INDIVIDUALIZATION OF Q-SORT STATEMENTS

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As a means of obtaining descriptions of individual personality, Q methodology is most effective when statements are valid for each individual. However, it seems to be necessary to sacrifice individuality of item content to preserve comparability of data from subject to subject. In fact, item content may differ from person to person, if the set of statements sorted has the same theoretical structure for every individual. Correlations among persons may then be calculated in terms of the covariance between pairs of means for categories defined by theory rather than between pairs of scores for statements. Thus, theoretical constancy may substitute for item constancy, and every individual may respond to each theoretically meaningful category in a personally relevant, though possibly unique (idiographic) way.

Before advocating the calculation of this type of correlation, it is well to determine whether individualized assessment within theoretical categories is psychometrically feasible. That requires comparing reliabilities and internal consistencies of similar Q sorts containing constant and individually-devised statements.

The book *Cocaine Users: A Representative Case Approach* (Spotts & Shontz, 1980) describes a way of

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using both types of items in the context of a theoretically structured set of 60 Q-sort statements. The theoretical structure used in this research identifies 30 categories, consisting of 15 traits of personality (examples: dependence, dominance) each represented by two positively worded statements (examples: accept help gracefully; influential, you impress others) and two negatively worded statements (examples: tied to someone's apron strings; wishy-washy). These statements were constant for all subjects; they had been devised by the investigators and comprised the *standard* form of the instrument.

To construct the *individualized* form of the instrument, each person was interviewed and told the names of the traits and the intended structure of the set of statements. If necessary, he was told in simple language what each theoretical category was intended to mean (e.g., dominance means powerful, assertive, to "lord it over" others). The person was then asked to generate his own positive and negative statements or, if he wished, to accept the standard wordings. Most changed at least 40% of the statements; some changed as many as 80%.

Each person then described himself ("as you usually are") six times with both the standard and the individualized sets of statements. Two descriptions were obtained with each set at three testing sessions held at least one month apart. Repeated descriptions obtained at the same session were separated by other tasks that are not relevant to this report. To date, a total of 45 men (both drug abusers and non-users of drugs) have provided all twelve descriptions, and it is now possible to compare the properties of the two forms.

Reliability

The evaluation of reliability was accomplished by means of composite self descriptions of each person. These were constructed by summing across all six sortings of each form the scores of each Q-sort statement and dividing by six, yielding two arrays of 60 statement means for each person.

If each subject placed every statement in exactly the same place at every sorting, the variance of the resulting array of means would equal that of the original array. The degree of reduction in variance of a given composite from the universe value is an index of the unreliability of the sortings that make up the composite.

Pooled variances from all 45 persons provided a direct estimate of overall reliability (a ratio of the variance of the composite to the maximum possible, or universe, variance) as well as an F test of its significance (the ratio of reliable to unreliable variance, with df = (60 - 1) times 45 in the numerator, and infinity in the denominator because the universe value is fixed rather than sampled). These calculations yielded an overall reliability value of .588 for the standard form (F = 1.426, df 2655, ∞, p < .01) and .681 for the individualized form (F = 2.133, df 2655, ∞, p < .01).

A somewhat similar procedure was followed using composites derived from the array of 30 means for each of the 30 cells defined by the theory. In this case, however, the estimate of unreliability was provided by the pooled mean squares of the differences between statements within each cell (a procedure suggested by Neff & Cohen, 1967). Here, the overall reliability values were .731 for the standard form (F = 3.715, df 1350, ∞, p < .01) and .774 for the individualized form (F = 4.416, df 1350, ∞, p < .01).

In both reliability determinations, the value for the individualized form significantly exceeded that for the standard form (F = 1.158, df 2655, 2655, p < .01 for the 60-item comparison; F = 1.189, df 1350, 1350, p < .01 for the 30-category comparison).

Internal Consistency: Discrimination Among Theoretical Categories

A question arises as to whether theoretically defined categories are discriminated as clearly by individualized as by standard statements. Again, as Neff and Cohen (1967) have pointed out, error terms with infinite df may be readily obtained from the

variance of the universe of sortings; this value is multiplied by $(N - k)/(N - 1)$, where, in this case, $N = 60$ and k is the number of items combined to yield the mean for each theoretical category. Pooling the mean squares among the 15 content areas (traits) irrespective of whether statements are worded positively or negatively yielded F values of less than unity for both the standard and the individualized forms. However, pooling the variances between positive and negative pairs of statements (nested within traits) yielded F values of 1.217 (df 675, ∞, $p < .01$) for the standard form and 1.740 (df 675, ∞, $p < .01$) for the individualized form. The ratio of the mean square values in the numerators of the two F tests was 1.430 (df 675, 675, $p < .01$), indicating that the individualized form showed significantly greater discrimination than did the standard form.

Discussion

Comparison of standard and individualized forms of a theoretically structured set of Q-sort statements showed that both forms have desirable metric properties but that the individualized form is somewhat superior in this case to the standard form. Both showed adequate reliability and both showed that subjects discriminated among theoretically defined categories. Although this report does not examine correlations among persons, it does support the recommendation that similarities among persons, who sort individualized statements, be measured by correlations based on paired theoretical categories.

The main benefit of this approach is that it insures that each person sorts statements that validly reflect his or her own uniqueness, yet it preserves the investigator's ability to compare individuals with each other. Thus it offers a possible way out of the dilemma of choosing between idiographic and nomothetic approaches (Allport, 1946; Marceil, 1977).

The only apparent failure to achieve significance in this examination of the properties of the two forms of the instrument was in a lack of discrimination among traits when positive or negative aspects

of statements were disregarded. This finding reveals an important feature of self description. The people we studied did not judge themselves merely in terms of whether they were high or low on traits like achievement, dependency, or dominance, but whether they possessed these traits primarily in positive or negative ways. Thus, evaluation is apparently an integral part of the self concept, albeit one that is not usually considered in psychological measurement.

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Here was a first principle not formally recognized by scientific methodologists: When you run onto something interesting, drop everything else and study it. (B.F. Skinner)