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# Theories of Everyday Competence and Aging

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Everyday competence in adulthood represents an important but complex domain of inquiry. The theoretical framework needed to organize and provide explanatory principles is equally complex. What is required is an account that explains how an individual can function effectively on the tasks and in the situations posed by everyday experience (cf. Willis & Schaie, 1986). To do so, the theoretical framework must incorporate underlying processes, such as the mechanics and pragmatics of cognitive functioning (cf. P. B. Baltes, 1987; Sternberg, 1977; Sternberg & Berg, 1987), but it must also include the physical and social contexts that constrain the individual's ability to function effectively.

Our position will be that a hierarchical model of competence must begin with the underlying dimensions of the cognitive processes that are basic to all meaningful behavior. Given the particular task attributes and constraints in an everyday situation, different combinations and permutations of basic cognitive skills will be required to successfully display competent behavior. Alternative theoretical models that incorporate some or all of these features will be elaborated. We then ask how developmental changes in the various components constituting our theoretical framework will help us predict how

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everyday competence is likely to be maintained or to change with advancing age.

Historically, psychologists have addressed the study of competence by suggesting that an understanding of the wide array of dimensions of cognitive abilities would suffice to explain competence in everyday activities (Thurstone, 1938). Connolly and Bruner (1973) expanded the delineation of competence as a construct that implies action that may change the environment as well as adapt to the environment. They suggested that attributes of competence involved, first, the ability to select those features from the total environment that are required information for initiating a course of action; second, initiating a sequence of movements designed to achieve the planned objectives; and third, learning from successes and failures to form new plans.

From the above considerations it may be argued that competent behavior involves the application of cognitive mechanisms in specific situations, whose attributes may in turn interact with the developmental level of the individual. Because basic cognitive processes are typically operationalized so as to represent unitary trait characteristics, it is unlikely that any single process will suffice to explain individual differences in the exertion of everyday competence in any particular situation (Willis & Schaie, 1993). Hence, everyday competence could be characterized as the phenotypic expression of basic cognitive processes, which, given minimally required levels of motivational incentives, will permit adaptive behavior in a specific everyday situation or situations (Schaie, 1978).

In recent years a number of alternative approaches have been taken to define everyday competence. These can be represented as three different theories of everyday competence: componential theories that argue for different latent dimensions of competence, theories that take a strictly domain-specific approach, and those that are concerned primarily with the individual-environment fit. Because the definition of everyday competence has important societal implications, we next distinguish between psychological and legal definitions of everyday competence (cf. also Willis, 1996). We then address the question whether methods of measurement tend to drive theories of competence, and finally we present a view of competence within a life span perspective.

### THEORETICAL APPROACHES TO EVERYDAY COMPETENCE

In this section we review three broad theoretical approaches to the study of everyday cognitive competence. The first perspective views everyday competence as a manifestation of latent constructs and as related to models of basic cognition. In the second approach everyday cognitive competence is conceptualized as involving domain-specific knowledge bases. In the third

approach the focus is on the fit, or congruence, between the individual's cognitive competency and the environmental demands faced by the individual.

In all three approaches the focus is on problem solving with respect to everyday, real-world activities and demands. The concern is with the individual's ability to carry out the cognitively challenging activities of daily living. In this chapter we will be primarily concerned with the cognitive aspects of everyday competence. It is important, however, to acknowledge that the functional competence (Fillenbaum, 1987; Lawton & Brody, 1969) required to carry out everyday activities is multidimensional, involving physical and social as well as cognitive components. Medication compliance, for example, involves not only cognitive processes such as memory and reasoning but also the sensory ability to read the label, manual dexterity to open the bottle and measure the dosage, and social support.

### Competence: Manifestation of Latent Constructs and Linkage to Basic Cognition

Within this approach we group such diverse perspectives as componential and hierarchical models of competence and theories of postformal stages of development (P. B. Baltes, Dittman-Kohli, & Dixon, 1984; Berg & Sternberg, 1985; Labouvie-Vief, 1992; see also Park, 1992). These diverse perspectives share some common themes.

