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ABSTRACT

This article examines the development of new strategies for the measurement of intellectual competencies of the elderly. The author depicts his own view of the direction an analysis such as this might take, and presents a strategy which attempts to generate contextual criteria relevant to the assessment of competence in adulthood and old age. (Author/YRJ)

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Presented at the 56th Annual Meeting of the Western Psychological Association in Los Angeles, April 8-11, 1976 as part of Symposium entitled "The Assessment of Competence in Adulthood and Old Age," K. Warner Schaie, Chair

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Situational Factors in the Assessment of Competence in Adulthood and Old Age

Rick J. Scheidt[1]

K. Warner Schaie has outlined the need and the task that confronts us in our attempts to adequately assess adult competence. "The task," he states, "will be no less than that faced by Binet in initially measuring the intelligence of school children" (Schaie, in press, p.9). He has pointed to the need for the development of "completely new strategies for the measurement of intellectual competence of the elderly," strategies which "require an analysis of criterion variables relevant to the life experiences and life roles of both the recently retired (or young) old and the very aged" (p.9). I hope, in this short space, to depict my view of the direction such analysis might take, as well as present a strategy which attempts to generate contextual criteria relevant to the assessment of competence in adulthood and old age.

Selecting Assessment Criteria

How does one select criteria which allow the best assessment of adult competence? At the broadest level, there are two reflective considerations which may aid in suggesting answers. Both have methodological implications. First, criteria which effectively represent competence can be selected, fortunately, on a finite number of bases, or what Weitz (1961) has termed "criteria for criteria." Such rubrics include precedence, expedience, relevance, and reliability. We know at this point that there are few precedents for the criteria we seek to assess adult competence. The pioneering efforts of Deming and Pressey (1957) are among these few. Indeed, as Warner Schaie has indicated, our present position is largely determined by our feelings that past criteria of intellectual functioning fail to

adequately assess the functional competencies of adults. There are few behavioral measures readily available which expediently lend to our efforts. We thus find that we are attempting to simultaneously invent and discover criteria which are relevant, but for which there is little precedence and ready availability. But relevance for what?

The second consideration addresses this question more specifically, while focusing upon the problem of criteria selection more generally. Criteria selection is intrinsically tied to the construct meaning of competence, and the requirements which criteria must fulfill are made clearer as the construct itself is made clearer. So naturally some thought must be given to what it is we mean by competence. As opposed to opting for a strict theory, we have made a conscious commitment at this point to remain flexible in defining competence, thus heeding Barker's advice that "on the frontier, a pluralistic, open-minded, empirical, prototheoretical approach is the only one possible" (1963, p. 10). We are, however, sensitive to the great many theoretical issues inherent in our use of the construct of competence, and my colleagues will touch upon many of these, including capacity-performance, genotype-phenotype distinctions, motivational, task, and dispositional interactions, as well as developmental considerations. A flexible theoretical strategy allows the examination of the full breadth of cognitive and behavioral factors determining and mediating adult competence. It allows the possibility, by removing strict conceptual limitations, of discovering whether there are competencies (and their kind and complexity) as opposed to holding ourselves to a single type of competent responding. Fortunately, some diverse conceptualizations do exist, and, I believe, may be usefully considered as aspects of the competencies we have in mind. Powell Lawton (1975), for instance, has proposed an omnibus

