Aging, Job Performance, and Career Development

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I. Introduction

One implication of the changing demographic composition of the United States population is that the number of older workers will increase dramatically in coming years in both absolute and relative terms. Particularly in light of the virtual elimination of mandatory retirement ages in the United States, questions will inevitably arise regarding the productivity of older workers. Although in recent decades the trend has been toward retirement at earlier ages, this pattern may not continue if the large baby boom cohort is confronted with the possibility of reduced or delayed benefits, and if concerns about financial security lead to decisions to postpone retirement. Interest in relations between aging and work behavior will therefore almost certainly grow in importance in the next several decades.

Because of space limitations, the focus in this chapter is restricted to two major topics concerned with aging and work. Although there are obviously many aspects of work behavior that could be addressed, the two emphasized here are job performance and career development. Job performance is clearly a fundamental topic in the field of work, and in fact it has recently been suggested that job performance is the most important dependent variable in industrial and organizational psychology (Schmidt & Hunter, 1992). Career development is important as a factor affecting job performance, especially when there is a shift in occupation or responsibilities, and retraining or skill upgrading is needed. It is also a work-related variable likely to be of interest both to the employer, because career development relates to issues of staffing (e.g., transfer, promotion, retention), and also to the employee.

The framework for our discussion is portrayed in Figure 1. Knowledge and skills in this diagram refer both to domain-specific aspects (e.g., information and procedures relevant to a particular occupation), and to broader aspects derived from general life experience. Abilities refer to individual capabilities ranging from physical (including sensory and motor) to cognitive in nature. They correspond to trans-situational, rather than job-specific, capacities of the individual. The category labeled Other includes, but is not restricted to, motivation (e.g., need for achievement or self-actualization) and personality (e.g., self-efficacy beliefs, attitudes, and traits, such as openness to change and conscientiousness).
as conscientiousness and internal locus of control). System factors refer to situation or environment variables external to the individual such as organizational structure, supervisor style, appraisal or evaluation procedures, and social processes.

A relation, albeit weak, is postulated between age and system factors because informal policies and socially shared stereotypes or norms may rely on age as a classification variable. A relation is also postulated between system factors and career development because system factors are presumed to affect access to, or opportunity for, career development. Finally, a weak relation is represented between system factors and aspects within the Other category in the form of motivations, expectations about success, and self-efficacy beliefs.

This framework is obviously incomplete because many more variables and relations could be included in this type of diagram. The labels for the mediators are also somewhat vague, and inclusion of a category labeled Other imposes few constraints on the range of mediators. Despite these caveats, Figure 1 illustrates our fundamental assumption that various types of proximal characteristics, rather than age, are the important determinants of career development and job performance (see also Avolio, Barrett, & Sterns, 1984; Salthouse, 1986; Waldman & Avolio, 1986). That is, Figure 1 does not contain any direct relations between age and either the career development or the job performance criterion variables. This is a key aspect of our perspective because we view age as a dimension along which factors exert their influence, rather than an influence in and of itself.

In this respect we agree with Renner (1977), who suggested that a surrogate variable that could replace age as a variable along which factors influence job performance would be the ability to respond to a situation. As long as age is directly measured, the relation is complicated by the existence of socially shared stereotypes or norms, which may influence job performance. Further implications of this idea are discussed at the end of this article.

IV. At this point we turn to the next stage of the framework to relate criterion variables—job performance and career development.

II. Job Performance:

Most reviews of the research literature have concluded that there is no relation between age and job performance (see Davies & Sparrow, 1985; Garcia, 1989; Rhodes, 1984; Avolio, 1986; Warr, 1980, cited in Hunter, 1981). The absence of a relation is surprising because negative age-related differences have been expected because of the close relation between age and ability and job performance. Age and job performance is determined by knowledge, skills, abilities, and other factors, and there are age-related differences in some of the A variables but not in knowledge and ability (see Avolio, 1986). The lack of a negative relation is not surprising to us. The framework is useful for identifying variations of this puzzling lack of a relation by discussing the existence of the mediating variables and consider potential hypotheses to account for it.

