CHAPTER 21

PSYCHOLOGICAL ASSESSMENT OF ETHNIC MINORITIES

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INTRODUCTION

Whereas the study of abnormal behavior through the use of scientifically based psychological instruments has a relatively lengthy and interesting history (see introductory chapter), the assessment of individuals who fall toward the edges of the "bell curve" poses unique social, political, and scientific challenges (Olmedo, 1981; Scarr, 1988). Traditionally, approaches to the study of individuals who are considered outside the mainstream of whatever society they belong to have been politically and socially based. The understanding of the study of these individuals was grounded on the assumptions that it is morally correct to understand these individuals (Fowlers & Richardson, 1996). Their "abnormal" functioning may be more saliently expressed by understanding their affiliation to a culture that is not appreciative or reflective of the majority group which rules or guides the social context in which they live. However, we propose that while such a motivation would appear reasonable and politically correct, it is still insufficient scientifically.

First, such an approach presupposes that the role of psychology is partially if not largely oriented toward righting the wrongs of a society's ancestors and, hence, primarily a social enterprise. While a reasonable goal, that would appear to us as insufficient. Second, one might assume

that understanding others who are, by design, difficult to understand, is again a reasonable goal. While we believe that for individual cases and in clinical situations this is not only desirable but also ethically appropriate, again this paradigm is insufficient. A third goal, rarely addressed by workers in this field, is that we believe that the study of culture and psychopathology combined (especially from a cognitive or neuro-cognitive perspective) provides a much larger pool of data about the human condition than previously used paradigms.

An example of this approach is found in a study from the World Health Organization (1973). They reported that with regards to schizophrenia, in Nigeria 58 percent and in India 51 percent of hospitalized individuals experienced complete remissions after two years after treatment. In contrast, in Denmark only 6 percent remission had been reported. The question then becomes what aspects of Nigerian and Indian culture is present (that are not in Denmark) which allow for such a high rate of recovery. The Basic Behavioral Science Task Force of the National Advisory Mental Health Council (1996) reported that in Los Angeles, Mexican Americans indicated that schizophrenia was a transitory condition associated with nervousness whereas Anglo-Saxon counterparts believed that schizophrenia was a permanent and total deterio-

prise 21 percent of total enrollment but an astonishing 42 percent of individuals labeled educable mentally retardate, 38 percent of those in educable mentally retardate, and 22 percent of those considered learning-disabled. Hispanics comprise 13 percent of the total enrollment, but 10 percent of educable mentally retardated, 22 percent trainable mentally retardate, and 12 percent learning disabled. In contrast, for Asian students total enrollment is reflective of enrollment of special programs. Such stereotypes in the short term encourage the assignment of individuals to incorrect diagnostic groups (e.g., learning disabled). In the long term this stereotypical and grossly incorrect database may eventually serve as a foundation for potentially incorrect theories and research programs on racial and ethnic differences (e.g., Jensen, 1980). While all valid programs of inquiry should exist (Kuhn, 1970), constraints on the scientific process fueled by emotional and unempirical variables have little value for the discipline, for the science, for society, and most of all, for members of ethnicminority groups. But as late as the end of the 20th century, we still are surprised and disappointed to read that "distinguished" historians of American culture continue to misunderstand the very essence of the issues at heart.

The purpose of this chapter will be to avoid such an orientation by focusing as much as possible on the data that are available. Initially, this contribution will focus on providing both historical and clinical background of testing of ethnic-minority group members. Standard clinical and psychometric practices involving individuals of minority groups will be presented and critiqued. Suggestions for theoretical shifts as well as practical clinical and psychometric approaches will be outlined, with cognizance of the potential pit-falls, perceived or real, that presently exist.

This chapter is primarily intended for North American audiences. Numerous limitations in the available data set, whether clinical or otherwise, would make a more geographically ambitious approach impossible. In fact, it could be argued that the most fertile research database is found in the states. Nevertheless, the approach (though not necessarily the data) should be considered a model for workers in other cultures, groups, or locations (e.g., Native Indians in mainstream Brazilian culture) in order to address the issues of psychological assessment of ethnic-minority group members.

