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The Challenge of Measuring Abilities and Competencies in Hispanics/Latinos

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GENERAL CONSIDERATIONS

A fundamental assumption within psychology is that the information gathered as part of experimental and clinical studies is representative and, therefore, generalizable to the population psychology seeks to understand and serve. Alternatively, if the information is limited to a small or limited group of individuals, its applicability and universality is diminished. The end result is the potential development of individual conclusions and conceptual frameworks that are not universal. If a discipline is populated by a narrow slice of the larger constituency and if the tools used to decipher the riddles of mind are narrow in scope, the end result is error prone and, consequently, of limited utility and eventual acceptance.

This chapter addresses the challenge of understanding how to measure abilities and competencies in Hispanic/Latino populations, especially in the United States. The assumption is how the psychological community addresses the issue of assessment of Hispanics in the United States, then, serves as a template for how the assessment of Spanish-speakers worldwide is being attended to. Further, the underlying question is simple: Do we have the tools available and the conceptual framework used to understand people in general to apply with

equal rigor and robustness to individuals that do not (at least at present) represent the majority group in numbers, in educational attainment, in socioeconomic status, and in positions of power? If the answer is yes, the current tools and frameworks are adequate, then the field should proceed to adapt as much as and as fast as possible to address issues of the measurement of the abilities and competencies of Spanish speakers. If, in contrast, those tools and frameworks do not match the clinical or scientific criteria, alternative approaches and paradigms should be considered.

The chapter seeks to understand one ethnic-minority group in the United States, Hispanic/Latinos, for two reasons. First, this is the fastest-growing and possibly the most disfranchised group in the United States today. Second, considering the differences in a variety of variables, ranging from language to social structure, the understanding of this group and their assessment may help establish a strong paradigm for the assessment of mental functions in other ethnic-minority groups both in the United States and abroad. This is critical in that regardless of settings, Russia, South Africa, or the United States, certain groups, because of socioeconomic, educational, and cultural factors, will by design be outside the majority group and, thus, potentially disenfranchised, marginalized, and misunderstood.

DEFINING HISPANIC AND LATINO/A DEMOGRAPHICS AND HETEROGENEITY

Defining Hispanic and Latino/a

More specific than culture is that of Hispanic/Latino/a culture. However, a definition of *Hispanic/Latino/a* must first be addressed. Even though there are reasons to consider Hispanic and Latino/a as distinct, for the purposes of this chapter, they will be considered as similar and the *Hispanic* term will be used instead of *Latino/a*. The word *Latino* has historically been attached to Mexico and has not always included other Central and South American as well as Caribbean countries.

According to Puente and Ardila (2000), *Hispanic* is usually defined in the United States as a person whose primary (or, in some cases, secondary) language is Spanish. The U.S. Census Bureau (2008) reports that about 66% of Hispanics living in the United States are of Mexican origin, 14.4% are of Central or South American origin, 10.6% are

Puerto Rican, 4.2% Cuban, and 7% of other Hispanic origin." Another way to define *Hispanic* origin, within one, possibly two, groups is to either Latin America and/or Spanish-speaking Hispanic.

Then there is the question of the origin from the Iberian Peninsula. *Latino* refers more to those residing in all countries south of the United States. The confusion is furthered by terms that are often associated with those like the group "La Raza" that purport to have a common heritage is heavily focused on Mexican cultural ancestry. Thus, the term *Latino* refers to what the underlying concept itself "colonized" just as much as the term *Hispanic* is intertwined with Brazil. In sum, the distinction is evident and, hence, the words *Hispanic* and *Latino* be used interchangeably.

Demographics

As of 2001, the U.S. Census reported that 12.5% of the entire U.S. population was Hispanic, a high number of Hispanics who are concentrated in California alone. Hispanics accounted for 12.5% of the U.S. Census Bureau (2008) has reported that Hispanics surpassed African Americans as the second largest ethnic group in the United States. Gonzalez (2008) has provided such demographics including educational attainment parameters that make this minority group residing in the United States. They comprise 25% of the entire population. In fact, the nation's Hispanic population is growing at a faster rate than the population as a whole. In 2003, accounting for about one-half of the nation's population since Census 2000, over the last 3 years was almost 1 million (3.3%).

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Puerto Rican, 4.2% Cuban, and 7.4% are classified as being of "Other origin." Another way to define Hispanics is to determine the country of origin, within one, possibly two, generations. If the individual has roots to either Latin America and/or Spain, then that person could be considered Hispanic.

Then there is the question of Hispanic or Latino. *Hispanic* refers to the origin from the Iberian Peninsula, but those that have been "colonized." *Latino* refers more to those residing in "Latin America," which includes all countries south of the United States, including but not limited to Brazil. The confusion is furthered by the fact that in the United States, Latinos are often associated with those individuals of Mexican heritage, just like the group "La Raza" that purports to reflect all individuals of Hispanic heritage is heavily focused on issues associated with individuals with Mexican cultural ancestry. Thus, neither word nor phrase correctly captures what the underlying concept is about. This group does not consider itself "colonized" just as much as they do not consider themselves directly intertwined with Brazil. In summary, no clear resolution to this problem is evident and, hence, the words *Hispanic* and *Latino/a* (male/female) will be used interchangeably.

Demographics

As of 2001, the U.S. Census reports that Hispanics comprise about 12.5% of the entire U.S. population. This figure does not include the high number of Hispanics who are in the United States illegally. In California alone, Hispanics account for 32.4% of the population. The U.S. Census Bureau (2008) has recently reported that Hispanics have surpassed African Americans as the largest minority in the United States. Gonzalez (2008) has provided critical information regarding such demographics including educational, vocational, and economic parameters that make this minority group quite different than others residing in the United States. Further, by the year 2050, Hispanics will comprise 25% of the entire population in the United States (54 million). In fact, the nation's Hispanic population continues to grow at a much faster rate than the population as a whole. Additionally, the population of Hispanics (who may be of any race) reached 39.9 million on July 1, 2003, accounting for about one-half of the 9.4 million residents added to the nation's population since Census 2000. Its growth rate of 13.0% over the last 3 years was almost four times that of the total population (3.3%).

According to recently published findings by the Pew Hispanic Center (Gonzalez, 2008), a combination of trends is occurring; one trend is the rapidly growing and shifting demographics and the second is how poorly this group is faring overall. There are more than 44,300,000 million Hispanics in the United States. From 2000 to 2005, there was a shift to the Hispanic population, where they used to comprise 12.5% of the population, now they made up 14.8% of the population. Of these, 8.9% represents native-born Hispanics whereas 5.9% represents foreign-born. The top three countries with the largest foreign-born population are, in order from highest to lowest, Uruguay, Venezuela, and Argentina. Approximately 40% of those of Mexican identity are foreign-born. From 2000 to 2005, there was a 21.5% increase in population growth with native-born outpacing foreign-born approximately two to one.