One relevant type of explanation is that there is no relation between age and various measures of job performance. This is not surprising because age is a classification variable that is related to many factors that have been documented in the research literature, including age differences in job performance, self-efficacy, and assessment of standardized tests. For a review of these studies, see Hunter, 1981.
In this respect we agree with Birren and Renner (1977), who suggested that age is a surrogate variable that ultimately should be replaced by true causal variables. As long as age is directly linked to the criterion measures, then the level of understanding is incomplete and inadequate. Further implications of this view are discussed at the end of the chapter in Section IV. At this point we turn to the application of the framework to two work-related criterion variables—job performance and career development.

II. Job Performance

Most reviews of the relevant research literature have concluded that there is little or no relation between age and work performance or job proficiency (e.g., D. R. Davies & Sparrow, 1985; McEvoy & Cascio, 1989; Rhodes, 1983; Waldman & Avolio, 1986; Warr, 1994; also see Hunter, 1980, cited in Hunter & Hunter, 1984). The absence of a relation is somewhat surprising because negative relations might have been expected based on the relations between age and ability, and between ability and job performance. That is, if job performance is determined by KSAOs (i.e., knowledge, skills, abilities, and other factors) and there are age-related declines in some of the A variables, then why is there not a negative relation between age and job performance? The framework in Figure 1 is useful for identifying possible explanations of this puzzling discrepancy. We begin by discussing the evidence establishing the existence of this paradox, and then consider potential hypotheses that might account for it.

One relevant type of evidence is the existence of negative relations between age and various measures of cognitive ability that have been documented in many types of assessments, including a wide range of standardized tests (e.g., see Salthouse, 1991, for a review). Negative relations have been reported for measures as simple as immediate memory and as complex as abstract reasoning, with correlations typically ranging from about −.2 to −.5.

A second type of relevant evidence is the presence of positive relations between measures of cognitive ability and measures of work performance (e.g., Hunter, 1986; Hunter & Hunter, 1984; Schmidt & Hunter, 1992). The average validity coefficient for cognitive ability as a predictor of job performance (usually assessed by supervisor rating) was estimated to be .24 by Ghiselli (1973). After adjustments were made for restriction of range and measurement error, however, Hunter and Hunter (1984) estimated that the value was closer to .45. Regardless of the absolute magnitude of the relation, cognitive ability has been reported to be one of the best predictors of job performance.

The research just summarized clearly leads to the expectation of a negative relation between age and job performance. For example, if the age-cognition correlation is −.5 and the validity coefficient is .5, then path analysis logic leads to an expected correlation between age and job performance of −.25. (Of course, if the correlation between age and cognitive ability is only −.3 and the validity coefficient is only .3, then the correlation between age and job performance might be expected to be as small as −.09.)

A. Methodological Issues

The key question that emerges from the preceding discussion is why is there not a relation between age and measures of work performance? Before considering interpretations of theoretical interest, a variety of methodological factors that could contribute to the lack of observed relations between age and job performance are briefly discussed here. Not all of the following problems are likely to be operating in every study, but for the reasons mentioned, each could contribute to
distorted relations between age and job performance.

1. Limited Data

One major limitation of the existing literature is the paucity of relevant studies. As an example, only 13 studies were included in the meta-analysis reported by Waldman and Avolio (1986). More studies were included in a later meta-analysis by McEvoy and Cascio (1989), but the number of data sets was still relatively small. Moreover, the range of occupations was somewhat restricted because relatively few studies have been conducted examining age relations in managerial and professional occupations. Strong conclusions are not warranted if there is little pertinent evidence, and even weak conclusions are risky if one is not confident that the available studies employed representative samples, sensitive methods of assessment, and so on. Furthermore, analyses of moderator effects are not very meaningful if only a few studies are included within each moderator classification (e.g., job category and assessment type).