An initial step in understanding members of minority groups is to define such groups. According to accepted practice, individuals are different from larger groups if they are not members of that group. Group composition can be determined by social, legal, biological, statistical, and behavioral variables. Possibly the easiest and most socially acceptable variable is biological, such as color of skin. However, other variables may also play a role. Statistical methods define group memberships by numerical scores obtained, while social and legal approaches may use societal tradition to define membership. Behavioral and psychological variables represent the most robust method as they should be free of bias due to the use of empirical methods and the criterion in question, the function of the person. After all, the color of an individual's skin is much less critical than their thinking patterns when it comes to understanding such issues as capacity to learn.

Standard practices have used overt and obvious variables to classify members into minority groups. For example, if an individual is not white (Caucasian) in North America he or she must belong to a minority group. One need look no further than the disciplines of animal behavior and neuropsychology to realize that gross morphological signs are often not well correlated with clear behavioral patterns. For this chapter, Brislin's (1988) classification system for human diversity is adopted. Contrary to popular belief, only three races exist. These include Caucasian (e.g., white), black, and Indian. The Indian race can be subdivided into Native American (e.g., Cherokee, Incas, etc.) and Asian (e.g., Japanese, Chinese, etc.). Ethnicity is another variable that can be used to differentiate mainstream from minority groups. Here, ethnicity is defined as a collective identity (e.g., Jew, Italian, etc.). Next, group composition can be determined by culture (e.g., southern, urban, etc.). This variable implies that groups can be defined according to social and personal identification. While less understood and accepted, other variables could also assist in determining group membership. These include, but should not be limited to, gender, sex, physical status (e.g., disability), social class, and religion. In 1990 the United States Bureau of the Census has more or less compressed these distinctions avoiding the differences between race, culture, and ethnicity. In a bold step, they proposed five different groups; Spanish/Hispanic/ Mexicans, and Puerto Ricans may actually differ more from each other than the entire group of Hispanics differs from Caucasians. In an ongoing translation and standardization of the Wecshler Intelligence Scale for children, Hispanics have been further subdivided into Central Americans, Cubans, Mexicans, Puerto Ricans, and South Americans. Thus, within-minority group analysis will eventually become as important as minority versus majority group comparisons.

HISTORICAL PRECEDENTS

Galton's "Inquiries into Human Faculty and Its Development" written in 1883 is most often considered the beginnings of psychological assessment (Boring, 1950). In order to evaluate human disabilities (and not sins, as had commonly been the case prior to Galton), this British pioneer developed the "mental test." While the test intended to measure such variables as color discrimination and auditory reaction time, the pur-Anthropometric of establishing the Laboratory at the International Health Exhibition in London was to determine the range of human abilities. Together with the founding of the journal Biometrika and the Eugenics Laboratory, Galton attempted to develop the concept of racial improvement (Schultz & Schultz, 1996).

The discrimination of acceptable and nonacceptable human characteristics has, unfortunately, found its way into present-day mental testing, possibly by way of James McKeen Cattell. After obtaining his Ph.D. from Wundt in Leipzig, Germany, Cattell came into contact with Galton (Boring, 1950), who in turn had enormous influence both directly (e.g., with numerous students) and indirectly (e.g., as editor of Science) on the study of mental ability in the United States. However, it was not until the appearance of Henry H. Goddard at Vineland Training School in New Jersey, and later Lewis Terman at Stanford University that a research program of psychological abilities became part of mainstream psychology.

Using "the evidence of mental tests," Terman (1916) indicated that "the average intelligence of women and girls is as high as that of men and boys" (p. 68). Nevertheless, he concluded in his book, *The Measurement of Intelligence*, that the "dullness" seen in "Indians, Mexicans, and Negroes raises the question of racial differences

in mental tasks." Terman suggested, "Children of the group should be segregated in special classes and given instruction which is concrete and practical. They cannot master abstraction, but they can often be made efficient workers, able to look out for themselves" (p. 92). He continued, "There is no possibility at present of convincing society that they should not be allowed to reproduce, although from a eugenics point of view they constitute a grave problem because of their unusually prolific breeding" (p. 92).