Mexico represents the largest group of individuals by an extremely wide margin with 63.9% of the population of Hispanics in the United States. Puerto Rico represents 9.1%, followed by Cuba at 3.5%. Spaniards, in contrast, represent less than 1% of the total Hispanic population in the United States. On average, the average age of males is 35 and for females, 37. Native-born Hispanics tend to be much younger, 16 for males and 18 for females, whereas foreign-born Hispanics are much older and more similar to the U.S. population at large, with males being on average 34 years of age and females, 36. Though traditionally located in states such as California, New Mexico, Texas, and New York, each of those states has experienced significant losses in their total Hispanic population.

In terms of education, foreign-born Hispanics are more poorly educated than native-born Hispanics who, in turn, are the worst educated group in the United States. This is particularly concerning in that many tests, except possibly excluding intellectual ones, are problematic in their sensitivity and specificity with individuals with limited or no education. In Ardila, Rosselli, and Puente (1994), the authors show how brain-damaged and educated individuals appear quite similar in neuropsychological tests to nonbrain-damaged but noneducated individuals.

Regardless of origin of birth, Hispanics are the most poorly educated ethnic-minority group in the United States. Further, they tend to speak English poorly, in general, as well as relative to other foreign-born ethnic groups. Hispanics who are foreign-born and less than 18 indicate that they speak English less than well 46% of the time compared to close to 73% for foreign-born Hispanics older than 18. Native-born individuals still do not fare particularly well with approximately 15% reporting not being able to

speak English very well. Besides be earn less than all other ethnic-min made more than \$50,000 with nativ born to reach this standard of livir any other group tabulated by Pew. to have the largest percentage of po less than \$20,000 per annum in sale

Within-Group Heterogeneity

Hispanics are a heterogeneous gr ican, and Puerto Rican) has its c heritage, and behavioral pattern: United States and Canada are mo the American way of life. This cou dardized testing, the importance c and competition in academic situ also noted by these authors that H more likely to appear similar to Ne than would Hispanics from Mexic on, although there is very little dat and suggests that within-group cor to the fact that Hispanics are often

Acculturation

The role of acculturation provides chological evaluation of Hispanics. the individual's ability to understar ture they were raised in and most f acculturation is a process in which changes occur as a result of long-t this is the case, how can acculturat considered dynamic in nature, this man, and Buki (2003) have suggeste by several cultures at once, and t changing. Although there are many isolate highly specific variables that However, one example would be to patient understands the value of tin

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A group of individuals by an extremely high concentration of Hispanics in the United States, followed by Cuba at 3.5%. Spaniards represent 1% of the total Hispanic population; the average age of males is 35 and females tend to be much younger, 16 for foreign-born Hispanics are much younger than the population at large, with males being 35 and females, 36. Though traditionally located in Mexico, Texas, and New York, each state has experienced significant losses in their total Hispanic population.

Foreign-born Hispanics are more poorly educated, in turn, are the worst educated group, particularly concerning in that many individuals, are problematic in their educational attainment with limited or no education. In the authors show how brain-damaged individuals are similar in neuropsychological tests to non-brain-damaged individuals.

Hispanics are the most poorly educated group in the United States. Further, they tend to speak Spanish relative to other foreign-born ethnic groups. Data from 1990 and less than 18 indicate that they spend more time compared to close to 73% for native-born individuals still do not pass the test. Only 15% reporting not being able to

speak English very well. Besides being poorly educated, Hispanics tend to earn less than all other ethnic-minority counterparts. Approximately 11% made more than \$50,000 with native-born being twice as likely as foreign-born to reach this standard of living. This percentage was the lowest of any other group tabulated by Pew. In contrast, Hispanics similarly tend to have the largest percentage of poorly paid workers with 50% receiving less than \$20,000 per annum in salary.

Within-Group Heterogeneity

Hispanics are a heterogeneous group. Each group (e.g., Cuban, Mexican, and Puerto Rican) has its own distinct cultural characteristics, heritage, and behavioral patterns. Further, Hispanics living in the United States and Canada are more likely to know some English and the American way of life. This could include an understanding of standardized testing, the importance of time and time-based productivity, and competition in academic situations (Puente & Ardila, 2000). It is also noted by these authors that Hispanics from the United States are more likely to appear similar to North Americans on standardized tests than would Hispanics from Mexico, Central or South America, and so on, although there is very little data in this area. Padilla (1999) concurs and suggests that within-group comparisons should be considered due to the fact that Hispanics are often considered unidimensional.

Acculturation

The role of acculturation provides a critical variable in the neuropsychological evaluation of Hispanics. Berry (1997) defines acculturation as the individual's ability to understand and maneuver outside of the culture they were raised in and most familiar with. Berry further states that acculturation is a process in which both psychological and behavioral changes occur as a result of long-term contact with another culture. If this is the case, how can acculturation be measured? As culture can be considered dynamic in nature, this task is difficult. Zea, Asner-Self, Birman, and Buki (2003) have suggested that many individuals are affected by several cultures at once, and the mix and interactions are always changing. Although there are many tests of acculturation, it is difficult to isolate highly specific variables that address all subgroups of Hispanics. However, one example would be to give a Hispanic a timed test. If the patient understands the value of time, then the person should be able

to perform the task. However, if they do not understand that they must respond as quickly as possible (this is the case with many Hispanics as the concept of time may be different for them), they will not perform as well and possibly present themselves as brain-damaged (Ardila et al., 1994). According to Shorris (1992), the degree of acculturation among Hispanics varies. As time goes by, patterns of behavior, beliefs, and values become similar to those of Americans. Thus, as a rule, Hispanics living in the United States eventually integrate their values with American values. In many ways, the faster the individual assimilates, the faster there is upward mobility across socioeconomic stages.

TRADITIONAL APPROACH TO THE ASSESSMENT OF ABILITIES AND COMPETENCIES OF SPANISH-SPEAKERS

Testing Spanish-speaking individuals, both in the United States and abroad, has lagged behind the testing of English-speaking individuals as well as those from other countries, including Russia and European nations. Historically, the greatest efforts have been linked to research and practice in the United States, to a degree Puerto Rico, and Spain. However, the efforts extended in any of the preceding cases have spanned less than 50 years and often research and practice of assessing Hispanics is no more than a couple of decades old. This section addresses the traditional efforts that have been used and the problems that arise with such efforts.

Translating Tests and Responses

Psychological assessment of Hispanics has typically taken place by adapting standard measures into adaptive situations. In some cases, the tests are used directly since the tests are nonverbal. In other cases, the tests are "translated." However, many of these translations have little or no research backing the validity (Fernandez, Boccaccini, & Noland, 2007). Some tests, such as the Wechsler Intelligence Tests for Children (WISC), have been translated and standardized (Wechsler, 2004), but others have no research and far-reaching implications. Specifically, most tests that are published in the United States have no Spanish translations. When Hispanics are sampled for standardization purposes, test authors often use Census Bureau statistics. However, as a rule, best practices (such as those used by the Wechsler tests) oversample underrepresented populations. Thus, the standard for

benchmark tests is to extend the sampling indicated by Census Bureau statistics.