First, each of these perspectives establishes a link between more basic forms of cognition and everyday competence. Within the componential and hierarchical approaches, the association of everyday problem solving with either psychometric intelligence or information processing approaches is considered. In the study of postformal thought, consideration is given to the evolution of relativistic or dialectical forms of thinking from formal operational thought.

Second, in this perspective competence is studied and assessed in terms of latent cognitive constructs. Observable everyday tasks/problems are seen as markers of these latent constructs. Competence is multidimensional in that there are multiple components or hierarchical levels, each represented at the latent construct level.

Third, everyday competence is not conceptualized in terms of specific substantive domains. Rather, competence in various everyday activities (e.g., managing finances, medication adherence) is seen as involving a parsimonious set of cognitive abilities or processes that cut across or apply to various substantive domains.

Fourth, the latent constructs perspective is concerned with age-related change and developmental trajectories in everyday competence. The developmental trajectories are determined in part by the particular model of

basic cognition that serves as the underpinning of each perspective. For example, perspectives linked to basic cognitive processes such as speed of processing (or fluid) intelligence may be particularly concerned with decline trajectories. In contrast, postformal thought is concerned with more advanced or optimal levels of cognition.

Fifth, the role of the environment or context is of particular salience in determining the particular types of applied activities and problems in which everyday competence is manifested. Both the sociocultural context and the micro-environment determine the genotypic expression of everyday competence for a cohort or a given individual. For example, whereas ability to transport oneself beyond one's dwelling has been of concern through the ages, the ability to comprehend airline schedules and to operate computer-driven vehicles is only a recent expression of everyday competence with regard to mobility. The environment also plays an important role in the maintenance and facilitation of everyday competence in old age. Environmental stimulation and challenges occurring either naturally or through planned interventions have been shown to be associated with the maintenance and enhancement of everyday competence in the elderly.

### Componential and Hierarchical Perspectives of Everyday Competence

One way in which various exemplars of this perspective differ is with regard to the model of more basic cognition with which they seek linkages. Sternberg and co-workers (Berg & Sternberg, 1985; Sternberg, 1985; Sternberg & Kolligian, 1990) have proposed a triarchic theory of adult intellectual development that involves metacomponents and experiential and contextual aspects. The metacomponential part of the theory is rooted in an information processing approach to cognition. This part of the theory is concerned with basic cognitive processes such as encoding, allocation of mental resources, and monitoring of thought processes. Of greater relevance to everyday competence are the experiential and contextual aspects of the theory. The theory posits that the metacomponential processes operate at different levels of experience with a task. The two levels of the theory that are of greater relevance for everyday competence have to do with whether the components are operative in a relatively novel fashion or are in the process of becoming automatized. According to Sternberg (1985), the most intelligent person (in this case having higher everyday competence) is one who can adjust to a change in problem situations and who can eventually automate the component processes of task solution. The third aspect of the theory is concerned with how the individual relates to the external world—the ability to apply the metacomponents at different levels of experience in adjusting to a change in the environment. Whether competence in a particular everyday activity declines or not would depend in part on the nature of environmental change

and the ability of the individual to apply metacognitive processes to adapting to the change.

In a somewhat similar approach, Baltes and colleagues (P. B. Baltes et al., 1984) have proposed a two-dimensional componential model of cognition. In contrast to Sternberg, Baltes has conceptualized the mechanics of cognition (what Sternberg calls metacomponents) in terms of psychometric abilities, rather than information processing. Everyday competence is more closely associated with the second component of the theory—the pragmatics of intelligence. Although the mechanics of intelligence serve as underpinnings for the pragmatic component, the environmental context is critical to the particular form or manifestation in which pragmatic intelligence is shown. Baltes posits that although the mechanics of intelligence decline with age, there is enhancement in the pragmatic component through much of adulthood. The concept of wisdom has been linked and studied within the pragmatics of intelligence (Staudinger, 1996).

In our own work we have conceptualized a hierarchical relationship between basic cognition and everyday competence (Willis, 1987, 1996; Willis & Schaie, 1986, 1993). Basic cognition has been represented by domains of psychometric intelligence, such as the second-order constructs of fluid and crystallized intelligence and the primary mental abilities associated with each higher order construct. Like Berry and Irvine (1986), we propose that the cognitive abilities represented in traditional approaches to intelligence are considered universal across the life span and across cultures. When nurtured and directed by a favorable environment at a particular life stage, these processes and abilities develop into cognitive competencies that are manifested in daily life as cognitive performance.

