are identified through self-construal styles. Individuals from an individualistic self-construal style are associated with a view that humans are independent from others and self-sufficient. A collectivistic self-construal style is associated with a view that humans are interconnected to each other and feel strongly associated with a social context (Chiao, 2009).

Chiao et al. (2010) conducted a study with a goal of investigating neural processes of those from individualistic and collectivistic views of the self. The region of interest (ROI) for the Chiao et al. study was the medial prefrontal cortex (MPFC); this region is associated with self-knowledge (Amodio & Frith, 2006). Participants for this study were 12 individuals from Japan and 12 individuals from Caucasian American regions. In an effort to understand whether a particular geographical region represents self-construal style, the researchers administered the self-construal scale (SCS). The researchers separated participants by their responses on the SCS into individualistic or collectivistic perspectives. The researchers exposed participants to photographs of self-descriptions, and neural processes data was collected using an fMRI. The researchers collected fMRI data from facilities in the United States and Japan. To ensure accurate data comparison from two different sites—one in Japan and one in the United States—the researchers used fMRI scanners that had similar instrumentation and imaging **parameters**. The researchers found that those representing individualistic views demonstrated more activation in the bilateral thalamus, the right insula, and the right superior frontal gyrus for self-judgments compared to those from a collectivistic self-construal style. Individuals from a collectivistic self-construal style demonstrated more neural activation in the left middle temporal gyrus while viewing self-judgment photographs compared to those from an individualistic self-construal style. The researchers concluded that results demonstrated that culture does impact neural processes.

Zhu, Zhang, Fan, and Han (2007) completed a study focused on cultural influence of neural processes on self-representation. The theoretical foundation of their study was the view that those from Western countries were represented by an independent self versus an East Asian perspective and an interdependent self. Participants included Chinese

and Whites, and spoke English. Participants completed trait judgment tasks. The researchers collected data using fMRI and measured brain activity. The researchers investigated self, mother, and other perspectives and these relationships. The researchers found that those from Chinese backgrounds demonstrated more activation in the MPFC for both self and mother. Those from Western backgrounds only demonstrated activation in the MPFC for self. The researchers concluded that those from an interdependent culture demonstrated differences in neural processes regarding relationship or interdependent relationships compared to those from Western backgrounds.

A second area of cultural neuroscience research has been focused on math and arithmetic performance (Hanakawa, Honda, Okada, Fukuyama, & Okada, 2003; Tang et al., 2006). A study conducted by Hanakawa et al. (2003) focused on those from East Asian backgrounds and compared those who were experts in using an abacus versus those who did not have such experience; they looked at performance on mental calculations and neural processes associated with them. All participants were Japanese and in their mid to late 20s; the group's participants were either those who were expert with using abacuses versus those who did not have such experience. Participants completed three different types of math: mental operations tasks (numeral, spatial, and verbal). The researchers collected neural data using fMRI technology. They found that those who had experience with using an abacus (what they defined as abacus experts) showed neural correlates associated with visuospatial processing: right premotor and parietal areas. Hanakawa et al. findings were somewhat similar to those found by Tang et al. (2006) for those from the East Asian background. This study suggested that experience, possibly related to culture, with a particular mathematical form of calculation, an abacus, impacted neural processes in performing certain math calculations.

Tang et al. investigated how the use of Arabic numbers are interpreted and processed in the brain by individuals speaking Chinese and English. The researchers used fMRI data to compare brain activity while participants completed math processing tasks. The math processing tasks were presented visually to participants. Participants were 12 Chinese speakers (college speakers) and 12 English speakers (English educators). The researchers found similarity of brain activity in Chinese and English speakers for numerical quantity comparison—similarity in activity in the inferior parietal cortex. The researchers found that Chinese participants when performing representation of numbers tasks demonstrated more activity in the visuomotor region compared to English-speaking participants. They proposed that Chinese participants had more activity in this region because they are exposed to reading and visual representations of Chinese characters.