Using two companies as examples, we find that most of the test Profile of Mood States, from Multicultural Psychological Services, a frequently used test of mood status, and the sampling does not appear to be representative. In addition, the Millon scales are excellent measures of psychopathology and oversampling applies here together with the other tests.

For Psychological Corporation, only one set of tests of psychopathology has been adequately researched and published. Psychological Services publishes the Substance Abuse Subtle Screening Inventory, which has been confirmed by research as valid. The tests are simple as the tests being not available in the United States (Fernandez, 2004). Multicultural Psychological Services publishes the Luria-Nebraska Inventory, which was very popular during the 1970s on a carefully designed translation of the Luria-Nebraska Inventory. Universidad Complutense de Madrid (both in Spain). That series of inventories was discontinued because of copyright problems. The Luria-Nebraska cards developed by Alexander Luria a century ago. The cards have been used by Luria's students in Denmark. For a close-to-defunct company in Spain, the Luria-Nebraska Inventory is in the United States. This snafu exists because the Luria-Nebraska is economically unfeasible for the Spanish test publisher TEA who has the rights to the Luria-Nebraska. Western Psychological Services publishes the Luria-Nebraska Inventory.

In other words, the tests are not valid. Cognitive equivalence is more complex than it appears. And if they are adequately translated, the tests do not standardize those tests with Spanish-speaking populations. The previous concerns are addressed by the right concerns. This combination of concerns is a challenging for test publishers in the United States.

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ASSESSMENT OF SPANISH-SPEAKERS

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benchmark tests is to extend the sampling numbers to beyond the proportion indicated by Census Bureau statistics.

Using two companies as examples, Pearson and Multi-Health Systems, we find that most of the tests are not translated into Spanish. The Profile of Mood States, from Multi-Health, is a well-regarded and frequently used test of mood status, but the test is not available in Spanish and the sampling does not appear to oversample Hispanics. For Pearson, the Millon scales are excellent examples of robust and sophisticated measures of psychopathology and health behaviors. Again, the lack of oversampling applies here together with a lack of a Spanish translation.

For Psychological Corporation, the story is essentially the same. Only one set of tests of psychopathology that has been published has been adequately researched and translated—the Beck Tests. Western Psychological Services publishes Katz Adjustment Scale-Revised and Substance Abuse Subtle Screening Inventory, neither of which have been confirmed by research as valid tests for Spanish-speaking Hispanics in the United States (Fernandez et al., 2007). But things are not as simple as the tests being not available. For example, Western Psychological Services publishes the Luria-Nebraska Neuropsychological Battery, which was very popular during the 1980s. The senior author worked on a carefully designed translation and study, with colleagues from the Universidad Complutense de Madrid and the Universidad de Granada (both in Spain). That series of investigations were not published largely because of copyright problems. The Spanish translation used the stimulus cards developed by Alexander Luria in Russia, approximately half a century ago. The cards have been adapted and copyrighted by one of Luria's students in Denmark. Further, those cards are now sold by a close-to-defunct company in Spain at a cost equaling the cost of the test in the United States. This snafu essentially made the publication of the Luria-Nebraska economically unfeasible, a decision made by the Spanish test publisher TEA who has the primary distribution agreement of Western Psychological Services products in Spain.

In other words, the tests are difficult to translate due to the fact that cognitive equivalence is more complicated than language equivalence. And if they are adequately translated, then it is difficult and expensive to standardize those tests with Spanish-speaking populations. Finally, if all the previous concerns are addressed, then there are economic and copyright concerns. This combination makes it scientifically and economically challenging for test publishers to address this growing population in the United States.

In addition to translated tests with no research confirming the validity of the tests, there are numerous tests that have only been confirmed as valid through research conducted in Spain. It has been argued that studies conducted in Spain are to be instrumental for practitioners and clients in the United States; most Spanish people living in the United States are from Latin America and both the culture and language of people from Latin America differ substantially from the culture and language of people from Spain (Fernandez et al., 2007). In other words, tests from Spain may actually introduce error in the testing procedure that may be subtle. That is, the tests may be in Spanish but the cognitive equivalence may not be and, thus, one may end up measuring quite different things.

Mixing and Matching Origins, Languages, and Norms

The first individual trained in psychology to win a Nobel Prize, Roger Sperry (personal communication, April 1994), once suggested to the senior author that culture was of little, if any, value to brain function. And for many neuropsychologists, including the more classical ones, that concept has remained true. For example, there have been few, if any, references to the concept of culture in Lezak's *Neuropsychological Assessment* books. That relaxed approach translates to psychologists who assume, as previously discussed, that all Hispanics are similar, that all forms of Spanish are similar, and that norms from one country (namely the United States) are applicable to those individuals from other cultures.

Of course, the situation is much more complicated than that. As an example, the word *bus* is very different in Spanish-speaking countries. In Spain and in many South American countries such as Uruguay and Chile, *bus* is *bus* but it could be *autobus*, *omnibus*, or even *micro*. For Caribbean countries like Cuba, Puerto Rico, and the Dominican Republic, the word *bus* is called *guagua*. In other words, subcultures of Hispanic heritage may be as dissimilar with each other as they are to the U.S. culture. There is little, if any, empirical data that address this. What data exist do reflect an entirely different perspective. Recently, Bure-Reyes, Puente, Gontier, and Sanchez (in press) tested different Hispanic subsamples, including samples from Chile, the Dominican Republic, Puerto Rico, and Spain. And, indeed, all Hispanics were not similar across a number of neuropsychological tests when several factors such as gender, education, and age were held constant. In this study, a series of commonly used tests were administered, including FAS Fluency, Stroop, Trail Making Part A and B,

Rey Osterreich Complex Figure Test, and so on. Whereas the differences were subtle and the time values across subsamples were similar, the results were not.

CURRENT CHALLENGES AND TRENDS IN ASSESSMENT OF SPANISH-SPEAKING INDIVIDUALS

There is little question that problems exist in the assessment of Hispanic individuals as well as other countries. However, the challenges are more complex than previously outlined. Thus, about the challenges associated with a "good" translation goes well beyond the simple. For example, the number 8 as an illustration, *eight* is a two-syllable word in English. The FAS Fluency test measures verbal fluency but it turns out that there are different frequencies in the English language. In other words, problems, there are more complex. This section addresses the limited number of tests and the scientific challenges associated with sensitive tests for Spanish-speakers.

Personnel Problems

The assumption that psychology reserves is a fallacy. A review of the American Psychological Association as well as the National Academy of Neuropsychology and the paucity of professionals who are trained in neuropsychology. The psychological Society has approximately 10,000 members in contrast to the more than 4,000 members in the Clinical Neuropsychology of APA). The notion that those that are in the field at best, a rudimentary appreciation has been done to address whether the tests are prepared to address clients who are Hispanic. Indeed, prepared though they report as knowledge of either the language or culture. (Harris, Congett, Diaz, & Puente, 1998)

no research confirming the validity that have only been confirmed as pain. It has been argued that fundamental for practitioners and clients people living in the United States are culture and language of people from the culture and language of people. In other words, tests from Spain using procedure that may be subtle. the cognitive equivalence may not be quite different things.