Everyday competence, as represented in activities of daily living, are phenotypic expressions of intelligence that are context- or age-specific. The particular activities and behaviors that serve as phenotypic expressions of intelligence will vary with the age of the individual, that person's social roles, and the environmental context. Problem solving in everyday activities is complex and hence involves multiple basic cognitive abilities. For example, balancing one's checkbook involves verbal ability, inductive reasoning, and numerical skills. Our research has shown that significant variance in performance on everyday tasks can be accounted for by a combination of several basic abilities. The particular combination or constellation of basic abilities varies across different tasks of daily living. It is important to note that the basic abilities are seen as necessary but not sufficient antecedents for everyday competence (Willis, 1991; Willis & Schaie, 1993). Everyday competence also involves substantive knowledge associated with the particular everyday problem domain and the individual's attitudes and values with regard to the problem domain.

### *Postformal Forms of Reasoning*

The postformal operational perspective has arisen as one that (a) is qualitatively different from prior forms or stages of reasoning, (b) develops in adulthood, and (c) is of particular interest in later adulthood. Of particular concern is the developmental timing of manifestation of this form of reasoning and the demonstration that it is different and often superior to prior forms of reasoning.

Labouvie-Vief (1992) and colleagues (Labouvie-Vief & Hakim-Larson, 1989) have proposed the development, in middle and later adulthood, of a more pragmatic, concrete, and subjective approach to reality. This mode of thinking reflects sensitivity to the interpersonal context and thus focuses on inner, personal experience. The study of cognitive aging until recently has focused almost exclusively on a youth-oriented mode that thinks of reality in a formalistic, abstract, and objectified manner. A vertical or hierarchical, rather than balanced or integrated, ordering of the two modes of thought were imposed. Pragmatic, emotive modes of thinking were devalued or subjugated. In adulthood there is the unique potential to integrate optimal use of both modes of thought. In related work, Blanchard-Fields (1986) has suggested that quantitative assessments of everyday competence or reasoning fail to tap the richness and complexity of older adults' thoughts and social attributional processes. Older adults use their postformal operational reasoning selectively, and such use is likely to occur in everyday problems that are emotionally salient and pertinent to their lives.

### *How Do These Perspectives Differ?*

In spite of the commonalities earlier noted in this section, there are certain basic differences that may lead to competing research strategies and predictions. The Sternberg and Baltes positions are both parallel theories of competence; they suggest that there are different dimensions that conjointly affect everyday behavior but are weighted differentially for specific task demands and situations. The Willis-Schaie position is essentially a hierarchical model that argues for the aggregate importance of different combinations of basic cognitive processes as they apply to specific task demands and situational constraints. All these theories are continuity models: as adults age, certain processes may be weighted in a differential manner, but the latent constructs involved remain the same throughout the life span. By contrast, the postformal reasoning position represents developmental discontinuity by suggesting the importance of qualitative transformations, which may be unique to adulthood, as well as the increasing role of emotions as a major factor in everyday competence.

### Competence as Domain-Specific Knowledge and Problem Solving

A second theoretical perspective conceptualizes competence as involving the development and organization of an increasingly complex and well-integrated body of knowledge that is domain-specific (Salthouse, 1990). Several themes associated with this approach can be identified. First, in contrast to the latent construct perspective, competence is considered to be domain-specific, that is, limited to a particular body of knowledge or substantive area. Second, the focus is not on identifying components or latent ability constructs but on describing the manner in which a problem is represented and the increasingly complex manner in which information is related and organized. Third, there is little focus on broad developmental trajectories. Rather, competence is seen as increasing as the amount of information grows and the organization of the knowledge becomes more integrated and complex. In later adulthood, everyday problem solving is seen as developing out of the older adult's familiarity and experience with problems within a specific life domain (Park, Morrell, Frieske, & Kincaid, 1992; Rybash, Hoyer, & Roodin, 1986).