definition, where competence is "the theoretical upper limit of capacity of the individual to function in areas of biological health, sensation-perception, motoric-behavior, and cognition" (p. 21). Birren (1964) has suggested that intellectual functioning in the elderly might be assessed through the abilities which the aged use in affective and interpersonal behavior with criteria of social effectiveness. Responding to this suggestion, Fisher and Pierce (1967) applied criteria of social and cognitive accessibility to develop a typology of mental disorders for the aged. Researchers outside of gerontology have suggested other definitions. Inkeles (1966) posits a social role performance view of competence, while Gladwin (1967) believes adaptability and coping criteria, including a reality testing component, should be used. Smith (1968) and Rotter (1966) view self-perceived mastery and control as central to competent functioning. Guilford's (Hendricks, et al., 1969) assessment of creative social intelligence offers promising measurement models which we are currently examining. In the absence of empirical evidence to the contrary, there is no reason to doubt that each of these competencies may contribute to the effective everyday functioning of older persons. While varied, they do provide a Gestalt-like flavor of our concerns. Overall, there is the implicit assumption that behavioral functioning is intrinsically tied to varying environmental and setting demands upon individuals, demands requiring adaptive behaviors. In distinguishing between competence and intelligence, Warner Schaie has usefully made explicity the need for study of specific situational-behavioral interactions here. What we now need however, are more specific data on the person X (competent) behavior X setting interactions, a large task considering the variation which may occur both within and between these triadic elements. In the space which remains, I would like to briefly outline

a strategy which will help us in this regard.

The Interactionist Déjà Vu

At least three psychological disciplines are recognizing the validity of Lewin's (1935) forty-year old, almost common-sensical dictum: B = (f) P X E, where behavior is a multiplicative function of a person and an environmental context. No one has really doubted the intuitive truth value of this statement; but a number of researchers in social-personality, intellectual development, and environmental psychology opted, over the years, to place their stress unduly on the person or the environmental side of the equation. With the exception of a few researchers (Barker, 1963; Brunswik, 1955), social psychologists became engrossed with attitudes, personality theorists with traits, and indeed, it is difficult to distinguish between the definitions which Allport supplies for these two "intrapsychic predispositions." Recently, the emphasis in this field has shifted, with situationists, led by Mischel (1968), claiming that knowledge of situational contingencies provides the most important predictor of behavioral variance. Similarly, early leaders within the intelligence testing movement did little to alter the popular lay reification of IQ as the intraorganismic construct primarily responsible for mediating performance across diverse task and environmental requirements. McNemar (1964) has presented these particular early ills in an articulate and considered criticism. Most recently, environmental psychologists, in attempts to find intrapsychic "environmental dispositions" which parallel traits, have found themselves inheriting the sins of the trait approach, namely, that such dispositions by themselves do not predict notable behavioral variance across situations (Windley, 1975). Moderation has returned to the social-personality literature, with Bowers (1973) and Bem and Allen (1974) recently suggesting more careful study

of interaction effects. And within the cognitive literature, Schaie and Gribben (1975) have researched some of the microenvironmental factors present in the day-to-day experience of adults which affect the maintenance of cognitive functions. Lawton has articulated an interactionist theory of adult competence which considers both individual adaptation level and environmental press. And Labouvie-Vief has outlined "the need to develop environmental conceptualizations in a more dynamic fashion, examining performance variations in close temporal synchrony with potentially relevant environmental settings" (1976, p. 82).

If, as we assume, competence or competencies vary as a function of contextual conditions, what is needed is a strategy which will empirically identify such interactions. Ideally, the strategy should allow a description of these interactions across the adult life-span, yet provide an explanatory vehicle for the understanding of the myriad developmental aspects of competence as well. Briefly, the strategy we are developing involves (1) the careful, systematic development of a taxonomy of situational attributes relevant to the experience of the elderly, (2) the empirical derivation of typical and specific everyday situations encountered by the elderly which provide the content of the taxonomy, (3) the determination of the most important or critical behaviors which mediate successful performance in these classes of situations (4) linking behaviors and situations by having selected samples of elderly persons Q-sort situations along these critical behavioral dimensions, (5) identifying, through factor analytic treatment of such data, (a) person types -- persons similar in the kinds of situations they find themselves encountering (and, later, in the kinds of behavioral responding they share across situations), and, eventually, (b) situation types -- situations functionally similar in their shared

response dimensions (kind, magnitude), and (c) competence or response types -- specific kinds of competent behaviors occurring in similar kinds of situations.