2. Weak Power

There is often a tendency to accept null results involving age comparisons without consideration of the statistical power of the comparisons to have detected effects of small to moderate magnitude. As an illustration of the magnitude of the problem, Cohen (1992) reported that a sample of 783 individuals would be needed to have .8 power to detect a correlation of .10 as statistically significant with an alpha of .05. This is admittedly a relatively small correlation, but as noted above, values within this range might be expected based on the reported relations between age and abilities. In particular, more experienced workers may have greater seniority, the desirable or more lucrative assembly-line positions. To the extent that there is a level of potential reward for people of different ages, differences may be meaningful.

3. Restricted Age Range

Another limitation of some studies is that very few adults in the sample were above the age of 40. This restricted age range is a potential problem because small, or nonlinear, age relations may not be detectable when the distribution of ages is skewed or curtailed. As an example, Avolio, Waldman, and McDaniel (1990) reported analyses of a very impressive data set with a large sample of workers (n = 20,632), a wide variety of job categories, and reliable assessments of job performance. However, the mean ages were less than 35 in each job category, and only 27% of the total sample was above the age of 40. It is therefore possible that the age relations in this study may have been underestimated relative to what might have been obtained in a more rectangular distribution of worker ages.

4. Selective Attrition

Differential dropout is a potential problem in age comparisons for two reasons. On the one hand, only the most competent may survive in some occupations because employers are unlikely to retain employees who perform poorly. On the other hand, only the least competent may survive in other occupations because the competent workers may be promoted into positions of greater responsibility and reward. For both of these reasons, comparisons involving workers of different ages may not be meaningful unless the turnover and internal transfer and promotion rates are low (D. R. Davies & Sparrow, 1985).

5. Nonequivalent Responsibilities

Although most comparisons involving age are made up of people with the same nominal job title, employees having the same title do not always have identical respon-
sibilities. In particular, because older and more experienced workers tend to have greater seniority, they may have more desirable or more lucrative positions (e.g., assembly-line position and sales territory). To the extent that the actual work, or the level of potential reward, is not equivalent for people of different ages, age comparisons may be meaningless.

6. Biased Assessment
Many types of performance appraisals have the potential to be subjectively influenced by aspects that are not directly relevant to job performance. Unfortunately, the direction of the bias is not always easy to predict. For example, attributes such as loyalty, reliability, and past achievements or experience may operate to the advantage of older workers, whereas dimensions such as likelihood for advancement or potential for promotion will probably favor younger workers. Work sample evaluations are usually more objective, but they are also not ideal because they could reflect optimum or potential performance rather than normal performance. That is, work sample evaluations may be misleading if people are capable of high performance for short durations, but are unable to sustain that level over prolonged periods. If these characteristics are more true of older adults than of younger adults, then work sample evaluations may overestimate the true capabilities or typical performance levels of older workers.

7. Insensitive Assessment
One of the major concerns within the field of industrial psychology is the reliability and validity of criterion measures of job performance. Although a great deal of development and refinement of measurement properties has occurred in the area of ability assessment, the assessment of job performance (and particularly performance in complex jobs) is sometimes not as reliable, valid, or sensitive as desired. The lack of significant relations involving age could therefore reflect inadequacies of measurement as much as, or more than, a genuine absence of an age relation.

8. Job Type
The relation between age and job performance could also vary according to job type. In particular, because Hunter and Hunter (1984) and Hunter (1986) have reported stronger relations between cognitive ability and job performance as the complexity of the job increased, one might expect larger age effects on cognitively demanding jobs in which novel problem solving is required. Mixed results have been found when job type has been used as a moderator of age-performance relations in meta-analyses [McEvoy & Cascio, 1989; Waldman & Avolio, 1986], but it is possible that the classification of job type in these studies did not adequately reflect the actual cognitive complexity of the jobs. Furthermore, the number of entries within certain job categories may have been so small as to preclude powerful analyses of the moderating effects of job type.