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## SUMMARY

Culture plays an important role in our society today—in the United States primarily because of the changing demographics, although birth rates do contribute as well. Hofstede (1980) stated that culture is “the collective programming of the mind which distinguishes the members of one human group from another” (p. 25). Researchers

have conducted investigations into how culture and comparisons across cultures impact various areas of interest, including counseling and education. Hofstede also identified five dimensions of culture that researchers study, and these include individualism–collectivism, power distance, uncertainty avoidance, masculinity–femininity, and long-term versus short-term orientation. A number of issues for researchers addressing culture have been identified; one issue concerns an agreement among researchers about the term *culture*: What does it mean, and how is it defined (Tayeb, 2001)? A second issue according to Tayeb is that researchers tend to restrict the research to a few dimensions that may impact a full understanding of the impact of culture. A third problem for researchers is lack of information about the population used in a study—simply stating *Asian* does not give enough information about the population. Another issue for cultural researchers is the consideration and reporting of noncultural factors that potentially impact cultural research (Tayeb, 2001). An issue for researchers is the translation of scales (measurements for the dependent variable[s]; Cha et al., 2007). Cha et al. noted that completing a translation from one language to another does not guarantee an accurate representation of the material. Lastly, there has been significant increase in cultural research and neuroscience. Researchers have found that neural processes are associated with certain cultural differences.

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**APPLICATION OF CULTURAL RESEARCH TO  
NATIONAL ACCREDITATION: COUNCIL FOR  
ACCREDITATION OF COUNSELING AND RELATED  
EDUCATIONAL PROGRAMS AND COUNCIL FOR THE  
ACCREDITATION OF EDUCATOR PREPARATION**

### **Council for Accreditation of Counseling and Related Educational Programs**

A Council for Accreditation of Counseling and Related Educational Programs (CACREP) standard that is relevant for including cultural research application is Section 2: Professional Counseling Identity, Counseling Curriculum Item F2: Social and Cultural Diversity. The standard addresses a number of content knowledge areas and involves student or candidate understanding of (a) “multicultural and pluralistic characteristics within and among diverse groups”; (c) “multicultural counseling competencies”; (e) “the effects of power and privilege for counselors and clients”; and (h) “strategies for identifying and eliminating barriers, prejudices, and processes of intentional and unintentional oppression and discrimination.” The focus of cultural research includes discussion of the dimension of power differential. Hofstede defined *power distance* as “the extent to which a society accepts the fact that power in institutions and organizations is distributed unequally” (p. 45). An example are the effects of power and privilege may be an area of research for counseling across diverse groups.

A second standard that applies to research and the counselor education curriculum is Section 4: Evaluation in the Program, Evaluation of the Program Item A that states



the following: “Counselor education programs have a documented, empirically based plan for systematically evaluating the program objectives, including student learning.” This standard relates to counseling acquiring knowledge and skills in evaluating research, including evaluating the impact of curriculum instruction on knowledge and understanding of diversity.

### **Council for the Accreditation of Educator Preparation**

A Council for the Accreditation of Educator Preparation (CAEP) standard that is relevant to this chapter is Standard 2: Clinical Partnerships and Practice, Clinical Experiences 2.3: “The provider works with partners to design clinical experiences of sufficient depth, breadth, diversity, coherence, and duration to ensure that candidates demonstrate their developing effectiveness and positive impact on all students’ learning and development. . . .” The standard notes the importance of candidates (students) developing their skills to have an impact through diverse experiences, including diverse experiences with various groups (e.g., minority, low income, those with disabilities).

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## **EXERCISES AND ACTIVITIES**

Directions: Choose one or more of the following activities, and complete the activity.

1. Reflect and write about your experiences and knowledge with diversity and how it potentially impacts your future practice. Share your thoughts with your colleagues.  
the research based on the issues identified earlier—for example, sole focus on diversity versus other factors that impact the population of interest.
2. Identify several research articles in the professional literature that focus on cultural research. Discuss with colleagues the implications of the research finding. Also, discuss the limitation and potential issues with
3. Discuss with program faculty whether they have conducted cultural research and whether they agree or disagree that only those who share a specific diversity should conduct research with a particular population.