Welcome to Issue Number 2 of the Measurement Forum. Thanks for the kind words to everyone who wrote about our inaugural issue; it was good to receive confirmation that our interactive newsletter on measurement instruction fills a longstanding need.

Now, here's some more exciting news: A somewhat expanded version of this newsletter will soon be on the Internet! Watch for us at this Web site: http://www.ilstu.edu/depts/psychology/

Whether by paper, electronic, or some other media yet to be devised, we would still like to hear from you. Comments on this newsletter, ideas for articles, and strategies for teaching psychological testing and assessment you would like to share with colleagues are always welcome. And please advise any colleague you know who teaches measurement about this forum for the exchange of ideas as well.

Our best wishes to you for “scaling the heights” in measurement instruction.

Sincerely,

Mark E. Swerdlik
Ronald Jay Cohen
Editors

CLASSROOM DEMONSTRATION OF A CONSTRUCT-KEYED, SELF-REPORT PERSONALITY INVENTORY

Jeffrey B. Brookings
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The objectives of this demonstration are to give students experience in taking and scoring a multiscale personality inventory, highlight differences among the various approaches to scale construction, and facilitate discussion about strategies for preventing or detecting social desirability bias in self-report. For this demonstration, I use the Edwards Personal Preference Schedule (EPPS; The Psychological Corporation, 1959), a 225-item test with scales corresponding to 15 secondary or psychogenic needs (e.g., achievement, dominance, nurturance) included in Henry Murray's taxonomy of human needs (Murray, et al., Explorations in Personality, Oxford University Press, 1938).

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Several features of the EPPS recommend it for this demonstration. First of all, it is easily self-administered and self-scored in a classroom setting. Second, it assesses normal personality variables. Consequently, the item content is generally non-threatening, and students are less likely to draw clinical inferences from the scores. Also, the EPPS employs an “ipsative” scoring procedure (described below) which precludes students’ comparing their scores. Finally, the forced-choice item format illustrates one strategy for addressing the problem of social desirability, which I subsequently contrast with other approaches (e.g., the Minnesota Multiphasic Personality Inventory validity scales).

The entire demonstration takes from 1.5 to 2 hours, depending on the time required for all students to complete the test and is scheduled for a class or laboratory session following a lecture on personality scale construction strategies (rational, empirical, factor analytic, and construct). Materials include the test manual, reusable test booklets, hand-scoring answer sheets, a scoring template, and tables for converting raw scores to T-scores or percentiles.

The procedure is as follows:
1. Students read the instructions on the front of the test booklet and complete the test (30-45 minutes).
2. When all students have completed the test, they score their protocols (20 minutes). I display a transparency of the scoring template on the overhead projector. Then, I explain the procedures used to derive the “consistency” score (i.e., the extent to which test takers respond consistently to repeated items) and raw scores on the 15 need scales.
3. Next, I distribute tables for T-score or percentile conversions (10 minutes).
4. Finally, the students look up brief descriptions of the personality variables (see Table 11-6 on p. 421 of Cohen, et al., 1996) to interpret their profiles (15 minutes).

The ensuing discussions are always lively. However, because many students immediately begin comparing their scores, the first item for discussion is ipsative scoring. I explain that for any EPPS item, endorsing statement “A” adds one point to their score on the scale to which “A” is keyed, and at the same time effectively subtracts one point from their score on the scale corresponding to the non-selected statement “B.” As a result, their scores on the 15 scales are measures of relative, rather than absolute need strength, and score comparisons among students are therefore not meaningful. Other discussion topics—time permitting—include counseling and guidance uses of the EPPS, reliability and validity data, and the advantages and disadvantages of scaling items to prevent social desirability contamination (as in the EPPS and Personality Research Form) versus incorporating validity scales to detect such response patterns (as in the MMPI). We conclude by discussing the relative merits of construct-keying, compared to rational, empirical, and factor analytic approaches.

Integration with Text: Ch. 3

MAKING SENSE OF STANDARD DEVIATIONS

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Standard deviations... the mere mention of the phrase is enough to strike fear in the hearts of many students in measurement courses and cause some to grow weak in the knees. But the fear and loathing that has plagued our friend, the standard deviation, is unwarranted. Standard deviations provide valuable information about a set of scores and can assist students in making quick but accurate judgments about the variability of distribution. Once students understand the concept of standard deviations, the mathematical operation is no longer an experience akin to “walking blindly in the wilderness” in which they add, divide, and square numbers without rhyme or reason. More importantly, mastering the concept will allow students to comprehend and apply the information standard deviations can provide.

When teaching this concept, start by telling the students not to be overly concerned with the mathematical formula. They need to grasp the purpose of standard deviations before they worry about finding the answer. Students get so concerned with “the answer” that they never appreciate the information standard deviations can provide.