B. Possible Explanations for the Discrepancy
Schmidt, Hunter, Outerbridge, and Goff (1988) suggested that the two most critical individual-difference determinants of job performance are general mental ability and job experience. Because some aspects of mental ability are negatively related to age, whereas job experience is often positively related to age, the question arises as to the net effect of these two relations. Warr (1994) provided an informative discussion of how the relation between age and job performance depends on the degree to which job-relevant abilities and knowledge are influenced both by age and by experience. However, an unresolved issue in this area is how experience affects job
performance. That is, what are the specific mechanisms by which increased experience leads to improved levels of job performance?

One possibility is that many of the relations between experience and job performance are mediated through greater amounts of job knowledge [i.e., the K in the KSAO framework]. In fact, there is some evidence that job experience is positively related to job knowledge, and that job knowledge is positively related to job performance [e.g., Schmidt & Hunter, 1992; Schmidt, Hunter, & Outerbridge, 1986; Schmidt et al., 1988]. Furthermore, the stable or increasing relations between age and measures of knowledge, or crystallized cognitive ability [see Salthouse, 1991, for a review], could be viewed as consistent with the suggestion that older workers maintain high levels of job performance because they have acquired greater amounts of job-relevant knowledge or skills. One potential example of this type of mechanism is apparent in research on transcription typists [Salthouse, 1984], where skilled older typists have been found to rely on greater anticipation of forthcoming keystrokes [i.e., a form of procedural knowledge] than younger typists.

It is also possible that high levels of functioning in one's occupation might be achieved by different combinations of characteristics at different ages. For example, a successful older worker may rely more on his or her accumulated knowledge or store of prior solutions compared to a younger worker, who must rely on reasoning to develop fresh solutions to each situation or problem that is encountered. To the extent that a trade-off of this type occurs, it could be considered a form of compensation. However, there is still relatively little evidence regarding the existence of compensation as a phenomenon, and there is even disagreement about the type of evidence that would be relevant and convincing to demonstrate the existence of compensation [Salthouse, 1995]. Nevertheless, the possibility that the composition of competence varies as a function of age is intriguing, and clearly warrants further investigation.

Although the focus in this section has been on job performance, it is worth mentioning that older workers have been reported to have lower rates of absenteeism, fewer accidents, and higher levels of job satisfaction than younger workers [D. R. Davies & Sparrow, 1985; Rhodes, 1983; Warr, 1994]. In some circumstances, therefore, the overall value of the older worker to the employer may be equal to, or possibly even greater than, that of a younger worker, regardless of any relation that might exist between age and job performance. In other words, even if an older worker is not compensating to maintain the same, or a higher, level of job performance as a younger worker, his or her value to the company may remain high because of these other characteristics.

III. Career Development

The focus within this section is on the relation between age and participation in career development experiences that enhance the learning and growth of an employee within his or her career. These experiences include activities such as on-the-job exercises [e.g., challenging job or task-force assignments], participation in training or retraining programs, continuing education seminars or workshops, college or correspondence courses, and independent reading.

The amount of research concerned with the relation between age and career development activities is much less than that concerned with the relation between age and job performance. However, some evidence suggests that fewer training experiences may be available for older workers [e.g., Lee & Clemens, 1985], that older workers may be less likely to volunteer for retraining [e.g., N. Rosen, Williams, Wilk, 1993, Sterns & B.
Foltman, 1965), and that a smaller proportion of older workers than younger workers are involved in on-the-job training or career counseling with a supervisor (e.g., Cleveland & Shore, 1992).

To the extent that age is related to involvement in career development activities, it is important to understand how and why that relation exists. The goal in this section, therefore, is to briefly examine several person and system factors that might function as potential mediators of relations between age and participation in career development activities.