Languages, and Norms

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Rey Osterreich Complex Figure Text, and Verbal Serial Learning Curve. Whereas the differences were subtle, all tests did not yield similar results and the time values across subsamples were also dissimilar.

CURRENT CHALLENGES AND TRAJECTORIES IN ASSESSMENT OF SPANISH-SPEAKERS

There is little question that problems currently exist with regard to the assessment of Hispanic individuals residing in both the United States as well as other countries. However, the problems are even more complex than previously outlined. Thus far, major concerns have been raised about the challenges associated with test development. For example, a "good" translation goes well beyond adequate literal translation; it should capture the cognitively equivalent translation. Using the number 8 as an illustration, *eight* is a two-syllable word in Spanish but one syllable in English. The FAS Fluency Test is often used to determine verbal fluency but it turns out that the letters *F*, *A*, and *S* are used with different frequency in the English and Spanish languages. Beyond these problems, there are more complex issues facing the task at hand. This section addresses the limited number of personnel in the field as well as the scientific challenges associated with development of appropriately sensitive tests for Spanish-speakers.

Personnel Problems

The assumption that psychology represents the discipline that seeks to serve is a fallacy. A review of the American Psychological Association as well as the National Academy of Neuropsychology, as examples, reveals the paucity of professionals who are Hispanics. The Hispanic Neuropsychological Society has approximately 50 dues-paying members in contrast to the more than 4,000 members of NAN (and the Division of Clinical Neuropsychology of APA). Anecdotal evidence also supports the notion that those that are in the field either do not know Spanish or have, at best, a rudimentary appreciation of the language. When studies have been done to address whether the typical practitioner is trained and prepared to address clients who are Hispanics, many believe that they are indeed prepared though they report little, if any, formal training as well as knowledge of either the language and/or the culture (Echemendia, Harris, Congett, Diaz, & Puente, 1997).

Limited Tests

Camara, Nathan, and Puente (2000) surveyed both clinical and neuropsychologists in an effort to determine the most commonly used tests. Of the top 100, none were in Spanish and only a handful (e.g., WAIS and Beck Depression Scale) are available in Spanish. Some, such as the WAIS, have different translations, such as Mexican, Chilean, Argentinean, and Spanish. Most of these versions have adequate norms, though, at times limited. For example, the Mexican WAIS is normed on individuals who live in urban settings and apparently no rural-dwelling adults were used in the normative sample. Other tests, such as the Minnesota Multiphasic Personality Inventory (MMPI), do not appear to have norms for Spanish-speakers. And, others such as the Beta III, an intelligence test, not only has a normative sample that includes an oversampling of U.S.-residing Hispanics but the instructions are actually printed in Spanish in the test booklet. In Spain, the publishing house TEA has a number of tests that are available (see www.tea.es and Salazar, Perez-Garcia, & Puente, 2007), but, unfortunately, the translations are more geared toward Iberian Spanish and, in many cases, norms are not only not available from Spain but certainly not from the United States.

Translations

Translating a test is more complicated than one would anticipate. As other sections of this chapter address, equivalency is a challenging task. Beyond the careful translation and back-translation, several other steps could be taken. They include, but are not limited to, internal analysis of the validity of each item, external analyses of subtest and global scores, and comparisons of alternative forms. The Hispanic Neuropsychological Society has been working on addressing the problems with translators and translating with the hope that a position paper will eventually be published on these complex topics. The article "Professional Consideration for Improving the Neuropsychological Evaluation of Hispanics" (Judd et al., in press) provides numerous suggestions on how to avoid literal translations. One classic example is the translation into Spanish of Luria's approach to neuropsychological assessment. Ardila (1999), who obtained his doctorate training with Luria, completed a conceptually equivalent translation of that approach to the evaluation. Nevertheless, a true cognitive equivalence is very hard to complete. In this case, some of

the stimuli and questions appear more similar to English-speaking than Spanish-speaking ones.

Copyright

For many psychologists, the "correct" (whatever correct might be). However, the unauthorized translation of a test, even for good reasons possible. What is typically "local" use and not for widespread use. If a researcher decides to translate a test, it is difficult and sometimes extremely expensive. For example, Luria's visual stimuli, the copyright is held by the developer of the stimuli (Luria), and the researcher must ask permission, even if they live in a country where copyright law is not strictly enforced. The series of studies focusing on the validity of evaluations with Spanish-speaking individuals were done with verbal consent. The use of an e-mail was forwarded from the author to the publisher of the translated test. We had requested authorship but not been granted it. Expectedly and discussions with the publisher. It is good likelihood that this individual would not be in the general public. These two tests are associated with copyright of tests and

Normative Samples

Next is the question of what the norm is. For example, a 25-year-old Mexican national living in the United States for 10 months be compared to Anglos? The norm for a Mexican national living in the United States compared to Anglos? Maybe this should be the norm. It is simple. If the purpose is to determine the validity of the sample reflecting the population, then the comparison has occurred would be the norm. If the purpose is to determine achievement, then p

ly surveyed both clinical and neuropsychologists to determine the most commonly used tests in Spanish and only a handful (e.g., WAIS-R) are available in Spanish. Some translations, such as Mexican, Chilean, and Spanish versions have adequate normative samples. For example, the Mexican WAIS is based on an urban settings and apparently no other normative sample. Other tests, such as the Personality Inventory (MMPI), do not have Spanish-speaking normative samples. And, others such as the WAIS-R only has a normative sample that excludes Hispanics but the instructions in the test booklet. In Spain, the number of tests that are available (see Ardila, & Puente, 2007), but, unfortunately, are not available from Spain but cer-

tainly more than one would anticipate. As a result, equivalency is a challenging task. In addition to back-translation, several other steps are not limited to, internal analysis of test results, analyses of subtest and global scores, and so on. The Hispanic Neuropsychological Society, by addressing the problems with translators and test publishers, a position paper will eventually be published. The article "Professional Considerations in the Psychological Evaluation of Hispanics" offers various suggestions on how to avoid problems. One of the problems is the translation into Spanish of tests for cultural assessment. Ardila (1999), who translated the Luria, completed a conceptually similar test to the evaluation. Nevertheless, a test was not completed. In this case, some of

the stimuli and questions appear more relevant to Russian populations than Spanish-speaking ones.