The concept of standard deviation is usually taught after other measures of central tendency, such as the mean, mode, and median. Explain that these other measures of central tendency are somewhat limited in that they don’t provide information about the scatter of scores we have in a distribution. Use examples to make this information meaningful. For example, if we know that five basketball players have a grand mean of 100 points per game, this information doesn’t tell us the mean for each player.

Explain that with any set of numbers there will be a scatter of scores since we wouldn’t expect everyone...
to have the exact same score. Has anyone ever seen a basketball game where all players scored exactly 20 points? It's possible but very unlikely. Try to get them to think of the **standard deviation as a sort of average distance away from the mean**. Try to say this in at least three or four different ways.

"The standard deviation is an average amount people score away from the average."

"Standard deviation is an average distance people are away from the average."

"We're going to find the total deviation away from the mean and then find the average of this amount."

Some of these examples confuse students, but one usually clicks and makes sense for them. You can almost see the light bulb come on as they finally understand the concept. **Once you've found that average distance away from the mean, all you need to do is find the square root of that number and you've found the standard deviation.** Time for an example.

Take five people in the group and have them give you a number. Ask them to pick relatively small numbers to make the computation easier. Quickly add these numbers in your head, then pick the sixth number so that the sum of the six scores is divisible by six. Total the numbers and divide by six to find the mean. Then draw a chart like the one below to show the step-by-step process for finding the distance each number is away from the mean (i.e., deviation).

<table>
<thead>
<tr>
<th>x</th>
<th>X</th>
<th>(X-x)</th>
<th>x^2</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>6</td>
<td>-1</td>
<td>1</td>
</tr>
<tr>
<td>7</td>
<td>6</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>6</td>
<td>6</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>4</td>
<td>6</td>
<td>-2</td>
<td>4</td>
</tr>
<tr>
<td>8</td>
<td>6</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>6</td>
<td>6</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>36</strong></td>
<td><strong>0</strong></td>
<td><strong>0</strong></td>
<td><strong>10</strong></td>
</tr>
</tbody>
</table>

Standard deviation = \( \sqrt{\frac{10}{6}} = 1.29 \)

After having explained standard deviations in this manner, I've had numerous students say things such as, "It finally makes sense. I could find the answer, but I never understood why we did this." The best way to ensure that students grasp a measurement concept and will retain the information is to work toward a conceptual understanding rather than purely mathematical comprehension. This approach has worked well for me, and I wish you the best of luck should you decide to give it a try.
At the beginning of the next class period, students’ responses are returned, attached to a feedback sheet that looks tailor-made. Students read the feedback sheet and rate its accuracy on a 7-point scale. Most students find the feedback highly accurate (with a rating of 6 or 7). In the ensuing discussion, students occasionally “confess and convert”: while they never believed projectives could work, now they know the technique is amazingly accurate, and they are somewhat apologetic for their initial skepticism. When the students start talking about details, occasionally even reading part of their feedback sheet to make a point about its accuracy, it becomes clear that everyone received the same feedback sheet, and we have a good laugh. Then we talk about the Barnum effect in general and its application in this context: based on a single set of test results about ourselves, we cannot make accurate judgments about the validity of the test from which they came. Students are then ready to hear about the scoring, interpretation, and psychometric properties of the actual Rorschach. Again, their questions are often so numerous and varied that they guide me through the rest of my “lecture.”
MENTAL RETARDATION

Jayne Bucy
Illinois State University

Mental retardation is defined by the American Association on Mental Retardation (AAMR) as subaverage intelligence (IQ below 70) in association with deficits in adaptive behavior (Grossman, 1983). This definition is generally accepted by the nation’s schools and applied when determining eligibility for special education services.

In 1992, the AAMR made sweeping changes in the definition of mental retardation, shifting the upper IQ limit from 70 to 75 and requiring deficits in two of 10 areas of adaptive behavior (communication, social skills, health and safety, work, self-care, community use, functional academics, home living, self-direction and leisure-time activities). In addition, the four-level classification (mild, moderate, severe, and profound) was replaced with a classification system based upon individual support needs (intermittent, limited, extensive, and pervasive).

Gresham, MacMillan and Siperstein (1995) analyzed the implications of this new definition and identified the following measurement concerns:

1. The change in IQ cutoff will likely increase (perhaps double) the number of individuals who will meet the intelligence criteria for mental retardation.
2. The lower IQ cutoff coupled with the restandardization of popular intellectual assessment instruments (and resulting 5-8 point drop in IQ scores) may further increase the number of individuals testing within the mentally retarded range.
3. Increasing the IQ cutoff has a potentially greater impact upon African Americans, who are already overrepresented among the mildly mentally handicapped.
4. The 10 adaptive skill areas identified by the 1992 definition have not been empirically validated and norm-referenced measures of these areas are inadequate or unavailable.
5. It may be problematic to weigh professional judgment equally with norm-referenced assessment of adaptive behavior as recommended.
6. There are no established measures to differentiate among the four levels of support intensity, and the 1992 definition does not offer sufficient guidance to evaluators in making these determinations.
7. The 1992 definition has little utility when identifying mental retardation in children, particularly very young children.