Adults are seen as active problem solvers who construct a representation of both the problem and the process or strategies involved in solving the problem (Chi, 1985; H. Leventhal & Cameron, 1987). The adult's representation of the problem and of its solution involves factors that may vary with the type of problem being solved. A distinction is made between well-structured and ill-structured problems. In well-structured problems, research has focused on (a) declarative knowledge, the body of domain-specific knowledge possessed by the adult, and (b) procedural knowledge, the problem-solving strategies and skills that are relevant to the particular problem. In ill-structured problems, the problem is not well defined, allowing alternative solution strategies.

Research on ill-structured problems has often focused on adults' cognitions and beliefs about the problem and about solution or treatment alternatives (H. Leventhal & Cameron, 1987; Voss & Post, 1988). Some have argued that real-life problem solving is more closely associated with ill-structured problems (Sinnott, 1989; Sternberg & Wagner, 1986; also see Willis & Schaie, 1993, for an alternative view). Given their extensive lifetime experiences, the old might be expected to have larger stores of knowledge and to have hierarchically organized knowledge bases that are well integrated and that utilize lesser amounts but qualitatively higher order types of information.

Findings in support of the above hypotheses are mixed. Some studies report age-related reductions in the amount of information used and the extensiveness of the information search process undertaken by the old. Meyer, Russo, and Talbot (1995) examined decision making with respect to a health

scenario about breast cancer. Older women had no greater prior domain-specific knowledge about breast cancer and remembered less information presented during the study. They sought less information before making a treatment decision. When given further information, older women typically did not change their initial treatment decision. In contrast, younger women were more likely to seek additional information while delaying a decision about treatment and more likely to compare and contrast various types and sources of information. In spite of these differences in use and recall of information, older women made the same decision regarding treatment as did middle-aged and young women. The older women reached the same decision based on less information earlier in the decision-making process.

Studies of managerial and of consumer decision making have found somewhat similar patterns of findings regarding age differences in problem solving (Schaninger & Schiglimpaglia, 1981; Streufert, Pogash, Piasecki, & Post, 1990). In a study of age differences in seeking medical care, the elderly were less likely to seek information from outside sources prior to contacting their physician and to contact their physicians earlier than did middle-aged individuals (E. A. Leventhal, Leventhal, Schaefer, & Easterling, 1993).

It should be noted that the domain-specific approach is essentially non-developmental. That is, competence is thought to arise out of automatization, prior experience, and the development of expertise. Hence, there are difficulties in accounting for age changes or age differences in competence that must be related to shifts in underlying physiological and psychological processes characteristic of normal aging.

### Everyday Competence as the Person-Environment Fit

The third theoretical perspective to be reviewed is concerned with the degree of congruence between the abilities of the individual and the demands and resources available in the environment (Kahana, 1982; Lawton, 1982, 1987; Parmelee & Lawton, 1990). Competence does not reside solely in the individual nor in the environment. Competent behaviors occur when the capabilities of the individual match the environmental demands and resources. Hence, an older adult with some cognitive limitations may appear competent with respect to everyday activities when functioning in a supportive environment with many resources. In contrast, even the most capable individual appears less competent when functioning in a very demanding, resource-limited context. A loss of competence resulting from incongruence between the individual and the environment may reflect decreases in the abilities of the individual, changes in environmental demands or resources, or a combination of these.

The research on person-environment fit has examined the effects of different environments on older adults' ability to live independently, as well as

on their morale and life satisfaction. Carp (1987) has suggested that the notion of fit should be considered at two levels. At the lower level are life-maintenance needs such as food, water, and adequate shelter. Fulfillment of these basic needs depends on the degree of fit between the person's ability to perform basic activities of daily living (ADLs; bathing toileting, feeding) and environmental resources. If the person is limited in these basic self-maintenance activities, then increased environmental support is needed to achieve a basic level of competence. Once these basic needs are met, the match between person and environment may then focus on the fit between the individuals' higher order needs and desires and the environmental resources.

Higher order needs may include the level of affiliation and social contact desired, need for privacy, and preferences for rural versus urban settings. With regard to affiliation, an appropriate match would involve a person with a strong desire for interpersonal contact living in a highly social environment. The impact of lack of congruence between the needs and desires of the individual and the environmental resources is illustrated in Carp's (1987) research on older persons moving to a new apartment facility. Older adults who, before moving, manifested the highest level of sociability were the ones most socially active after the move. Those who had been least socially active displayed even lower levels of socializing after the move. The inference is that those who were less comfortable in the closer environment of a housing project (greater incongruence between personal preferences and environmental conditions) withdrew and became more isolated. In contrast, those high on sociability took full advantage of increased contact with others and additional social activities.

