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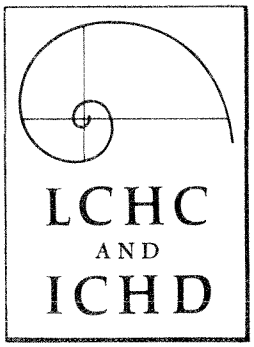
TESTING FOR COMPETENCE: CHANGING THE CRITERION

MICHAEL PRATT
Mount Saint Vincent University
and
WILLIAM S. HALL
The Rockefeller University



The Rockefeller University
Laboratory of Comparative Human Cognition
Institute for Comparative Human Development

WORKING PAPER NO. 4 PART II

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Michael Pratt
Mount Saint Vincent University

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William S. Hall
The Rockefeller University

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Part II

Testing for Social Competence

Part I of this paper described an attempt to construct a particular criterion-referenced test for job selection and on-the-job performance evaluation. There, the effort was to specify a more appropriate, job-relevant criterion than the "general abilities" approach typically used. In Part II, we will review briefly the history and current status of efforts to alter the criterion for measuring intelligence itself, to encompass competence in a more broadly social context than traditional academic test situations afford. Currently, the central application of this effort is in program evaluation; many people are not content to evaluate the effectiveness of educational programs on the basis of tests that are narrowly academic in scope, and so have sought to braoden the criterion for assessing the success of these programs to encompass "social competence."

Introduction

Social competence and incompetence have always been important concepts in everyday definitions of mental retardation. Building on these notions, yet trying to follow the procedures of the IQ testers, Doll (1953) developed the Vineland Scale of Social Maturity. Subsequently, the American Association of Mental Deficiency incorporated a criterion of behavioral incompetence (in conjunction with low IQ scores) into its definition of mental retardation (Heber, 1961). Heber defines adaptive behavior as: "1) the degree to which the individual is able to function and maintain himself independently, and 2) the degree

to which he meets satisfactorily the culturally imposed demands of personal and social responsibility" (p. 3-4).

In the late 1960's, social competence gained broader recognition as a testing concept as a consequence of attempts to evaluate compensatory education. Some of the program directors of Headstart, disenchanted with the minimal results obtained in studies assessing the impact of the program on children's IQs, turned to this concept as a more appropriate index of the program's goals. Several argued that IQ would never have been the primary instrument used initially for evaluation if measures of social competence had been available (e.g., Zigler, 1975). Zigler defines social competence as: "An individual's everyday effectiveness in dealing with his environment. A child's social competence may be described as his ability to master appropriate formal concepts, to perform well in school, to stay out of trouble with the law, and to relate well to adults and other children..." (p. 2).

Concurrent with these trends, research focused on the effects of setting on linguistic performance was exploring some sharp disjunctions between the school and the peer-group as contexts for the expression of intelligent behavior; peer-group success and school success appeared to be negatively related in a Black, lower-class group of children (Labov, 1970).

Defining the Criterion for Social Competence

As in our example of job competence, a discussion of alternative assessment strategies for social competence begins with the issue of how to define the criterion. Mercer (1974) has discussed three general models in the study of "incompetence",

or deviance, which nicely parallel current discussion of social competence (e.g., Anderson and Messick, 1974; White, 1973). We will sketch Mercer's models as a focus for considering the value issues involved in measuring social competence. The first is a "pathology model," or its converse in definitions of competence--the bag-of-virtues" model (Anderson and Messick, 1974). In these approaches, the investigator assumes that there is consensus about the kinds of behaviors or qualities which are desirable or undesirable. The definitions of competence in such approaches tend to be lists of desirable traits, i.e., self-confidence, responsibility, creativity. These models treat behaviors as symptoms of such traits, which are assumed to be general dispositions or qualities characterizing the individual. Research and intervention thus focus on changing the individual; the setting of the behavior is treated as an extraneous factor.

A second general approach discussed by Mercer is termed the "statistical", or normative, model. Here the investigator focuses on the distribution of test scores in a particular population (such as five-year-olds), and defines "normal" and "abnormal" from the individual's position in the group. This is the same procedure used in standard ability testing, except that the list of abilities is different. Unsurprisingly, this approach shares the general limitations on such testing. Most important, it is not designed to elucidate the behaviors or skills involved in test performance. When applied to social behaviors, this approach has the added disadvantage of ignoring the importance of performance within the person's own social

environment. Abnormality, or "incompetence", is intrinsic to such a distribution model (as is "normalcy"); some individuals must, by definition, fall a significant distance, fall below the group norms. But the question of whether the behaviors under study are of any real import in the various roles or environments in the person's life is left unaddressed. Nor does this procedure provide any information as to whether even "subnormals" are functioning above some minimal level of competence in terms of performance in a particular task or role.