Copyright

For many psychologists, the "correct" translation of a test is sufficient (whatever correct might be). However, copyright law prevents the unauthorized translation of a test, even if it is meant for the most humane reasons possible. What is typically done is that the test is translated for "local" use and not for widespread distribution and application. However, if a researcher decides to translate the test, getting copyright permission is difficult and sometimes extremely slow. In some cases, for example, Luria's visual stimuli, the copyright is complicated. One author, but not the developer of the stimuli (Luria), holds the copyright. The question arises to whom do you ask permission, especially if the author is deceased and lived in a country where copyright laws did not exist during the development of the test materials. The senior author has finished collaborating on a series of studies focusing on testing effort in neuropsychological evaluations with Spanish-speaking individuals. Unfortunately, the studies were done with verbal consent of the test's author. Once the studies proved a useful addition to the literature, the author was contacted and an e-mail was forwarded from the author indicating that he was supportive of having the translated test instructions and stimuli published. We had requested authorship but no royalties. But the author died unexpectedly and discussions with the test publisher have gone astray. There is good likelihood that this individual test will not become available to the general public. These two tests provide an example of the difficulties associated with copyright of tests and testing materials.

Normative Samples

Next is the question of what the reference sample should be. Should a 25-year-old Mexican national living in the United States for a few months be compared to Anglos? The answer is probably not. Should that Mexican national living in the United States for 20 years be compared to Anglos? Maybe this should be the case. However, the situation is not so simple. If the purpose is to determine ability and competency, probably comparing to the sample reflecting origin or where the greatest acculturation has occurred would be the most appropriate. If the purposes are to determine achievement, then probably comparing to the reference

sample that reflects the problem in question would be most appropriate. An example may be in order. If the question is whether the person has a cognitive problem or a learning disability, the country of origin or acculturated country should produce the reference sample. If the question is whether that person has the capacity to perform a specific task required of a particular sample, then the population from which that criterion is based on should probably be the reference sample.

Another problem is that of educational equivalence and, for that matter, records. Individuals whose native language is not English may either have attended a low-income neighborhood school or school in Latin America. Either situation would call into question whether the total number of grades completed would be equivalent in different schools. A high school education in Latin America sometimes is more comprehensive than the equivalent in the United States. College is typically 5 years compared to the typical 4 in the United States.

Another question involves whether a variety of normative samples should be used. Specifically, the question should focus on what is the intended use of the testing data obtained. In other words, if the idea is to determine how the client fares to the population in which the individual resides, then the normative reference from the majority population would be most applicable. Examples of this situation might be determining whether the client is able to return to gainful employment in the community of residence (e.g., Mexican living in the United States), a child who is being placed in a specific grade, or even a non-U.S. citizen and nondocumented individual charged with a crime who is being judged by a "jury of their peers" (i.e., presumably U.S. citizens). If in contrast, the question becomes what capacity or what change has occurred as a function of an injury or trauma, then using demographically corrected norms appear to make more sense. The decision of which norms to be used then rests on the question to be answered. If the question is one of relative comparison or between subjects, then nondemographically corrected norms appear most applicable. If in contrast, the question is whether the change is absolute (e.g., within subject), the demographically corrected norms would appear to be best.

In essence, sampling issues and challenges make the adaptation of these tests for Spanish-speakers quite complicated. What is required is both knowledge of the client's history as well as of the referral question. Matching both of these critical variables provides guidance as to addressing questions of normative or reference samples.

Development of New Instrume

In the development of culture-s (is possible) instruments, the ove other words, developing a concej a very difficult task. For example adding a significant number (wh timed is tantamount to developi error. Further, what on the surfac Not all things are similarly equiv tion. Take the case of proverbs. V ing a Spanish version of the Wec the working group consisted of can, a Cuban, a Puerto Rican, a group could not arrive at an eq one of the subtests. A final exam commonly used test of verbal fl chology (Camara et al., 2000). Ho a test but to develop a clearly d the original test, if one is used instead, the standard is to use a measured.

According to Helms (1997), development of tests in order to turn, increase fidelity of the conc

1. Functional equivalence: I across different cultural gr ferent tasks mean differer time is a most valuable co less important than other cultures.
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Development of New Instruments

In the development of culture-specific or culturally unbiased (if that is possible) instruments, the overall focus should be the criterion. In other words, developing a concept that is the focus of measurement is a very difficult task. For example, if intelligence is the construct, then adding a significant number (whatever that may be) of items that are timed is tantamount to developing a test that is full of measurement error. Further, what on the surface may appear similar in reality is not. Not all things are similarly equivalent in terms of more "pure" cognition. Take the case of proverbs. When the senior author was developing a Spanish version of the Wechsler Intelligence Scale for children, the working group consisted of an American-born Mexican American, a Cuban, a Puerto Rican, a Mexican, and a South American. The group could not arrive at an equally acceptable proverb to insert in one of the subtests. A final example is that of the FAS Test, the most commonly used test of verbal fluency in North American neuropsychology (Camara et al., 2000). Here, the goal is simply not to translate a test but to develop a clearly defined criterion. The standard is not the original test, if one is used as the basis for the current test but, instead, the standard is to use a clearly defined concept that is being measured.

According to Helms (1997), several steps should be used in the development of tests in order to reduce potential cultural bias and, in turn, increase fidelity of the concept being measured:

1. Functional equivalence: Do the scores have the same meaning across different cultural groups? Though superficially similar, different tasks mean different things across cultures. For example, time is a most valuable commodity in the United States, but it is less important than other things (e.g., social value) in Hispanic cultures.
2. Conceptual equivalence: Do the items have similar meaning or value across different groups? In other words, does a "correct" translation adequately capture the meaning involved? The concept trumps the wording in this context.
3. Linguistic equivalence: Are the words, phrases, and grammar similar in nature? Literal equivalence may violate linguistic equivalence. Proverbs from different Hispanic cultures are rarely the same.

4. Psychometric equivalence: Are we measuring the same thing in different contexts? If time comprises one of the major variables in measuring intelligence in American contexts and if time is not as valued by Hispanics, would it mean that Hispanics are not as fast and, therefore, not as intelligent as Americans?
5. Condition equivalence: Are individuals equally comfortable and understandable of the manners in which the concepts are being tested? Residents of the United States begin with testing at birth as every child is given an APGAR test to rate their status and function. That testing is part of the American educational, vocational, and social life. This is not the case for Hispanics where testing is often limited in scope and found primarily in schools.
6. Context equivalence: Like #4, are the concepts equal across different contexts? Contexts are often assumed to be equal. For example, a test administered by a stranger means the same thing. In Hispanic cultures, strangers, even professionals, are not viewed as individuals with whom one would want to share intimate aspects of one's lives.
7. Sampling equivalence: Are the normative samples equally comparable? Sometimes the assumption in sampling is that if there are enough Hispanics or all subjects are Spanish-speakers, that would be suitable. However, using the WAIS sampling in the United States and Mexico as an example, sampling equivalence does not hold true. The American WAIS samples extremely carefully (both authors have participated in the standardization of the WAIS IV), where the Mexican WAIS does not stratify among a variety of variables. For example, all subjects for the standardization are city dwellers.

Puente and Agranovich (2004) have elaborated on some of the preceding issues, specifically as to how they apply to neuropsychological testing. The factors include time, attitudes toward testing, values and meanings, modes of knowing, and patterns of abilities.