Though it remains to be seen whether the 1992 AAMR definition of mental retardation is implemented by educators and mental health practitioners, Gresham, et al. (1995) delineates a compelling array of measurement issues that arise when empiricism, advocacy, and public policy collide.

References


A Note about Psychological Testing and Assessment

Adopters of the text are eligible to receive a computerized Test Bank. The computer version is now available on Windows and Macintosh formats. To receive your copy, please call Mayfield (800) 433-1279 today. Other ancillary items available with the text include an Instructor’s Manual, printed Test Bank, and Student Workbook (101 Exercises in Psychological Testing and Assessment). The Student Workbook can be packaged with the text at a reduced cost ($12 off) to students.

Text and Student Workbook package: ISBN 1-55934-597-7
ACHIEVEMENT AND EXPECTATIONS: AN INVERSE RELATIONSHIP?

Gloria C. Maccow, Illinois State University

Educators and psychologists continue to be concerned about the different graduation rates for African-American and white students. Compared to a graduation rate of 87% for whites, 72.5% of African-American students between the ages of 19 and 24 completed school in 1991 (U.S. Bureau of the Census, 1993). In order to change these statistics, researchers must identify the factors that contribute to the higher drop-out rates among African-American students.

For several years, Claude Steele (Leslie, Newsweek, 1995, November 6) has been conducting research among college students. On the basis of his data, he has concluded that stereotype vulnerability explains differential drop-out rates among African-American and white students. According to Steele, a professor of social psychology at Stanford University, African-American students suffer academically because they believe the stereotype that they are part of a group that cannot succeed. Said differently, they do not succeed because they are not expected to.

The concept of stereotype vulnerability raises several issues that are important for assessment and measurement. The first relates to the theoretical framework used to explain human behavior. Steele’s explanation of the lower scores among African-Americans recognizes the interaction of individual characteristics and environmental variables. From this ecological perspective, even bright students can become discouraged if they believe they are unable to compete with other students. Researchers who conceptualize behavior in this theoretical framework recognize that changes could result from environmental modifications.

From a psychodynamic perspective, behavior results from characteristics intrinsic to the individual. In this context, Herrnstein and Murray (1994), for example, attributed the higher drop-out rates of African-American students (in part) to lower cognitive ability. Researchers whose adherence to this perspective is exclusive would be less than hopeful about increasing the graduation rate for African-American students. Indeed, aside from increasing cognitive ability, which is difficult at best, no interventions are immediately apparent.

The second issue raised by the concept of stereotype vulnerability relates to labeling and the self-fulfilling prophecy. In an experiment involving teachers and students, Rosenthal and Jacobsen (1968) demonstrated that teacher expectations affected student achievement. Students who were expected to succeed did succeed. Consistent with the Rosenthal effect, Steele contends that universities must set high standards and demonstrate verbally and behaviorally that all students are capable of succeeding. However, instead of setting high standards and expecting minority students to achieve them, many universities provide remedial programs. While this practice may remediate deficits, it immediately confronts minority students with the stereotypical notion about their abilities.

In effect, remedial programs do what Charles Sykes (1995) described as dumbing down. Students who begin their college education in remedial classes are likely to adjust their work habits to the demands of the classroom. Because standards in remedial programs are lower than they are in regular classes, students are likely to develop work habits that will allow them to succeed in the remedial classes, but not in the regular classrooms. They will come to depend on support services typically unavailable in regular classes. Students will meet the expectations of the remedial classes, but will fail in classes where the standards are higher. In essence, then, students will work to meet the standards we set for them. Set high standards and students will rise to the challenge.

References


ABSTRACTS

To keep you up to date, the editors have compiled a list of very current measurement abstracts. Due to its length, this list is only partial. However, anyone interested in receiving a complimentary copy of the entire list of abstracts can call or write Mayfield, (800) 433-1279 or 74111.670@compuserve.com.

Topics include:
- Adult Intelligence
- Assessment of Personality
- Behavioral Assessment
- The Bell Curve
- Clinical Assessment
- Culture
- Educational Assessment
- Family Assessment
- Giftedness
- I/O and Vocational Assessment
- Integration with Text: Ch. 9


The traditional way of estimating WAIS-R factor scores is to sum the equally weighted values of the subtests that load most highly on the factor being estimated. The authors make the case that factor scores derived in this manner are strongly biased toward g.

(Continued)


**BEHAVIORAL ASSESSMENT** Integration with Text: Ch. 13


The magnitude of correlation between target behaviors and controlling factors with regard to self-monitoring data is often subjectively estimated by behavior therapists. In this study, upper level clinical psychology graduate students made such subjective estimations. The results indicated that such subjective estimations are generally inaccurate.


The Behavioral Avoidance Test (BAT) is a measure of observable avoidance behavior as well as self-report of associated anxiety level. This study reports on an extension of the use of the BAT in the assessment of obsessive compulsive disorder.