Such an orientation is observed in Goddard's work and later in Robert Yerkes's groundbreaking work with the Army Alpha and Beta tests during World War I. These tests were meant to classify A (intelligent) and D and E (feebleminded) individuals with a mean mental age of 13.08. (This score may have prompted Goddard to term any adult with less than 13 years of mental age as "moron."). However, both immigrants and nonwhites tended to score lower, prompting Yerkes (1923) to write in Atlantic Monthly about noninherited racial differences. This conclusion readily supported the racist opinion of Madison Grant who considered Nordics superior to other races. Based on these observations, Yerkes and others encouraged strict immigration laws especially for "the negro." To curtail the reproduction of those already in the United States, several American followers of Galton (namely John H. Nover and Victoria Woodhull) established a center for American eugenics in Cold Spring Harbor with financial support from the Carnegie Institution (Leahey, 1997). One of the greatest proponents of eugenics, Henry Goddard, published his famous book The Kallikak Family: A Study in the Heredity of Feeblemindedness (1912). This book, probably more than any published work of the time, was used for the control of reproduction by ethnic minorities.

Reflecting the influence of this and similar works, sterilization and vasectomy became common phenomena. According to Leahy, one of the greatest landmark decisions on the issue was that of a mental patient, Carrie Buck. After giving birth to a retarded child out of wedlock, the "feebleminded" Buck was involuntarily sterilized. She, in turn, sued the state of Virginia but lost in a split decision at the Supreme Court level. It seems as though unempirical (and presently considered unethical) approaches to the measurement of abilities are never easily resolved scientifically. Earlier in this century this issue

accomplished in the United States. The question becomes, are we measuring "true" intelligence or some understanding of culture.

Of course, to the typical reader of this chapter, such an example seems rather extreme. Hence, we have chosen to provide another example, which should be closer to the experiences of most psychologists. In another and more recent article Sternberg and Williams (1997) suggest that the GREs, still the most widely used standardized measure of achievement for acceptance into graduate school, predicts little in terms of graduate school performance and maybe less than that in terms of career success. Additional and also sophisticated arguments against the limited arguments of The Bell Curve are also found in Gould (1996). Thus, the criterion for intelligence and achievement and, for that matter pathology, according to Sternberg (and suggested by Gould) as well as accepted here, is not test scoring (especially alone and out of context) but life-long ability to adapt to the demands of life. This chapter attempts to build on this newfound scientific interest in an effort to determine the needs, limitations, and directions associated with the psychological assessment of ethnicminority populations in North America.

THEORETICAL ISSUES

In a chapter of this type it would be essentially impossible to address all pertinent theoretical issues that apply to the psychological assessment of ethnic minorities. We have chosen to focus on three main issues, bias, acculturation, and culture believing that they are the three most critical issues involved in this area of study.

Bias

Kenneth Eells pioneered the concept of bias in mental measurement, specifically the mental test. While his work focused only on whites, it did address the importance of difference—in this case, social class—in the assessment of mental function (Eells, 1951). Although the reasons for doing so are not entirely clear, some workers in psychometrics generalized his findings to other populations, namely African Americans. This incorrect generalization launched a wave of

poorly developed and executed studies on bias in testing.

One of the most controversial figures in mental bias research is Jensen, of the University of California at Berkeley; his most controversial book is *Bias in Mental Testing* (1980). According to Jensen, mental testing has been criticized because of one or more of the following reasons:

- 1. cultural bias
- 2. specific test items
- 3. inability to define or measure intelligence
- 4. tests that measure too narrow a range of abilities
- 5. failure to measure innate capacity
- 6. IQ tests that measure only learned skills
- 7. IOs that are inconsistent
- test scores that are contaminated by extraneous factors
- misuses, abuses, and undesirable consequences of testing

According to Jensen (1980), these criticisms are largely unfounded and confused with other factors. As he wrote, "Anxiety about one's own status, or the importance of the traits measured by tests, or sympathy for the less fortunate, may prompt the acceptance of criticisms of tests without evidence" (p. 23). Unfortunately, such critiques tend to focus on IQ tests and are emotionally interpreted. They complicate the question and prevent adequate understanding of the valid issues.

Reynolds and Brown (1984) presented a set of reasons, which are applicable to bias for a wider range of tests. These include:

- 1. inappropriate content
- 2. inappropriate standardization samples
- 3. examiner and language bias
- 4. inequitable social consequences
- 5. measurement of different constructs
- 6. differential predictive validity

Regardless of the source of bias, the definition of bias must also be considered. Unfortunately, numerous definitions are available in the literature—some more heuristic and plausible than others. The following are two samples of the many available.

that the difference is accounted for by biological factors such as genetics. A less popular interpretation used by researchers studying integration of an immigrant group into a majority or mainstream culture is that of acculturation.