A. Person Factors

In the following discussion, three major types of person variables that are relevant to updating and employee development activity are discussed. All of these variables are taken from the Other category in Figure 1. Although KSAs are frequently discussed in the industrial psychology literature, and are known to have an impact on many aspects of work behavior, the variables described below have been somewhat neglected in discussions of career development and training processes (Noe, 1986) and may be related to age.

Three categories of relevant person variables are outcome needs, process values, and expectations for success in updating and development activities. Outcome needs affect the degree to which a person desires the results of participating in updating or employee development activity. Process values reflect the degree to which a person values various aspects (e.g., supervisor support and feedback) of an updating or employee development program. Expectations for success refer to self-efficacy beliefs, and particularly to beliefs that one's efforts will be successful. Each of these variables has been linked to employee career development activity (Dubin, 1990; Maurer & Tarulli, 1994; Noe & Wilk, 1993; Sterns & Patchett, 1984).

1. Outcome Needs

Both Porter (1963) and Hall and Mansfield (1975) found a positive relation between worker age and security needs. In addition, the latter researchers found that self-actualization needs were less important with increased age. A recent meta-analysis of 11 correlations also found a small negative relation between age and measures of the strength of growth needs (Engle, Miguel, Steelman, & McDaniel, 1994). Learning, growth, and challenge may therefore have less intrinsic importance to older workers, which could make the pursuit of participation in career development activity less attractive to the older employee.

It is unclear exactly why various needs might shift with increased age, although the concept of possible selves may be involved. Possible selves are self-schemas (Markus, 1987) that include knowledge of what one might be like in the future. These may be positive in valence and reflect goals, aspirations, and values (Cantor, Markus, Niedenthal, & Nurius, 1986), or they may be negative in valence and represent feared possible selves. To the extent that an employee perceives development activity to be an effective means of attaining or avoiding a possible self, he or she might be more oriented toward career development or skill updating (Maurer, 1994). Furthermore, Markus and Herzog (1991) have reviewed research that suggests that relative to younger adults older adults may have a greater interest in the prevention of feared outcomes (e.g., being physically dependent), and a lesser interest in occupational or career-oriented goals. One mechanism that might therefore contribute to a decrease in career development activities with increased age is a shift in self-perceptions and goals.

2. Process Values

Maurer and Tarulli (1994) found small but significant positive relations between employee age and the degree to which the
employee valued co-worker and supervisor support for development activity. However, research discussed next suggests that older workers are sometimes less likely to find their peers and supervisors supportive of their participation in challenging developmental pursuits. It is therefore possible that a higher need for support, coupled with lower available support, may inhibit participation in career development activities on the part of older workers.

3. Expectations for Success

Because expectations for attaining relevant KSAOs in training are often lower with increased age (Fossum, Arvey, Paradise, & Robbins, 1986), and because older workers sometimes lack confidence (Knowles, 1973) or self-efficacy, older workers may not volunteer for training as a result of having low levels of confidence (N. Rosen et al., 1965). Stronger self-efficacy beliefs have been found to be positively related to involvement in employee development activity (Maurer & Tarulli, 1994; Noe & Wilk, 1993), perhaps because the more confidence one has in one’s ability to engage successfully in a task or challenge, the more one is likely to participate in those activities.

The possibility that self-efficacy, outcome needs, process values, and other motivationally relevant variables may affect career development activity has received only limited attention in the research literature. Further research is therefore warranted to investigate the relations of these variables both to age and to career development participation and outcomes.

B. System Factors

Social and organizational system variables may also underlie relations between age and updating or development activity. That is, participation in career development activity may be influenced by age norms and social phenomena such as treatment by other workers, supervisory behavior, and miscellaneous factors within the social and organizational context (Avolio, 1991). These variables and phenomena are contained within the System Factors construct in Figure 1.