Both the pathological and statistical models seem inadequate to the task of conceptualizing aspects of social competence. Mercer argues convincingly for the use of a third approach, a "social-system model," to study or assess the behavioral competencies (or incompetencies) of the individual. "The reference point for evaluation must always be the normative structure of the system in question, and the perception of system members as to whether an individual's behavior is acceptable for one occupying (that particular) status" (p. 11). This framework is particularly valuable in that it focuses on the differences between the various milieus in which the child operates, and the "possibility that culture conflict between different socialization settings may place the child in a situation in which behavior valued and rewarded in one social system is devalued and ridiculed in another" (p. 14). For example, the conflicts between school and peer roles are of great importance to the performance of many children. The social-system model attempts to recognize such issues of value conflict explicitly.

It may well be that important psychological functions are served by the evaluation and comparison of abilities by members of any sociocultural group (Festinger, 1950). Comparing oneself with a performance standard and with others are surely fundamental ways of attaining self-knowledge and reducing uncertainty in our culture. A cross-cultural perspective on "incompetence" may be helpful here. Edgerton (1970) in a recent summary of our limited knowledge of retardation in cross-cultural perspective, notes that there is no simple relation between various types of social systems and the designation and treatment of retardation. Small-scale societies with few complex institutions and simpler technologies may nevertheless recognize a category of "incompetents" and attach considerable stigma to this status. The weight of Edgerton's evidence, sketchy as it is, indicates that incompetence is a matter of social concern in most societies.

But can one say anything more specific about cross-cultural uniformities? Are there certain minimal roles and role behaviors which all societies expect of their members? Edgerton remarks that we simply do not have evidence on this point. Certainly the precise skills and behaviors associated with everyday definitions of incompetence in various cultures may vary. Traditional Zambian informants, for example, when evaluating specific children's task performance "cited qualities of cooperation and obedience nearly as often as mental abilities... (providing) evidence of a divergence between the criteria favored by this traditional African community and those set up by most Western-trained psychologists for assessing intelligence..."

(Serpell, 1977, p. 14). As Serpell makes clear, a great deal of informed and careful work is needed to clarify "emic" definitions of intelligence and competence within different cultural contexts, and to explore which, if any, features of these definitions show universality across cultures.

Measuring Social Competence

The predominant form of assessment procedure used to measure social competence, both in studies of the retarded and with preschool and early school-aged children, is the rating scale. These ratings are usually completed by the primary caretaker, in the case of the retarded (Mercer, 1973; Adams, et al., 1973). Typically, for preschool and school-aged children, the teacher is asked to complete the scales, though in some instances observers are used (Emmerich, 1975). A few observational instruments for natural interaction are also available (e.g., White and Watts, 1973). Finally, depending on the breadth of definition of social competence, the many batteries of paper-and-pencil tests that measure a variety of school-related aptitudes may also be considered. The (CIRCUS) Battery from Educational Testing Service (Messick, 1974) is designed as a differentiated assessment procedure for a range of school-related performance characteristics. We will review examples of these assessment techniques, as illustrations of approaches in this area.

The oldest of these assessment techniques in use with the retarded is the Vineland Social Maturity Scale (Doll, 1953). The Vineland, patterned after the Binet, contains a series of age-graded items. Items are simply rated as either passed or failed by the individual, some examples being "feeds self with

spoon," "goes to store on errands," and so on.

More recently, a series of rating scales have been developed which expand on the Vineland in various ways. One of the more interesting recent efforts is Mercer's (1973), which is constructed to assess performance in several different roles, including family, peer group, student, community, earner/consumer, and self-care roles.

These various rating scales for use with the retarded are designed to permit a broad assessment of social adjustment. In contrast, the scales used with normal preschool and early-school age children are almost exclusively focused on performance in the role of "pupil" (Kohn and Rosman, 1972, 1972; Emmerich, 1975). Both the Kohn Social Competence Scale and Emmerich's Personal-Social Behavior Ratings provide large sets of items rated on a frequency-of-occurrence scale. Examples include "child seeks permission of other child," and "child rejects reasonable request by adult." These ratings are then factor-analyzed to produce a few empirically determined subscales, which are then scored for each child. These factor-analytic solutions of behavior ratings typically define two general bi-polar factors--an "activity-sociability" scale on the one hand, and a "compliance vs. negativism" scale on the other. The correlations of these two factors are low and nonsignificant.