Assimilation into a larger, more mainstream culture allows an individual to understand and adjust to the cultural, social, and psychological requirements of that culture. Conversely, those who do not adapt are considered to exhibit greater degrees of psychopathology. An illustration of the lack of adaptation was reported by Hoffmann, Dana, and Bolton (1985) who found that Sioux Native Americans with strong ties to tribal values and language were more likely to exhibit psychopathology as measured by the MMPI. These findings have also been replicated with other minority groups, including Hispanics (e.g., Montgomery & Oroz, 1984). Focusing on cognitive style and intelligence, Gonzales and Roll (1985) reported differences between Mexican Americans and whites on several test measures. However, no group difference was observed between Anglo-Americans and a subgroup of the original sample of Mexican Americans who had been shown to be acculturated to Anglo-American culture.

One method to determine whether acculturation has been achieved, and thus controlled, is to administer an acculturation scale. Marin, Sabogal, Marin, and Otero-Sabogal (1987) have developed a 12-item scale, which measures acculturation in Hispanic populations. The validation criteria included generation, length of residence in the United States, age at arrival, ethnic self-identification, and an acculturation index. These findings have been extended to children (e.g., Franco, 1983) as well as to other cultural groups such as Asian Americans (Suinn, Rickard-Figueroa, Lew, & Vigil, 1987). Preliminary findings suggest that age (younger), sex (male), and length of exposure to the predominant culture (Bumam, Telles, Kamo, & Hough, 1987) as well as cultural awareness and ethnic loyalty (Padilla, 1985) are critical factors in the acculturation process. Another scale used for acculturation is the Acculturation Rating Scale for Mexican Americans (ARSMA and ARSMA-II) (Cuellar, Arnold & Maldonado, 1995; Cuellar, Harris & Jasso, 1980). While this is a promising scale, more research is necessary to generalize use to other Hispanic and ethnic-minority populations. Fradd and Hallman (1983) concluded that until an individual has been taught strategies to build bridges from a previous to a current domain of knowledge, the validity of test measures is questionable.

The process of acculturation must be understood, however, as a dynamic rather than static process. Acculturation does not imply reaching an imaginary threshold at which time one becomes clearly acculturated. Knight and Kagan (1977) reported that it took about three generations for Mexican-American children to develop modal responses on Anglo-Saxon children with regard to social motives.

Four stages have been postulated (Basic Behavioral Science Task Force of the National Advisory Mental Health Council, 1996). They are; assimilation (becoming part of the majority culture), acculturation (adapting to the majority culture), alternation or biculturalism (adequately engaging two cultures), and multiculturalism (holding on to a personal and non-majority identity while participating in a goal-directed activity of the majority culture).

Further, acculturation is not dichotomous, instead it is multifaceted (Phinney, 1996; Magana, de La Rocha, Amsel, Magana, Fernandez, & Rulnick, 1996). Triandis (1982) has suggested that culture could be physical (e.g., buildings, tools, etc.) or subjective (e.g., social norms, roles, beliefs, and values). The subjective could include family dynamics, religious beliefs, language limitations, individualism, and so forth. Thus, one could conceivably be adapted to a culture physically, live and appear to be American (i.e., live in North Carolina, dress in Brooks Brothers clothing, etc.) but have specific behavioral patterns that would clearly identify the person as non-North Carolinian (i.e., native language would be Spanish, have extended family, practice Catholicism, and so forth).

Berry (1990) has proposed an interesting theory of acculturation. The process involves three levels:

- 1. Antecedents—internal, external, and traditional.
- 2. Processes—cultural change, acculturation, psychological acculturation,
- Consequents—changed cultural and social system, changed psychological status of persons.

she suggests that values and meanings, knowledge, models of knowing, and conventions of communication are not easily translatable across cultures and could be culture-specific. That is, the criterion of a particular meaning must be understood before it is "translated". She concludes that "tests are not universal instruments".

Social Policy

Whether tests are biased or culturally free, whether an individual belongs to a minority or a majority group, whether different groups are biologically equal or unequal, group differences still exist. To deny the obvious would be inappropriate. Certain minority groups perform differently, more often than not worse, than majority groups on specific items, tasks, or tests. These differences drive social policy. Academic psychology would undoubtedly prefer to research these problems and discrepancies more thoroughly before allowing findings to affect the judicial and legislative process, because the data for any of these questions are at best inconclusive as well as emotional and at worst confusing.