The theoretical importance of the person-environment fit model lies in its ability to account for individual differences in competence in old age that can not be strictly attributed to the decay of the mechanics of cognition or the obsolescing of the information required by individuals to function adequately. It adds the important contextual dimension often ignored in person-centered developmental theorizing.

### PSYCHOLOGICAL VERSUS LEGAL COMPETENCE

The previous section has reviewed three theoretical perspectives that characterize psychological approaches to the conceptualization and study of everyday competence. But psychological theories ought not to be mere sandbox exercises. Instead, they should abstract and systematize phenomena that are meaningful to real-world experience. In this section we briefly discuss how theories of psychological competence relate to the theoretical definition of competence as used in legal proceedings.

Legal competence is of significant practical importance because the legal

determination of loss of everyday competence may result in legal judgments of guardianship or conservatorship. As we shall see, cognition is a critical aspect of legal judgments of competence. Interestingly, both legal and psychological considerations of competence have focused on two broad domains: competence with respect to the safety and well-being of the person and competence to manage one's property. In the social sciences, competence to care for oneself has been conceptualized and assessed in terms of the Activities of Daily Living ADLs (Katz, Ford, Moskowitz, Jackson, & Jaffee, 1963), including the ability to bathe, feed, toilet, and transport oneself. Management of one's affairs has been conceptualized to represent seven domains of ADLs defined as Instrumental Activities of Daily Living (IADLs; Lawton & Brody, 1969). These include the ability to use the telephone, shop for necessities, manage one's finances, prepare meals, manage one's medications, care for one's home, and transport oneself outside the home.

Legal determinations of inability to care for oneself often lead to appointment of a guardian, and incapacity to manage one's affairs may lead to appointment of a conservator. Grisso (1986) and others have argued that IADLs are of primary interest in legal guardianship cases. The elderly person may be able to engage in basic self-care activities and still have serious deficiencies in making decisions regarding independent living and management of property.

Definitions of legal competence are based on the need of the jurisprudence system to determine when a state legitimately may take action to limit an individual's rights to make decisions about his or her own person or property (Sabatino, 1996). Because the legal presumption is that adults are best able to decide what is in their best interest and ought to be left alone to pursue their own choices (Meisel, 1989), the burden of the judicial system is on determining incompetence. Hence, legal definitions have focused largely on *incompetence* or *incapacity*, whereas psychological definitions are framed positively in terms of *competence*. Judgments regarding incapacity have recently become limited in scope to only certain domains of the person or property, such as financial management or health decision making. Global determinations of guardianship or conservatorship were more common in the past and reflected a concern with global incompetence.

In the legal system there is no national consensus on a standard for declaring an individual to be incapacitated (Anderer, 1990), just as there is little consensus in the social sciences on definitions of competence; statutes regarding competence vary widely from state to state. However, in both fields there is growing recognition of common themes or elements that are employed in conceptualizing and assessing competence (Altman, Parmelee, & Smyer, 1992; Grisso, 1986, 1994; Kapp, 1992; Sabatino, 1996; Willis, 1996). Of interest in this segment of the chapter are the similarities and differences between legal and psychological conceptions of competence.

### Common Elements in Definition of Competence/Incompetence

At least four common themes or elements are frequently found in laws regarding guardianship and conservatorship and hence competence (Grisso, 1986, 1994; Sabatino, 1996).

1. *Assignment of status or disabling condition.* Until recently, a primary element in judgments of incompetence was the labeling or designation of a status for the individual. Courts and juries had the discretion to bestow the labels such as idiot, insane person, and lunatic on the individual, with the assumption that the label implied incompetence. Progressively state laws have refined the status approach in two respects. First, a more medicalized approach to defining a disabling condition has replaced the designation of a status. Second and more recently, some states no longer accept simply the identification of a disabling condition but require in addition a finding that the disabling condition has caused some dysfunctional behaviors (Parry, 1985).