In addition to ratings of various types, a few attempts have been made to develop structured observation methods for assessing social competence. The work of White and Watts (1973) provides an example here. On the basis of observations of four- to six-year old children, judged high or low in competence by teachers and research staff, a set of social "abilities" was

compiled and used to define categories for behavioral observation. These social abilities tend to be fairly global--"getting and maintaining the attention of adults in socially acceptable ways," "using adults as resources," "leading and following peers," praising oneself and/or showing pride in one's accomplishment," and so on. More specific subcategories for each are defined. The observational procedure consists of scoring every "act" that the child performs, during the course of a 30-minute period, into one and only one of these categories.

Finally, some paper-and-pencil test batteries have been developed recently as assessment procedures for competence in the role of pupil (e.g., the CIRCUS Battery developed by E.T.S.). Whereas these tests (there are 16 different subtests in CIRCUS) do provide a more differentiated assessment of school-related performance, they still are focused narrowly on academic settings.

The brief survey of some of the instruments used to assess social competence points out several areas of focus in the research, and a complementary set of gaps. Most of the scales have been designed for use either with young children or with the retarded (both children and adults). No indices have been designed to measure such a concept for nonrelated older children or adolescents, although Mercer's (1974) newly revised Adaptive Behavior Scales may soon fill this need. Second, the majority of these instruments are rating scales, based on long-term memory of global impressions by the observer and, as such, pose serious problems of interpretive bias (D'Andrade, 1974). Few behavioral observation techniques are available. Third, many of these measures provide global, aggregate scores of some

unitary "social-competence" construct. Mercer's important point about the considerable diversity and potential independence of role performances by the same individual is seldom taken seriously.

Social Competence and IQ: Validity Issues

Two distinctions are traditionally made among types validity assessments in the field of tests and measurements (Messick, 1975). One refers to the time at which criterion assessments are collected: concurrent validity (at the same time as the index test) vs. predictive validity (at a considerably later time than the index measure, e.g., months or years later). A second distinction refers to the type of theoretically predicted relation between the test and other criterion measures: convergent validity (a close relation is expected) vs. discriminant validity (a low or zero-level relation is predicted). An important issue of discriminant validity for measures of social competence is their relation to IQ scores. Given the theoretical rationale for social-competence measures as alternatives to IQ testing, one would expect modest correlations. We will briefly review the evidence regarding social competence measures and IQ for both concurrent and predictive studies in this section. We will also consider the evidence regarding comparisons of the "culture-fairness" of these measures, as one particularly important topic for social-competence assessment as an alternative to IQ tests.

Concurrent validity

Turning first to measures of social competence used for "retarded" populations, the research evidence does suggest

relative independence between an individual's measured IQ and assessed "social-competence" in the mild to moderately retarded range of IQ score distributions (IQ=50 to 80). Mercer's (1973) results, probably the most comprehensive, indicate a very low correlation between her Adaptive Behavior Scale and IQ measures of retarded adults residing in the community. This correlation varies somewhat with age, being highest for adolescent, school-aged populations (r=.31) and lowest for older adults (r=.18), perhaps reflecting differences expected by raters in the kinds of performances at different age levels. Similarly, Edgerton (1964), in an ethnographic study of a group of institutionalized retarded persons who were reported to be a "patient elite" by other patients and staff, noted the "extraordinary normal appearance" of this group. "That persons whose IQ's average 55 are capable of conducting social relations of this complexity in an appropriate and ostensibly 'normal' manner raises fundamental questions about the relationship between whatever it is IQ tests measure and behavioral competence and appropriateness in everyday life" (Edgerton, 1964, p. 384).

Studies of more severly retarded, lower-IQ populations indicate a closer relationship between assessments of social competence and IQ scores (Edgerton and McAndrew, 1964). This generalization is borne out in studies by Schwartz and Allen (1974) with populations of severly retarded patients. Zigler and Harter (1969) have argued for the separation of the "retarded" into at least two distinct subgroups, one including those with clear organic impairments who generally test in the severely retarded range. For this group, as Zigler and Harter note "...the

positive relationship between intelligence test performance and social competence, defined by such measures as employability, becomes striking and predictable if one includes...more severly retarded (IQ's at 0-40) individuals" (Zigler and Harter, 1969, pp. 1078-1079).