However, policy must be and will be made in the absence of adequate data and in the presence of emotion (see Bersoff, 1981). This reality could explain why Cole (1981) concluded that test bias research is likely to have only a small impact on complex social policy issues. Regardless, there are issues that relate to the available data. In the first edition of this handbook, Reschly (1984) addresses the concept of fairness. According to him, two approaches have been adopted. Equal treatment implies no bias or documentation in selection procedures and that all candidates, regardless of demographic affiliation, are treated equal. An alternative to this approach is equal outcomes, which implies that selection should match population demographics. Regardless of the approach and the data, North American society has adopted in principle the concept of fairness. The question remaining is which method described by Reschly will be chosen and what, if any, implications will the current paucity of data and lack of scientific agreement have on social policy formation and implementation. Another and politically limited approach would be to assume that representation of the American population (or for that matter whatever criterion population was chosen) is a criterion of choice. Next, one could use the currently used measures described in this chapter within the context of subsamples. Specifically, if selection to a college is the goal, then a college would first choose to accept representation from all groups as desirable. Next, they would apply the traditional standards (e.g., standardized test scores) within the accepted or chosen subsamples (e.g., Caucasian, Hispanics, African Americans, etc.). Considering the predictive validity of these tests, it is hypothesized that within-group (or subsample) variance would be greater than between-group (i.e., high-scoring blacks and high-scoring whites) variance.

To assist policymakers, researchers need to place greater importance on studying issues of race, culture, ethnicity, and related variables. The findings must then be applied to broaden our limited understanding of differences in psychological test performance of minority group members. Hall (1997) suggests the following steps in attempting to reach these objectives; (1) Ensure that the psychology curriculum is culturally diverse, (2) recruit and retain diverse faculty, (3) recruit and retain diverse students, (4) monitor, for the sake of accountability, efficacy of initiatives, (4) encourage culturally diverse research and publications, (5) increase the number of editors and reviewers of diverse background, (6) ensure minimum cultural competency for psychology students, (7) understand state-of-the-art research on topics of diversity, and (8) increase diversity within membership and leadership of the American Psychological Association.

Of course, there is the issue of who is to pursue these questions, both in academic and research settings. In the seminal article, "The Changing Face of American Psychology" (Howard et al., 1986), the future for ethnicminority group representation is presented as quite dismal. While women have made significant strides, African Americans, Hispanics, Asian-Americans, and Native Americans continue to lose ground, in terms of representation in graduate school ranks (Hall, 1997). Similar trends exist in academic ranks, and presumably in clinical settings as well (Bernal & Castro, 1994). Programs within the American Psychological Association, including the Minority Fellowship Program and the Minority Neuroscience Fellowship Program, may aid talented minorities to pursue graduate training. Unfortunately, undergraduate majors in psychology mirror the same trend (Puente, 1993). Indeed, by the time minoriunusual for the translator to be a lay person with limited understanding of psychological principles as well as an individual with personal interest in the patient. Further, translators may not approximate a balanced bilingual, or worse yet, not understand the culture in question. Distortion or misconception further impairs data gathering, especially with severely disorganized patients or individuals whose culture is very different from that of the diagnostician. Velazquez, Gonzales, Butcher, Castillo-Canez, Apocada, and Chavira (1997) suggested that an important and often over-looked first step in an evaluation is to allow the patient to choose the language to be used in the evaluation.

Several steps might be taken to attempt to control interview distortion. First, in order to bridge the language and cultural gap between patient and psychologist, rapport should be established prior to the interview. Greenfield (1997) has reported that ease in speaking to strangers, even though they are professionals, varies across cultures. For collective cultures (e.g., Asian and Hispanic), it is typical to limit discussions to only known individuals (Kim & Choi, 1994). In other words, you only relate one's problems with intimate or close friends or family friends. In contrast, in North America providing personal information to a stranger, but presumably a professional, increases the perception of objectivity and effectiveness.

Westermeyer (1987b) suggested that diagnostic interviews may take up to twice the usual time of a standard interview. Also, the clinician should make sure that ambiguous (whether real or imagined) questions or answers are clarified. Confrontation, the hallmark of some structured interview methods, should be avoided if possible since it may adversely affect client-clinician rapport.