2. *Cognitive functioning.* In some states the focus on a disabling condition (e.g., dementia) has been replaced with an emphasis on a more precise description of deficiencies in cognitive functioning. The critical aspect of cognitive functioning has been the individual's capacity to understand and to make and communicate responsible decisions; hence, legal definitions of competence are closely aligned with the forms of everyday problem solving of concern to psychologists. Cognitive functioning has been particularly salient in health care decision making and in advance directive statutes. Capacity with regard to health care decisions has been defined as the ability to understand the significant benefits, risks, and alternatives to proposed health care and to make and communicate a health care decision (Uniform Health-Care Decisions Act, 1993).

3. *Functional or behavioral impairment.* Recently, it has been argued that diagnosis of a disabling condition or poor performance on cognitive measures is insufficient for judging a person to be incompetent and for appointment of a guardian. The focus is on behavioral manifestations of incompetence rather than on less direct indicators such as diagnosis or mental tests. Thus, legal assessment of competence is following a trend similar to that in the social sciences—focusing on behavioral or performance indicators of problem solving and decision making rather than on measures of basic abilities and processes.

4. *Competence as congruence of person and environment.* Legal judgments are not concerned with assessment of absolute competence but rather with whether the individual is capable of functioning in a particular environment. The question is whether the person is capable of meeting his or her

essential needs for survival and is not endangering self or others in the current environment. Thus, competence in the legal sense does not reside solely in the individual but in whether the individual can survive and avoid risk of endangering self or others in a given context. Appointment of a guardian or conservator is seen as enhancing the environmental dimension when the individual's capabilities are not deemed sufficient in the present environment.

It may be noted that legal theorizing incorporates aspects of virtually all of the psychological theories of competence discussed earlier in this chapter. To the extent that these theories provide credible explanations, they also tend to affect and modify legal practice.

### DO METHODS OF MEASUREMENT DRIVE THEORIES OF COMPETENCE?

As is true in other areas of gerontological theorizing, models built to systematize and explain empirical data are often driven by the methods of measurement used to collect such empirical data. At least three different approaches to the measurement of competence can be recognized. The first approach is open-ended, utilizing subject-generated responses and/or relying on the ability of rater-derived observations or judges' ratings of more global responses to determine the nature of competence as well as to judge the level of competence displayed by a particular individual. The second follows the psychometric tradition of building measurement models that dimensionalize the latent construct(s) of interest. Such models must of necessity involve objective assessment strategies that assume scientists can characterize response dimensions and specify appropriate (correct) subject response. A third approach is concerned with the person-environment fit, that is, the interaction between the actions of the individual (everyday competence) and the complexity or supportiveness of the context. The latter approach, of course, requires measurement of situations (environments) as well as performance of the individual.

#### Subjective Ratings

One way of measuring everyday competence is to consider whether a person "behaves" in a competent manner (Goodnow, 1984). Such an approach, of course, requires the use of judges to determine the attributes of everyday competence prevalent at various life stages (e.g., Berg & Sternberg, 1985). These attributes represent ways in which people combine or organize information about everyday events (Goodnow, 1986) or how psychologists per-

ceive their own functioning (Mason & Rebok, 1984). Theories derived from taxonomies developed by judges or by various multidimensional scaling approaches tend to be essentially "nativistic." That is, they represent explications of the stereotypic conceptualization of the persons generating them. Hence, rating-derived theories may be quite specific to the age, social class, work setting, or other contextual dimensions of the raters and the target population (Scribner, 1984). One such prominent taxonomy that has widely influenced the field are the dimensions represented by the ADL and IADL checklists (Fillenbaum, 1985; Lawton & Brody, 1969). The IADL checklist in particular has been used widely to determine whether older individuals can function independently in the community as well to determine limitations on particular dimensions such as managing finances, using medications appropriately, using transportation, communicating via the telephone, being able to engage in household chores, and being able to shop and prepare food.

Subjective approaches to the definition of domain content play an important role in theory development and may be an essential first step in devising ~~models that can be more formally operationalized with objective methods of assessment.~~ Such methods provide the basis for data collections on which the viability of the theories can then be tested.