1. Time. In 1996, Perez-Arce and Puente suggested that ecological validity may be assumed but not realized in testing situations. They suggested that Hispanics use different problem-solving strategies compared to Anglo-Americans. Slowed performance could be equivalent to prolonged enjoyment of an activity.

2. Attitude toward testing. Ardila (2001) have indicated quite a different way that rapport could result in alternative outcomes.
3. Values and meanings. Attitudes on some tests have been different. For example is that snow is a bad thing as the WAIS. With most norms, the item would have been a good thing for a Spanish-speaker.
4. Modes of knowing. The ways of knowing are not universal across societies, opinion equals fact.
5. Patterns of abilities. Cognitive tests represent different psychological tests represent different abilities; therefore, they are being compared across different and cultural contexts (Ardila & Perez-Garcia, 2000).

From the perspective of test publishers, the challenges are different. Having helped in the standardization and translation of tests, the concerns of test publishers are, at times, different from those of teachers and clinicians and often not well understood. Some problems include

1. The economic viability of testing.
2. The costs and complications of multinational group studies.
3. Representation of subjects.
4. Selection, training, and payment of personnel.
5. Marketing and eventual acceptance.

Criterion-Based Testing and H

The possibility exists that what is considered a valuable, if not the norm, is not simple. Society determines, some tests serve the needs of its members. For example, a test considered a valuable, if not the norm, is not simple.

Are we measuring the same thing in American contexts and if time is not the same it mean that Hispanics are not as intelligent as Americans?

Are individuals equally comfortable and confident in which the concepts are being used? The United States begin with testing at birth. The WAIS test to rate their status and the American educational, vocational, and not the case for Hispanics where the test is found primarily in schools. Are the concepts equal across different cultures often assumed to be equal. For example, a test by a stranger means the same for all strangers, even professionals, are there any whom one would want to share information with?

Are the normative samples equally comparable in sampling is that if there are subjects are Spanish-speakers, that using the WAIS sampling in the United States, an example, sampling equivalence can't be used. Can WAIS samples extremely carelessly participated in the standardization of the test. Can WAIS does not stratify among different groups. In sample, all subjects for the standardization.

Have we elaborated on some of the pretests they apply to neuropsychological studies toward testing, values and norms of abilities.

and Puente suggested that economic factors are not realized in testing that Hispanics use different problems than Anglo-Americans. Slowed perception to prolonged enjoyment of an activity.

2. Attitude toward testing. Puente and Perez-Garcia (2000) and Ardila (2001) have indicated that Hispanics approach testing in quite a different way than Anglos. Suspiciousness and lack of rapport could result in altered test results.
3. Values and meanings. Ardila (2001) has pointed out that questions on some tests have different meaning for Hispanics. One example is that snow is used in some intellectual tests, such as the WAIS. With most Hispanics not living in temperate climates, the item would have less value or understanding for a Spanish-speaker.
4. Modes of knowing. The process of knowing and the object of knowledge are not universal (Ardila, 1999; Luria, 1999). In some societies, opinion equals facts and vice versa.
5. Patterns of abilities. Cognitive abilities measured by neuropsychological tests represent culturally learned abilities, and therefore, they are being affected by different environmental and cultural contexts (Ardila, 1995, 2001; Nell, 2000; Puente & Perez-Garcia, 2000).

From the perspective of test publishers, the view appears quite different. Having helped in the standardization of several tests as well as translation and standardization projects, the authors note that the concerns of test publishers are, at times, diametrically opposed to researchers and clinicians and often not well understood by the consumers of test products. Some problems include:

1. The economic viability of the translated product.
2. The costs and complications associated with multicultural or multinational group studies.
3. Representation of subjects used in normative studies.
4. Selection, training, and participation of qualified standardization personnel.
5. Marketing and eventual acceptability/use of the developed product.

Criterion-Based Testing and Hispanics in North America

The possibility exists that what is actually being measured is relatively simple. Society determines, sometimes implicitly, what is important to serve the needs of its members. For example, in North America, time is considered a valuable, if not the most valuable, commodity. In contrast,

in Latin America, time is not something meant to be conquered, instead it is meant to be enjoyed and savored. Thus, using time as a critical criterion for the measurement of a concept, such as intelligence, means it would be interpreted quite differently. For example, in the United States, the faster one completes a task (at least most tasks, as some are biologically impossible to do simply fast), the more intelligent that person would be. In Latin America, the opposite might actually be true. A fast person might be perceived as anxiety-ridden, uncomfortable, and unconfident and, thus, a "slower" person may be perceived as somebody that understands the task at hand and moves through it slowly as a means to experience all aspects of that situation.

The possibility then metamorphoses further in that the better one understands the criteria that society thinks are important and that, in turn, are often reflected in the tests that are developed, the greater the likelihood that those individuals would be labeled as successful, normal, and adapted and, in turn, be able to have greater access to the opportunities that arise with the conquering of the tests that reflect society's criteria of success. As an example, if a student works fast (and accurately, of course), then he or she would obtain a greater SAT or GRE score, which, in turn, would provide greater educational opportunity, which, in the long run, would provide greater economic and social gains. In essence, society rewards those that conquer its criteria and provides the spoils to the winner. One could easily argue that the measurement of abilities and competencies is nothing more than measuring what society considers important and generously rewarding those that measure well. Simply put, the measurement of abilities and competencies is a sophisticated way to preserve society's goals and maintain its intellectual control on the trajectory chosen.

If this approach is then adapted, especially poorly, to other cultural contexts, such as to ethnic minorities and to individuals residing in other countries, what transpires is nothing short of intellectual imperialism. The goal of society in power is to define constructs that help the societal trajectory. If the societal trajectory is narrowly defined or overly nationalistic, then intellectual imperialism ensues. If, in contrast, the measurement of ability and competency reflects a more universal concept, which is something that has rarely been attempted or accomplished, then the winner tends to be the larger group, and a more universal construct is developed.

However, there is a downside to this approach. One, there is an assumption that there are universally accepted or desired constructs for

abilities and competencies. Thus tended to be strongly culturally bound (see Puente, 1995). As long as there is a serious limit to the application of universal competencies. Second, if indeed universal competencies should simply measure problem solving, one could argue that the ethnic-specific concern for completing tasks quickly and beauty and unique qualities associated with each culture, what could happen is that one stage eventually erodes and another emerges. For Hispanics, by the year 2040, this group of individuals in the United States will replace English as the language. Intelligence tests will have few, if any, that individual accomplishment as well as social interaction and group success?

Whatever the case, it is clear that the measurement of ability and competency is incomplete, and not easily (if ever) complete for a heritage is Hispanic. Alternatives need to be developed quickly. If the current paradigm for the majority group in the United States is acculturated and educated with the majority, and the most fertile, what is the case in South Africa and instead of being a discrimination of a group based on the measurement of abilities and competencies.