By far the most important aspect of any diagnostic interview is to place the client in his or her own bio-psychosocial context and not the psychologist's context. Otherwise, a patient's behavior could be incorrectly interpreted as maladaptive (Adebimpe, 1981). To avoid erroneous conclusions, the psychologist must put special emphasis on understanding the patient's culture, race, ethnicity, class, or social context that grants him or her membership in a minority group. Not only must that context be understood but it should be understood as it relates to the patient's relationship to majority culture (e.g.,

Mexican migrant worker employed as a field hand in Colorado). Finally, and possibly most important, the clinician must understand his or her own limitations in other sociocultural situations. To enhance his or her understanding of others, the psychologist must become aware of, and possibly experience, other cultures and ethnic behavior patterns and cognitions. Hall (1997) has suggested that all clinicians must be well versed in these issues, initially in completing a multicultural graduate course and subsequently in clinical training.

Intellectual

Tests which attempt to measure the construct of intelligence are not only the most commonly used psychological tests (see related chapters in this volume) but also the most criticized (Neisser at al. 1996, Sternberg, 1997). The literature is replete with controversies about the efficacy of the construct of intelligence and its measurability (Gould, 1996; Helms, 1992), and strong and often emotional arguments have been levied against tests of intelligence by members of ethnic-minority groups (Herrnstein & Murray, 1994). Before these arguments are considered, the most commonly used tests of intelligence will be reviewed relative to their applicability to minority populations.

The application of intelligence tests to children of minority populations has yielded the most empirical data as well as the most controversy. Of the tests applicable to children, the Wechsler Intellectual Scale for Children (WISC) is one of the most popular psychometric tests of intelligence (Puente & Salazar, 1998). Despite that the WISC-III was published in 1991 (Wechsler, 1991), most data on this topic exists with the first two versions of this test. Excluding Asian children, the results, in general suggest up to one standard deviation difference between ethinic-minority groups and the criterion sample, Anglo-Saxon children. Using Hispanic children as an example, it appears that these differences are erased if the child is a third-generation American. Thus, the issue might be more that the WISC might be measuring some type of acculturation process.

Nevertheless, conflicting and nonconclusive evidence is often found. For example, in one thorough review of the literature, the race of the items that are not culturally biased, both across cultures and within subcultures (e.g., Cubans versus Mexicans). Second, greater care must be taken in the standardization process. A typical protocol might include two phases, a try-out phase that helps develop further an item pool and a standardization phase that would closely mimic the U.S. population.

Another possibility is to consider intelligence from a totally different perspective. For example, Sternberg (1996) has suggested that intelligence is really nothing more than success in life. Hence, tests such as the Learning Potential Assessment Device (Feuerstein et al., 1979), Cognitive Assessment System (Naglieri & Das, 1996), as well as standard tests from the neuropsychological literature provide a more unique way to address the possible underlying variable, problem solving, in intelligence. Indeed, it is expected that future tests of intelligence will have strong foundations in neuropsychological performance.

Neuropsychological

It is often assumed that brain functions are not affected by non-neurological variables. A review of the table of contents of major neuropsychological texts of the 1980s and 1990s suggests that issues of culture, ethnicity, and race have not been addressed to date. Even more revealing are the reference sections of the books, which indicate that very few articles on these issues exist. A review of the existing journal literature also exposes the paucity of references surrounding neuropsychological assessment and the effects of culture, ethnicity, and race. In Reliability and Validity in Neuropsychological Assessment, Franzen (in press) presents an excellent overview of issues concerning most measures of neuropsychological ability. While different forms of validity are considered, no mention is made of the application of the tests to minority group members.

Most of the sparse data that do exist on this topic are found in the non-neuropsychological literature. For example, Lopez and Romero (1988) assessed intellectual functions in Spanish-speaking adults using both the WAIS and the Puerto Rican version of the WAIS. While the authors report that differences did exist, test equivalence is generally elusive and its application for these

tests to a neuropsychological sample would be at best haphazard. On a more theoretical orientation, Drasgow (1972) addressed test-item bias and differential validity by using a "profoundly" biased test. However, in this case (as with all others), no direct or indirect mention is made of neuropsychological tests.