### Objective Assessment

Objective measures for the assessment of everyday competence have been developed for quite some time. Early examples of such work are scales sampling everyday activities by Demming and Pressey (1957) and by Gardner and Monge (1977). Another set of items that has been used in aging research comes from the efforts of the Educational Testing Service (1977) to assemble an objective measure of competency in everyday tasks for high school graduates. This measure contains materials related to interpreting medicine bottle labels, bus schedules, road maps, Yellow Pages advertisements, warranties, newspaper editorials, and the like. Age changes on this global measure of everyday competence have been found to be comparable to those seen for fluid abilities (Schaie, 1996).

Willis and her colleagues (Marsiske & Willis, 1995; Willis & Marsiske, 1991; Willis & Schaie, 1993) have conducted an extensive program to operationalize objective assessment tools for each of the IADL domains, using printed materials that older persons must be able to deal with successfully in each of the seven categories. The plausibility of this measurement system was assessed by confirmatory factor analysis, as well as by replicating assessment with physical stimulus materials contained in older persons' homes (Diehl, Willis, & Schaie, 1995).

Just as subjective explorations may inadvertently bias the development of

theoretical models and thus incorporate stereotypes that are largely time-, population-, and place-bound, so may objective measurement systems constrain the manner in which everyday competence is defined to the domain content of such measurement systems. Further restrictions are often introduced by the demand for ever more parsimonious assessment systems, which tend to lead to assessment procedures that, by their very nature, will be global. These procedures, in turn, may lead to the inappropriate inference that everyday competence is a unitary construct, even though we know intuitively and from empirical evidence that a multidimensional **system of constructs must be involved to account for the complexity of human experience.**

### Person-Environment Fit

Given our definition of everyday competence as involving adaptive behavior within specific contexts, we now must consider the implications for theory of how to measure the context within which competence is displayed. A major approach to this issue has been the extensive literature on person-environment (P-E) fit (c.f., Lawton, 1982, 1989). In this approach it is sometimes argued that the action of persons within context can be treated only as P-E interactions; the effect of one on the other is seen as essentially reciprocal in nature. Nevertheless, the way in which the characteristics of the environment are described will obviously make a difference. For example, a number of efforts in this direction have appeared in the literature with respect to the characteristics of the physical environment (Regnier, 1997), of independent living arrangements (Carp & Christensen, 1986), and with respect to institutional environments (M. M. Baltes & Horgas, 1997; Moos & Lemke, 1985). Once again, whether the characteristics of such settings are measured as simple technical descriptors, as indicators of support, or along dimensions of dependency induction, such measurement will have theoretical implications for how the P-E interface is to be understood.

An alternative approach to contextual measurement is to take a quasi-ethnographic approach to discover the specific situations within which older adults are required to display competent behavior. This information can then be translated into a data language such as a Q-sort to discover the dimensions that are most likely to be perceived by older raters as characteristic of competency-demanding situations. In a study by Scheidt and Schaie (1978) situations were identified as ratable along the dimensions of social-nonsocial, common-uncommon, supportive-depriving, and active-passive. Age differences in perceived competence were found in the direction of greater competence for the elderly in situations involving social, common, and depriving elements (Willis & Schaie, 1986). It was also found that different basic cognitive skills were related to perceptions of effective functioning

in situations with different attributes (Schaie, Gonda, & Quayhagen, 1983). A situational competence model here would be driven by the *perceived* attributes of the context rather than by its objective descriptors.

Measurement strategies are important in driving theory in gerontology because explanations must of necessity be based on how a domain of behavior is dimensionalized and whether objective or subjective experience is preferred for the source of one's data. Perhaps in the best of all possible worlds we would expect a dialectic process in which theory directs how we measure and in turn measurement impacts on theory.