PSYCHOMETRIC ASSESSMENT

Psychometric assessment of Hispanic areas:

Emotional

Neuropsychological

Intellectual

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cept, such as intelligence, means
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abilities and competencies. Thus far, the history of measurement has
tended to be strongly culturally bound and, in some cases, nationally
bound (see Puente, 1995). As long as those boundaries exist, there is a
serious limit to the application of universal concepts of abilities and com-
petencies. Second, if indeed universal concepts arise (e.g., intelligence
should simply measure problem solving à la Thorndike [1904]), then one
could argue that the ethnic-specific adaptive behaviors (e.g., the limited
concern for completing tasks quickly in Latin cultures) may erode the
beauty and unique qualities associated with that culture. Third, in some
cases, what could happen is that what a society considers important at
one stage eventually erodes and an alternative concept replaces it. With
Hispanics, by the year 2040, this group may represent the largest single
group of individuals in the United States. Does that mean that Spanish
will replace English as the language of choice? Does that mean that
intelligence tests will have few, if any, timed items? Does that mean
that individual accomplishment and independence would be replaced
with social interaction and group cohesion as the primary criteria of
success?

Whatever the case, it is clear that the current concepts of mea-
surement of ability and competency in North America appear biased,
incomplete, and not easily (if entirely) transferable to those whose
heritage is Hispanic. Alternatives need to be developed and to be devel-
oped quickly. If the current paradigm exists and Hispanics become
the majority group in the United States but remain the most poorly
acculturated and educated with the lowest earnings, the largest fami-
lies, and the most fertile, what is bound to occur is a modern-day
South Africa and instead of being racial discrimination, it will be dis-
crimination of a group based on the assessment and utility of abilities
and competencies.

PSYCHOMETRIC ASSESSMENT

Psychometric assessment of Hispanics has typically fallen under three
areas:

- Emotional
- Neuropsychological
- Intellectual

For better or worse, an assumption is made regarding the origins of psychopathology. If the etiology of psychopathology is functional (e.g., the patient is exhibiting a personality disorder because of an extensive history of abuse), then it is considered emotional. Tests such as the MMPI are excellent examples of this type of instrument. If the origin is physical, physiological, or neurological, then the psychopathology is considered to be organic. For these problems, neuropsychological tests are used to measure the extent of the deficits. Tests such as the ones captured by the Halstead-Reitan Neuropsychological Battery are good illustrations. The final category is tests of intelligence. These tests are broadly defined as tests that measure intellectual abilities (often in a wide scope such as the WAIS, KABC, and the Stanford-Binet) using statistical deviations referred to as an intelligence quotient or an IQ. However, these categories are, by definition, artificial. They assume, for example, that emotional problems are not products of physical origins, which is a faulty assumption. The opposite is also true in that neuropsychological tests are meant for "organic" problems, which is similarly a faulty assumption. Finally, it should be said that intellectual tests are looking more like neuropsychological tests. Using the WAIS as an example, the group of advisory experts were all neuropsychologists.

Emotional Assessment

Emotional psychometric assessment has many different testing materials in the process of assessment. One method that is still used widely today is projective tests with the Rorschach index. Hispanic results may be skewed due to the fact that the color responses, modulated by culture, can influence affective ratio (Cuellar, 1998). Furthermore, Latinos who are assessed by the Rorschach sometimes are considered to have more psychopathology than they should because of abnormally high scores on specific measures (Dana, 1998).

Neuropsychological Assessment

According to Cuellar (2004a, 2004b), the field of neuropsychological testing has ignored the role of important variables such as ethnicity, culture, language, and education. Significant measurement error in individuals from disenfranchised groups occurs when one incorrectly assumes that cultural and language variables have little if anything to do with physiological functioning. There are many

important variables that involve of the most important are ethnic (1998). Furthermore, in a study (and Gonzalez, there were noted to Caucasians. Caucasians performed for Word List Learning-II, where (Mungas, Reed, Haan, & Gonzalez) psychological measures are:

Non Verbal Conceptual Thinking
Verbal Conceptual Thinking
Object Naming
Picture Association
Verbal Attention Span
Visual Attention Span
Pattern Recognition
Spatial Localization
Verbal Comprehension
Verbal Expression
Spatial Configuration Learning
Word List Learning-I
Word List Learning-II

All tests were properly translated "standard back-translation method by bicultural Mexican Americans have bachelor degrees in Spanish. were psychometrists as well. The psychological test was properly translated Spanish-speaker will perform worse on most if not all measures. This monolingual Spanish-speakers in between high Spanish use, low English no acculturation (Mungas et al., 2000)

is made regarding the origins of psychopathology is functional (e.g., disorder because of an extensive emotional). Tests such as the type of instrument. If the origin is functional, then the psychopathology is functional. Problems, neuropsychological tests measure deficits. Tests such as the ones in the Neuropsychological Battery are good measures of intelligence. These tests are measures of intellectual abilities (often in a verbal form, and the Stanford-Binet) using an intelligence quotient or an IQ. Intelligence is not artificial. They assume, for example, that not all products of physical origins, but this is also true in that neuro-psychological problems, which is similarly true. It could be said that intellectual tests are not physical tests. Using the WAIS as an example, all neuropsychologists.

As many different testing materials are used, the method that is still used widely today is the index. Hispanic results may be different from responses, modulated by culture, (Mungas, 1998). Furthermore, Latinos who are considered to have more problems are considered to have more problems because of abnormally high scores on

), the field of neuropsychology. Important variables such as ethnicity. Significant measurement error occurs when one language group has little cultural functioning. There are many

important variables that involve physiological functioning but some of the most important are ethno cultural and educational (Cuellar, 1998). Furthermore, in a study conducted by Mungas, Reed, Haan, and Gonzalez, there were noted differences in Hispanics compared to Caucasians. Caucasians performed better on all measures except for Word List Learning-II, where there was no difference observed (Mungas, Reed, Haan, & Gonzalez, 2005). The 13 different neuropsychological measures are:

Non Verbal Conceptual Thinking

Verbal Conceptual Thinking

Object Naming

Picture Association

Verbal Attention Span

Visual Attention Span

Pattern Recognition

Spatial Localization

Verbal Comprehension

Verbal Expression

Spatial Configuration Learning

Word List Learning-I

Word List Learning-II

All tests were properly translated from English to Spanish by "standard back-translation methods." The translation was performed by bicultural Mexican Americans, and fully bilingual individuals who have bachelor degrees in Spanish. Furthermore, most of the translators were psychometrists as well. They concluded that even if the neuropsychological test was properly translated into Spanish, the monolingual Spanish-speaker will perform worse than a monolingual English-speaker on most if not all measures. This could be attributed to the fact that monolingual Spanish-speakers in the United States have a correlation between high Spanish use, low English use, little education, and little or no acculturation (Mungas et al., 2005).