Anecdotal and clinical evidence indicate that these variables may have little, if any, effect on specific sensory and possibly motor measures. Some support for this contention exists. For example, Roberts and Hamsher (1984) administered both the Facial Recognition and Visual Naming Tests of the Multilingual Aphasia Examination to African Americans in a consultation setting. They reported negligible racial bias. In contrast, Adams, Boake, and Crain (1982) found that bias did exist with regard to several variables, including ethnicity, in neuropsychological performance. In both brain-damaged and normal samples, African Americans and Mexican Americans exhibited more errors than did Caucasian participants. One may extrapolate from early (though questionable) motor-learning studies on race that motor measures may be affected by race. However, as implied, the data are questionable because of numerous methodological and theoretical issues. Other individual variables are definitely affected. Language, for example, is a difficult variable to measure across groups because it contains syntactical, grammatical, and cultural content that precludes a direct translation/interpretation of a specific concept. For example, the location in a sentence of nouns and verbs differs across certain languages. Another example involves the Spanish alphabet, which contains two additional letters, ñ and Π. Cognitive styles may similarly be affected because of variables, which directly affect cognitive manipulations, such as specific style or analysis of information. Additionally, indirect variables may play a role. Asians or Hispanics not acculturated to North American norms may find it difficult to permit a professional to examine "their minds." In certain subcultures this probing is allowed only by medicine men, witch doctors, or "curanderos." Thus, it may be impossible to obtain valid data because of the client's fear of testing.

While few individual neuropsychological tests have been adapted or translated, the two most widely used batteries, the Halstead-Reitan and Luria-Nebraska Neuropsychological Batteries, have been used with diverse populations. Both of

his review, Greene provided the following four conclusions:

- 1. At this stage of our understanding, it is too premature to develop norms for specific ethnic and racial groups.
- 2. Subjects have to be identified with an ethnic group using subjective self (not clinician or experimenter) identification.
- 3. Empirical and not clinical differences should be emphasized.
- 4. Finally, more research needs to be focused on the special scales of the MMPI.

As exhaustive as the review is and as heuristic as Greene's conclusions may be, others advocate different orientations. For example, Gynther (1981), Gynther and Green (1980), and others argue that specific norms-and, in some cases, items-be developed, using an empirical methodology rather than a review of the literature. Better understanding of ethnic, cultural, and race differences and their application to interpretation of T scores, specific scale scores, or patterns preclude widespread use of the MMPI with minorities. For example, it seems foolish to group all Hispanics together as Greene and others have done. As Sue and Zane (1987) have indicated, being culturally sensitive is being aware of within-group heterogeneity. Further, little understanding appears evident in the MMPI research with regard to differences among culture, ethnicity, and race. Until such issues, as well as those outlined by Greene (1987), are resolved, not only will the MMPI data as it now stands be premature; it will be incorrect. According to a recent announcement from the Restandardization Committee of the University of Minnesota Press (1989) concerning the MMPI-2, published in 1989, the revised version will have "national norms that are much more representative of the present population of the U.S." (p. 4).

Dana (1995) criticizes the sampling methods of the MMPI. In the MMPI, for example, Hispanics were underrepresented by 2.8 percent. In the second MMPI-2 similar limitations are still noted. Further, differences are noted in scale performance between Hispanics and their Anglo-Saxon counterparts. Main differences are noted in the following scales; L, K, 3, and 4. He suggests that clinical interpretation must hinge on understanding the acculturation of the individual.

Using the recommendations of Velazquez, and colleagues (1997) for the use of the MMPI with Hispanics, the following recommendations are suggested for all ethnic minorities:

- 1. When options are available, use the most recent version of the test.
- Administer the entire, and not a short, version of the test.
- 3. Appreciate prior test-taking experience of the test-taker.
- 4. Test in the language selected by the test-taker.
- 5. Evaluate results within a bio-psychosocial context.
- 6. Appreciate the effects of acculturation on test results.
- 7. Interpret results based on research literature and not on cultural stereotypes.
- 8. Always use a variety of test sources to arrive at conclusions.

Achievement, Aptitude, and Interest

Achievement tests are still widely used in a variety of settings. A starting point involving achievement assessment is that of achievement motivation (Basic Behavioral Science Task Force of the National Advisory Mental Health Council, 1996). Indeed, it assumed that motivation plays a relatively small role in achievement testing. Nevertheless, access to models, ethnic-minority status, and related variables produce an initial "handicap" in such testing. Unfortunately, motivation appears highly correlated with scores on achievement tests as well as academic performance. Hence, what one might be measuring with ethnic minorities is not achievement as much as motivation.