The various measures of social competence used with young children in the school setting generally show a modest relationship with IQ or achievement measures. Both Kohn and Rosman (e.g., 1973) and Emmerich (1975) report that an Interest-Participation factor in these classroom ratings is consistently related to cognitive tests, whereas a Cooperation vs. Anger-Defiance factor is not. It is interesting to note that Emmerich and Kohn and Rosman interpret these correlational results in opposite ways. Kohn and Rosman (1973) argue that cognitive measures (taken later) are positively influenced by school adjustment, as reflected in the Interest-Participation factor. Conversely, Emmerich suggests that better cognitive abilities are the explanation for higher Interest-Participation scores and generally better "school adjustment." These opposing interpretations nicely illustrate how difficult it is to gain any insight into process based on correlations between measures, the traditional measurement approach to validity (cf. Messick, 1975).

Kohn and Rosman (1973) found that ratings by different observers of the same child's classroom behavior and achievement test-taking performance were substantially related (r=.40). This evidence of the cross-situational stability of behavior ratings is important both for what it demonstrates and for what is left out. The similarity of school settings and formal test situations

seems one likely explanation for some of the predictability of standardized tests to school achievement. Kohn and Rosman's results suggest that at the preschool and early school-age level, some similarity exists in the patterns of behavior displayed by an individual across these two "formal" settings.

Unfortunately, the question of cross-situational relationships between measures of social-competence for the same child remains largely unexplored. In particular, the relationsihip between school and nonschool social performance would be of considerable interest. Labov's (1970) evidence on the negative relation between peer-group standing and school achievement for lower-class Black children suggests a complexity of interaction between social values and the display of social-competence across settings. These are issues to which we shall return later in this discussion.

Prediction to later outcome

The studies reviewed to this point have been focused on the concurrent validity of social-competence measures. A second feature of the traditional enterprise of standardized testing is the prediction of later outcomes. Here the primary question is: How well do measures of social-competence predict later adjustment? Unfortunately, there is little evidence to report. The concensus has been that IQ is a rather poor predictor of later social and vocational adjustment especially for the mildly retarded (Zigler and Harter, 1969).

Follow-up studies of the retarded who have been transferred from special education classes or institutions into more independent living situations in the community have indicated weak

predictive relationships between measured IQ and adjustment, based on a variety of criteria. Many investigators have pointed to the relevance of "personality factors" (e.g., Windle, 1962) for such prediction, though precise evidence appears generally lacking on this point. Cobb (cited in Haywood, 1970) found that a factor measuring "social intelligence"--a combination of scores on the Vineland and the Stanford-Binet Vocabulary score--was a better predictor of vocational success than any other measure (including an "intellectural achievement" factor).

The comprehensive review of the longitudinal predictors of adult mental health by Kohlberg, La Crosse, and Ricks (1972) indicated that IQ and peer relations (at least inferentially an index of social-competence) are probably the best nonspecific predictors of nonpathological adult outcome. McClelland (1973) notes the difficulties in interpreting these predictive relations in the case of IQ, however. The extent to which such predictive relations are mediated by correlations with social class, for example, is problematic. "These studies may show only that the rich and powerful have more opportunities, and therefore do better in life..." (McClelland, p. 5). Similar interpretive questions can be raised regarding correlations with peer relations, of course. More generally, this line of work points up the problems of ambiguity inherent in attempts to make causal inferences from correlations. There is a real need for much more comprehensive "construct" validation methods (see Messick, 1975) beyond the traditional correlational approaches which have dominated this field.

Issues of cultural and ethnic bias

In contrast to the IQ test, social competence measures

do tend to identify a much lower proportion of minority and subcultural populations as "retarded." In Mercer's (1973) study of Riverside, California, the proportion of Blacks and Chicanos scoring in the lowest 3 percent of the population on the social-competence index was similar to the proportion these groups in the population as a whole. In contrast, consistent with usual findings, the number of those minority groups in the lowest 3 percent of the IQ distribution was disproportionately high, relative to their proportion in the total population. Similarly, Adams et al. (1973) found that Black adolescents were overrepresented, relative to Whites, in the lower ranges of the IQ classification. In contrast, Blacks and Whites were approximately proportionally distributed in a classification based on scores on the Vineland.

These results suggest that, at least in relation to the label of "retarded," social-competence measures are more "culture-fair" than are traditional IQ measures. Whether this is true of the preschool and school-based measures discussed above is uncertain.

There are a host of ways to address the question of a "fair" criterion, as noted in Part I. Many approaches simply treat culture fairness as a question of manipulating the psychometric properties of the measure to "improve" predictability to a criterion for a population subgroup. Such attempts do not address the question of bias in the criterion (e.g., social institutions), or its replication in the testing situation itself. However, the finding of nonsignificant differences for Anglo and non-Anglo populations on these social-competence measures does provide much stronger *prima facie* evidence of a lack of bias in the

measures.