A Taxonomy of Situational Attributes

Several persons have discussed the desirability of constructing a taxonomy of situations for research purposes (Krause, 1970; Lawton, 1974; Sells, 1963; Windley, 1974) and some have suggested taxonomizing situational attributes, as opposed to situations themselves (Cattell, 1963; Fredericksen, 1972). Few researchers have actually developed either type of taxonomy. Sells' (1963) taxonomy is, perhaps, the best descriptive taxonomy of the great number of social, physical, and behavioral attributes characterizing the total stimulus situation. Conceptual bases of classification naturally require some definition of the entities we wish to classify. When we speak of elderly persons encountering or participating in particular situations, we are locating those persons in specific concrete milieus, noted by a fairly specific time and position locus in most instances; such a milieu is characterized by varying behavioral requirements, behavioral constraints, and behavioral potentials. The situation differs from a simple stimulus in that it has features which affect the success and quality of responding (Cattell, 1963). Doing weekly shopping in a market, making social arrangements for a dinner party, waiting in a long line of people attempting to get tickets to some entertainment, listening to a friend complain of aches and pains, filing an income tax return, wading in waist-high water, driving an automobile on a crowded freeway, or lying in bed thinking over the day's activities are situations illustrative of our meaning here.

The great convenience of a taxonomy is that it allows us to estimate the behavior, previously undetermined, which occurs in any situation by

describing its sociophysical and psychological similarity to classes of situations with attributes possessing known behavioral and psychological meaning (Cattell, 1963). Fleishman (1976) has noted that taxonomies are not discovered but must be invented, and that such invention is, hopefully, grounded in empirical research. Our invention has, whenever possible, followed this advice. The taxonomic attributes we are employing were derived from a thorough scrutiny of the available literature, particularly the work of Rudolf Moos (1973), and from situations empirically generated through direct contacts with elderly persons. Major taxonomic dimensions include activity (overt behaviors), structural character (including the subcategories of physical locus, institutional attributes, atmosphere, and territorial relevance), behavioral attributes (including role attributes and socioadaptational characteristics), and two response defined attribute categories -- affective quality (evaluative and arousal subcategories) and functional utility (a reinforcement contingency frame modeled after Lazarus' primary and secondary appraisal processes). These attributes will be evaluated by a pool of elderly judges as being relevant or irrelevant as taxonomic dimensions for the situations they rubricize, and taxonomic dimensions may be modified, if necessary, as a result of this evaluation.

The Empirical Derivation of Situations

The empirical generation of situations has, of course, two correlated sampling considerations -- in order to sample situations, we must sample people. We have attempted to draw our situational sampling from persons 60 years and up, from pools representing physically active persons across various ethnic groups and socioeconomic levels. We have not included immobile or institutionalized elderly, although nothing prevents us from examining these populations in the future. We are sampling with some

diversity, in hopes of assuring that we do not miss a great proportion (by omitting a significant faction of the elderly population) of situations descriptively different from the classes we use in our taxonomy. Our participants are selected through senior centers, church groups, U.S.C. Gerontology Center Volunteers, from the streets of Los Angeles, in parks and other settings, and through previous research rosters.

Thus far, three response formats have been used to elicit information from our participants: (1) an activity interview assessing situations which occur most frequently in their daily lives, (2) a questionnaire asking for situations and events encountered which conform to various evaluative, arousal, and dominance dimensions, and (3) situational diaries, where persons are logging specific situations, activities, and settings encountered each day, also outlining their sequential context and offering personal evaluations of their meaning. Another device of potential usefulness to us is the Kelly REP grid for situations (1955), which may also be of value in examining the situational constructs of particular individuals. And, of course, while nonsystematic at present, I have drawn upon field observations of the elderly when these opportunities occur. While we are finding greater redundancy now, these combined procedures continue to add new situations to the nearly three-hundred situations generated to date.