What does exist, as with many other psychometric instruments, is a paucity of data. In chapter 7 of this handbook, there is a comprehensive review of achievement tests. Of the tests discussed in that chapter, the California Achievement Test (in education) and the Wide Range Achievement Test (in education and clinical application) are two of the most frequently used tests, which have been applied to nonmajority samples of the U.S. population. Initial findings regarding test bias in these measures reflect the conclusions outlined by Fox and Zirkin (1984) in the first edition of this handbook. Specifically,

some (e.g., Nigerian) though not all populations. In addition, these studies were completed with individuals residing in their own culture. It would be interesting to explore the efficacy of this test with minority cultures residing in the United States. While this test is promising in theory, additional research both in the United States and abroad will have to occur prior to its wider clinical acceptance. It is interesting to note that Cattell who died very recently has been accused as being biased. Indeed, this accusation was dramatically brought to the attention of psychologists by the 1997 American Psychological Association Keynote Speaker, Ellie Weisel. Unfortunately, the blue-ribbon panel that was convened to explore these allegations was disbanded before any discussions ensued (partially due to the fact that Cattell removed his name from further consideration for the award for which he was being considered).

Of all standardized tests, the WAIS has received most attention with regard to cultural standardization. Two excellent examples are the Canadian and Puerto Rican versions of the test (Wechsler, 1960). Violato (1984) administered the standard or a revised version of the WAIS to 101 Canadians. The revised version contained eight items that were changed to increase face validity for Canadians. While bias effects were limited, the author did suggest that changes for Canadian administration of the WAIS were necessary. The WAIS has also been translated and standardized with Puerto Rican populations (1980). It was assumed that all translations would be appropriate; this assumption, however, is incorrect. Puerto Rican, Chicano, Mexican, Latin American, South American, and Castilian Spanish not only have their own dialects and idiosyncrasies but in many cases, their own language. Thus, the Puerto Rican translation of the WAIS has limited usefulness with non-Puerto Rican subjects. Further, though yet to be researched, the issue of norms needs to be addressed. For example, Puerto Rican norms may differ from Argentinean norms. Also, there is the question of when an individual, from one culture but residing in another, becomes acculturated enough to be administered the "new" culture's tests. These and related questions remain to be answered.

Other tests of intellectual ability which are purported to be culture-reduced or fair include Raven's Progressive Matrices—both Colored and

Standard versions—as well as the Peabody Picture Vocabulary Test, the Quick Test, and the Army Beta. However, little evidence exists on the ability of these tests to be culture free. With the Picture Vocabulary Test serving as an example, several of the pictures on this test are useful for North American but not British populations. Another interesting example is that of the LuriaNebraska Neuropsychological Battery. Certain sections and stimuli are deemed culture free or culture reduced; but several of the visual stimuli come from Denmark and not Nebraska, making clear identification of specific items (e.g., nutcracker) an often difficult if not impossible task.

Less and less bias research is being done, as indicated earlier, since the belief that bias does not exist is so prevalent (Suzuki & Valencia, 1997). Hence, one might assume that tests such as the ones developed by Cattell will continue to lose favor as psychologists continue to, possibly incorrectly, assume that culture is not a critical factor in psychological assessment.

Behavioral Assessment

In another section of this handbook, chapters on behavioral assessment are found. One major focus of this type of assessment is the assumption that behavioral, versus psychometric, approaches to assessment reduce the risk of focusing on psychic and nonobservable attributions. Psychometric focus may increase the potential for incorrect understanding of the behavior in question and, of course, is more likely to introduce bias in the assessment process.

Behavioral assessment focuses on empirically based methods of understanding behavior and, thus, the application to minority populations seems obvious. If psychometric tests are riddled with questions of culture, race, and ethnicity, then an assessment procedure, which focuses on behavior, and places the individuals in question in their environmental context, would seem an excellent alternative. Hence, it is surprising to note that this application has not been considered and researched adequately.

What scientific literature does exist is limited and, at best, preliminary. For example, Slate (1983) attempted to compare three nonbiased "behavioral" measures in retarded and non-retarded children across race and social class.

members and in the acceptance of previously considered "universal" theories of human function.

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