Cognitive Assessment

Currently, there are many cognitive tests available to assess cognitive function. Unfortunately, many of these cognitive tests have a cultural bias that reduces their effectiveness for individuals from different cultures, especially Hispanics. There is a general understanding that, although translated versions can sometimes produce results without cultural bias, translated tests still maintain cultural bias. Furthermore, these cognitive tests misidentify Hispanics as "cognitively impaired" (Marshall, Mungas, Weldon, Reed, & Haan, 1997). The Mini-Mental Examination is an easy and short test that examines overall cognitive functioning. It is widely used in a clinical evaluation of individuals who might be demented. Others have suggested that such variables as ethnic origin negatively affect the scores on the Mini-Mental Status Examination (Marshall et al., 1997). A more efficient way of cognitively assessing a Hispanic who is not able to speak English fluently is through a nonverbal test, which is very valuable in the evaluation of diverse populations. Naglieri, Booth, and Winsler (2004) discovered that the nonverbal assessment of Hispanics with limited English proficiency is the most accurate way of detecting intelligence. It is noted that intelligence tests show a large difference between children with limited English proficiency and those who are proficient. This can lead to misdiagnoses of a Hispanic child as being mentally impaired. In addition, research has provided data to suggest that Hispanic and White children are equally gifted, concluding that when dealing with intelligence and cognitive assessment, it is vital that the practitioner use proper instrument selection (Ardila, 1995, 2001).

No matter what kind of assessment is being carried out on the Hispanic, it is necessary to utilize valid cultural indices to be able to evaluate cultural variables. In order to conduct a proper assessment, it is necessary to see where a Hispanic is due to the variability between nationalities and Hispanics in the United States. Cultural variables include:

- Linguistic abilities, such as verbal fluency
- Ethnic identity measures (i.e., ethnic distance, ethnic affirmation, and ethnic loyalty)
- Behavioral acculturation
- Cognitive acculturation (familism)

Bicultural typologies

Ethnic-specific status variable

Cultural Assessment

Different cultural variables are used in various measurements. For example, the Multigroup Ethnic Identity Measure (MEIM) is a measure of acculturation and cognitive acculturation. The Multicultural Measure of Cultural Intelligence (MMCILLA). Depending on the various acculturation measures, there are various acculturation measures. For example, Cuellar (1998) developed a scale that would be used to measure acculturation. The Rating Scale for Mexican American

Other measurements can also be used. There is a strong correlation between acculturation and intelligence scores, health status, weight, and consumption of cigars.

SUMMARY AND CONCLUSIONS

Shifting demographics in the United States in general, and psychology in particular, are the most valuable, but the demographics are changing. To adapt to those standards, social changes must occur. This chapter outlines the steps of the assessment of abilities and cognitive function in the situation. At best, psychology has identified cultural problems in social functioning.

Though the United States is a melting pot, either spoken English before arrival or acculturated. The current immigrants set precedents in a number of ways. Individuals arriving in the United States are these individuals not only speak English but not acculturated at the rate of previous generations. Hispanics disproportionately represent

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 with limited English proficiency is
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 are dealing with intelligence and
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 ate and conduct a proper assessment, it is
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 United States. Cultural variables

fluency

ethnic distance, ethnic affirmation,

Bicultural typologies

Ethnic-specific status variables (i.e., Hispanic stress)

Cultural Assessment

Different cultural variables are measured through the use of different measurements. For example, ethnic identity can be measured using the Multigroup Ethnic Identity Measure (MEIM). In addition, behavioral acculturation and cognitive acculturation can be measured by the Multi-dimensional Measure of Cultural Identity for Latino and Latina Adolescents (MMCILLA). Depending on the nationality of the Hispanic, there are various acculturation measures specifically developed for that nationality. For example, Cuellar (1998) notes that for Mexican Americans, the acculturation scale that would be most appropriate is the Acculturation Rating Scale for Mexican Americans.

Other measurements can also be used in measuring cultural variables. There is a strong correlation between all types of acculturation and intelligence scores, health status, alcohol and drug abuse, low-birth weight, and consumption of cigarettes (Cuellar, 1998).

SUMMARY AND CONCLUSIONS

Shifting demographics in the United States reflect a major problem for society in general, and psychology in particular. If society measures what is most valuable, but the demographics either do not acculturate, appreciate, or adapt to those standards, social unrest and intellectual apartheid may occur. This chapter outlines the shifting demographics, the current state of the assessment of abilities and competencies, and potential solutions to the situation. At best, psychology has a decade, possibly two, before critical problems in social functioning occur.

Though the United States is a country of immigrants, most have either spoken English before arriving or quickly learned English and acculturated. The current immigration pattern in the United States has set precedents in a number of ways. First, the sheer number of individuals arriving in the United States is unexpected and large. Second, these individuals not only speak a different language, but they have not acculturated at the rate of prior immigration groups. Third, Hispanics disproportionately represent the largest group in terms of less

education, economic measures, and engagement with health insurance programs. Hispanics are, by default, becoming economic and social failures to a highly competitive and fast-evolving system. This situation is bound to produce greater representation of patients requiring psychological diagnostic services, and eventually, treatment. For example, a disproportionate number of Spanish-speaking children will become part of disenfranchised groups in the educational system. The likelihood of Spanish-speakers becoming the largest percentage of learning disabled children, for example, is good. Another challenge is that Hispanics are heterogeneous and, in many ways, their heterogeneity may exceed between-group differences. That is, differences between different Hispanic subgroups, for example, Mexicans and South Americans, may exceed the differences between Hispanics and other comparison groups such as Anglo-Saxons.

This situation is particularly problematic considering not only that Hispanics now represent the largest ethnic-minority group in the United States, but that they will most likely become the largest social group in this country (exceeding Anglo-Saxons). That is, the largest social group in this country will be the poorest, least educated, and less likely to be covered by health and social programs.

Just because psychology has not historically had the necessary science, instruments, and personnel to evaluate Spanish-speakers has not resulted in a lack of attempting to evaluate them. However, it is important to note that traditional approaches are full of failed attempts with large error variances. These problems include, but are not limited to, lack of adequately translated tests, limited normative and standardization samples, limited scientific and clinical literature, as well as limited personnel. In addition, economic problems facing test publishers have sometimes resulted in limited efforts in the evolution of appropriately conceived and developed test instruments.

One way to summarize the situation has been indicated by Mungas and colleagues (2005). They have stated that sensitivity and specificity are both needed, but at the same time, how far one can deviate from the original construct for concepts to be equivalent becomes a challenging question. A particular challenge is that the development of a test originates and captures the "spirit" of that culture and then that is applied to a completely different one, often without much understanding of the culture for which the test has been generalized to.

When all is said and done, the underlying and fundamental question is whether culture should be integrated and held to the same

standards as, for example, age and sex. Is that culture irrelevant when it comes to underlying brain function? Are cultural differences artificial and should be disregarded in understanding the underlying function of the individual? No more, no less.

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standards as, for example, age and education. Roger Sperry has said that culture is irrelevant when it comes to brain function. What is absolute is underlying brain function and, in many ways, variables such as culture are artificial and should be construed as superfluous to understanding the underlying functional concept—What is the status of the individual? No more, no less.

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