To summarize our review of validity, some evidence exists suggesting that IQ and social-competence measures assess different aspects of performance. We still know little about the relations between different measures of social competence on the same individual, or assessments across different social settings. Nor do we have much information about prediction from social-competence measures to outcomes later in life. However, there are indications that some social-competence measures are less "culturally biased" than are traditional IQ measures. Surely the most important point to emerge from this brief review relates to methods--there is clearly a need for new, non-correlational approaches to supplement and extend traditional validity investigations.

Social Competence Measures as Alternative to IQ: Problems and Prospects

1) One of the most critical goals for social-competence evaluation as an alternative should be that it not reproduce the interpretive problems of IQ tests. Social competence is not a general "ability" or property of the person to be displayed across settings. It is, instead, simply a description of the reactions of significant others to the person's various "role" performances. As such, it can be highly differentiated--persons "competent" in one context (the peer group, say), can be quite "incompetent" in another (e.g., the school). This is, in fact, the thrust of Mercer's exploration of the labeling function of the school.

This position yields a number of implications for the assessment of social competence. Clearly, the aggregation of indices across performance settings or roles, to generate a single global

measure, is problematic. A more differentiated picture of social-competence in several role-performance areas, such as provided by Mercer's (1974) recent revision of her Adaptive Behavior Scales, leads to fewer problems of interpretation. Another question we might raise from this perspective is the advisability of using a single rater for such indices. This is usually someone who is well-acquainted with the ratee, but it seems likely that the particular context and role-relation that the the rater has with the ratee will strongly influence the perception of role performance in other areas.

2) A more general way of raising the problems with global measures of social-competence is the question of which criterion is, in fact, being specified as the referrent for these measures. Zigler's definition of social competence, mentioned above, indicates the tremendous scope of this notion (it is actually held to incorporate academic competence as a subcomponent). Although this idea of assessing the "whole person" (c.f., Anderson and Messick, 1974) seems intuitively attractive, it presents almost insurmountable difficulties of interpretation. Instead of moving us toward a more differentiated model of individual skills and performances relevant to a variety of specific domains, this greatly generalized criterion encourages global conceptions of some generalized "ability" that characterizes the person across the entire spectrum of life situations and outcomes. As an alternative to IQ test, this concept seems in danger of simply compounding that construct's manifold interpretive hazards.

3) A point should be reiterated regarding the use of rating measures in social-competence research. The research

by D'Andrade (1974) provides a clear demonstration that rating measures can be severely compromised by semantic memory factors. Relations between items as measured by such ratings appear to be largely "in the eye of the beholder." There are indications that measures which are not dependent on long-term memory (e.g., immediately recorded observational categories) are less subject to bias. Structured observational measures may thus provide a more valid picture of the"behavioral competence" of the child or adult.

Naturally, one must keep in mind the point made above, that social-competence is essentially a description of the reaction of others to the behavioral performances of the person. Information about the specific behavior characterizing these performances is essential for diagnostic or remedial purposes. The use of immediately coded observations in natural settings, and perhaps in more structured assessment situations, would provide more interpretable indices of performance than does the rating-scale alternative. Given the problems in interpreting standard "test" performance, however, it would certainly be crucial to obtain information across a variety of such structured settings. At any rate, when specific behavioral skills that are aspects of competent performance in some particular role can be identified, the use of such structured observations could be fruitful in both diagnosis and program evaluation.

4) A major problem with this line of alternatives to standardized tests is that it seems to provide no hint of the processes involved in social-interactional performance. Analyses of the processes which are component aspects of such behavior are essential. As task analyses of other performance measures,

in another paper in this series, suggest (Traupmann and Cole, 1977) , such analyses can provide an understanding of process which is crucial to the enterprise of training. Social-competence measures, as presently constituted, are primarily limited to assessment uses. Process-diagnostic testing in this domain awaits the development of an explicitly formulated theoretical framework of social-interactional performance.

5) The final point we make here is a general one regarding the political context in which this alternative to standardized testing is offered. It seems all too likely that social-competence could simply become a label which would provide some defusing of challenges to the gating and sorting functions of the schools as presently constituted. It might then be argued that being labeled "academically incompetent" isn't such a bad thing, since a child may still be recognized as socially competent. However, in a social structure where academic performance is what counts, relabeling kids as socially-competent is unlikely to seem useful to anyone except the labeler. It would be most unfortunate if well-meaning contentions such as social competence served to obscure the real issues of inequitable sorting and labeling of class and ethnic groups in ways that really matter in society.

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