### EVERYDAY COMPETENCE WITHIN A LIFE SPAN PERSPECTIVE

We now come to the crux of the matter, namely, how should we advance theory development to better characterize the developmental course of everyday competence as we age? At least three aspects of such theory development must be considered. First of all, it must be stressed that the aging of everyday competence should be considered a dynamic process: competence of the individual as well as situational characteristics change both quantitatively and qualitatively over the adult life span. Second, adequate theoretical models must consider not only the level of functioning of the individual but also the matter of rate of change. Despite the remaining controversy over the importance of cohort differences in cognitive abilities and hence everyday competence, it seems likely that quantitative age differences in competence, prior to advanced old age, may to large extent be a function of obsolescence and cohort-related differences in opportunity structures. What is not clear, however, is whether there are also cohort-related differences in the *rate* of cognitive aging. The question of whether there has been a slowing of such change, particularly in advanced old age, remains open. Third, we need more theorizing about to what extent qualitative changes in the nature of individual response and in the characteristics of the eliciting situations contribute to apparently age-related differences in the display of everyday competence.

Clearly, whatever theory of everyday intelligence we care to espouse, we cannot escape the conclusion that decremental changes in the basic cognitive mechanisms will result in commensurate deterioration of performance of everyday tasks. To the extent that different psychological abilities decline at different rates, we will also expect to see differential change in everyday competence (Willis, Jay, Diehl, & Marsiske, 1992). In our research on the concurrent relationships between basic mental abilities and performance of cognitively demanding tasks in various domains of everyday competence, we have found that over half of the individual-differences variance in older

adults' performance can be accounted for by mental abilities (Willis, 1997, Willis & Schaie, 1994).

A developmental theory of everyday competence would predict that adults will reach their asymptotic competence in midlife, when virtually all the basic cognitive processes are at peak levels. We would first expect difficulties in early old age for those activities that have relatively brief response windows—the inexorable increase in reaction time is most noticeable as tasks take on increasing complexity. We would next expect difficulties in those everyday tasks that involve strong components of processes identified as fluid or visualization abilities. Everyday competencies that involve primarily verbal (or other crystallized) processes are, by contrast likely to remain intact into advanced old age (cf. Schaie, 1996).

As we noted earlier, a comprehensive theory must also take into account the situational demands within which everyday competence must be exercised. These demands are likely to be life-stage-specific. Hence, lesser or greater amounts of underlying cognitive competence may be required. But we would also predict qualitative change in the situational context, depending on its complexity or supportiveness, that may permit the display of adequate everyday competencies even where cognitive resources have declined substantially. Moreover, motivational states (see chapter 14, this volume) and positive or negative shifts in the social support system (cf. Carstensen, Gross, & Fung, 1997) may markedly affect the expression of everyday competence.

We have previously described a stage theory of adult cognitive development that considers developmental changes in the demand context requiring adults' cognitive response (Schaie, 1977–78; Schaie & Willis, in press). The demand context defined by this theoretical model is also quite relevant for a theoretical framework of everyday competency. That is, the range of everyday competencies required of young adult or middle-aged individuals must necessarily differ markedly from those required of the old and very old. Just as a differentiation-dedifferentiation model fits the empirical data and makes sense for understanding the course of cognitive development (Reinert, 1970; Schaie, Maitland, Willis, & Intrieri, 1998; Werner, 1948), so we must consider a model for everyday competence whose ontogeny shifts from the simple demands of childhood, through the complexities of midlife, to a simplification of both situational context and extent of the individual life space in old age.

In the cognitive aging literature the process of development has been characterized by P. B. Baltes (1993) as selective optimization with compensation. We would propose that a similar process extends to everyday competence as well. Such a model would readily explain, for example, why 90-year-olds can make thoughtful dispositions of their personal property to selected friends and family members and at the same time are unable to take



care of their financial affairs or engage in other IADLs that would be essential at an earlier life stage to successfully maintain independent living arrangements. We might conclude that everyday competence is of necessity constrained by the physical and cognitive capacity of the individual, the situational demands, and the environmental support that a given society deems appropriate at different life stages. We do not demand that children display competencies incompatible with their development stage. By the same token, competencies that we take for granted in midlife and early old age may well be inappropriate for the very old. Indeed, dependency and increased levels of societally approved support may obviate the display of many everyday competencies at both ends of life span.

Theory development in gerontology must provide explanations for both the continuities and the discontinuities of life span development. Perhaps theory development in the area of everyday competence can serve as a particularly useful example of how explanations may be found that showcase the remaining vitality of the aging individual as a contributing member of the species and at the same time explain the transformations in behavior and context that characterize the later stages of the life course.

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