Behaviors Critical to Successful Performance

Our next task, as I have briefly outlined, is to select the behaviors or behavioral dimensions we wish to examine in possible interaction with these situations. At present, we have two strategies for selecting behaviors which we think might define competent performance. The first approach is suggested by Flanagan (1954) in his description of the critical incident technique: "It is clearly impossible to report that a person has been

either effective or ineffective in a particular activity by performing a specific act unless we know what he is expected to accomplish" (p. 336). An approach similar to the critical incident technique might be employed where, through field observations and interviews, we empirically identify the critical behaviors necessary and/or sufficient to adaptive performance in representative situations in our taxonomy. We would thus have a listing of the behaviors associated with or required by situations possessing varying attribute combinations. We might thus boil down these behaviors, reducing redundancy, leaving clusters of behaviors which cohere in terms of the kinds of performance criteria they share. The second strategy assumes that direct field assessment in actual situations is unwieldy, and that behaviors crucial to competent performance can be derived more parsimoniously, guided by definitions of competence in the theoretical literature. Elderly participants can, upon request, simply tell us what behaviors they feel typify each situation already present in our sample, and, more particularly, can indicate the kind and/or degree of coping, adaptive responding, perceived mastery, and role skill performance each requires. We will probably employ both of these approaches in some combination, using the behavioral determinations as the dimensions along which other elderly subjects can respond to the situations.

Q-Sort: Behavioral Dimensions of Situations

The Q-sort is a technique by which a rater sorts a considerable number of statements along a response dimension. The statements are similar to test items in this regard, with the statement value determined by where the subject places it along a semi-normal, forced-choice distribution. In our efforts, the stimulus statements are the separate situations, each represented as verbal descriptor, that is, written on cards. (Cattell

has called the problem of adequately representing situations a "Chinese nest of boxes," where alternative presentation modes shift the perceptual level and possible meaning which subjects assign to situations. We are sensitive to the problems of representation, and have considered a variety of ways of presenting situational stimuli to participants, including photographic depictions). Subjects read through a deck of approximately 100 situations, and sort them along behavioral response dimensions relevant to competent performance. As mentioned previously, our strategy at present calls first for a small group of elderly judges to sort situations along taxonomic attribute dimensions so we may thus locate attribute values for each situation. This allows us to sharpen and refine the content or attribute validity of our taxonomy, if indicated. Following this refinement procedure, the strategy is open and operationally employable. Elderly persons will sort (rate) situations, now possessing quantified attribute values, along the relevant behavioral dimensions critical to competent performance. For example, each person may be asked to rate from his/her own perspective each situation as to its frequency of occurrence in one's life, the degree to which it taxes physical, biological functioning, the degree to which it requires various adaptive capacities, the degree to which it is perceived as supportive or threatening, or the degree to which one is able to carry out behavioral requirements of various kinds.

Data Analyses: Competence X Person X Situation X Interactions

These situation sorts may be performed by elderly persons representing any criterion group selectively sorting along any behavioral dimensions of interest. The first analyses, as indicated, will emply Q-methodology to determine if there are "person-types," elderly persons who group by virtue of finding themselves in similar situations or classes of situations.

Further analyses will employ response X situation matrices to assess, for both kind and complexity, the behavioral similarities emerging across situations, and the situation types, situations sharing similar response dimensions, magnitudes, and so forth. Through such analyses we hope to empirically identify the competence-situation relations, in a way which respects individual differences among elderly persons. Thus, future research will determine, for example, how elderly persons of varying status on socioeconomic, health, life-style and life-complexity, personality or cognitive variables differentially adapt to classes of situations. One of the most interesting future investigations will examine the relation between competence factors and the underlying factor structure of traditional tests of intellectual performance. And there are many developmental questions, including the ontogenetic stability and change of possible competence factors. Adequate answers to these questions require a life-span examination of individual contextual dynamics. At a future point, it will be possible to expand the taxonomic classification of situations to other age groups, thus allowing such comparative and developmental study.

I hope these brief and broad comments have successfully illustrated the operating perspective and the myriad problems associated with our task -- that of identifying and assessing situational factors affecting competent behavior in adulthood and old age.

Footnote

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