1. Norms and Social Phenomena

Zenger and Lawrence (1989) found that, inside project groups, age similarity of members exerted an influence on the frequency of technical communication. Specifically, there was less communication among employees of different age groups than among members from the same age group. The authors suggested that the demographic composition of a group affects communication between specific members because people communicate most often with those who are similar to themselves. This phenomenon has implications for performance and development because communication is a source of support, as well as a means of acquiring job-relevant information and job knowledge. Because job knowledge may have a direct impact on performance (Hunter, 1986), any normative social phenomena that regulate the flow of job-relevant information may affect job performance.

Furthermore, technical communication and information can be a source of on-the-job development. Thus, if the age composition of a group is skewed or unbalanced, then updating or development that results from such communication may be impeded. The consequences of the restricted communication could impair the effectiveness of the group as a whole, or it might selectively affect those members most in need of new or changing information, who in some circumstances may disproportionately be older workers.

Cleveland and Shore (1992) also emphasized the need to consider the age context in which a person operates. They found that perceived relative age interacted with chronological age to predict job performance and career development activity. In particular, their research identified that “chronological age” has the greatest proportionate impact among older workers. Further, the need for support among older employees may be influenced by social and organizational context (Avolio, 1991). To the degree that social and organizational context moderates the relationship between age and career development activity, the neglect of such phenomena may account for inconsistencies in studies of age groups.

One possible consequence of older worker’s being perceived as more in need of support is that they do not have the opportunity to perform or to learn new tasks, influencing their job performance (Ilgen & Youn, 1985). It is known that perceived support has a direct effect on self-efficacy (Gist & Wright, 1992). The extent to which older workers are in need of self-efficacy support may in turn lead to reduced performance in learning or training (Perlow & Wise, 1986).

The research suggests that system factors in a person’s social and organizational context may affect age-related and career effects. Similar types of processes may affect career development participation and outcomes, as discussed below.

2. Treatment in Developmental Job Assignment

Kozlowski and Farr (1984) found that individuals rated more challenging work careers as favorable and more likely to engage in numerical updating. Further
mance and career development activity. In particular, their results led to the suggestion that “chronological age appears to have the greatest predictive power when combined with perceptions of the ages of other employees in the work setting” (p. 481). To the degree that age context moderates the relation of age to variables such as career development and job performance, the neglect of this variable in prior research may account for some of the inconsistencies in studies involving the age variable.

One possible consequence of an older worker’s being perceived or treated differently within a context of predominantly younger workers is self-limiting behavior [Ilgen & Youtz, 1986]. For example, it is known that persuasion, modeling, and mastery experiences can all affect self-efficacy [Gist & Mitchell, 1992]. To the extent that older workers receive subtle (or overt) messages that persuade them that they do not have relevant capabilities to perform or to learn, they may begin behaving in that fashion, and their level of self-esteem may deteriorate. In a similar manner, if the older employee lacks an observable “model” within the younger context, self-efficacy may be reduced, which may in turn lead to reduced participation in learning or training activities [N. Rosen et al., 1965].

The research just described suggests that system factors in the form of normative and socially or contextually generated age effects may have an impact on professional, interpersonal, and intrapersonal dynamics relevant to career development. Similar types of processes can also be seen in relation to job and training assignments, as discussed below.

2. Treatment in Developmental Job Assignments

Kozlowski and Farr [1988] reported that challenging work can facilitate technical updating. Furthermore, the nature of one’s job assignments can be a very important means of employee development [J. Davies & Easterby-Smith, 1984; McCall, Lombardo, & Morrison, 1988]. In particular, challenging jobs with developmental components [McCauley, Ruderman, Ohlott, & Morrow, 1994] may lead to greater career development by enhancing and maintaining relevant knowledge and skills. However, older workers sometimes receive more routine (as opposed to complex) job assignments than younger workers [Price, Thompson, & Dalton, 1975]. At least some of the lower participation of older employees in career development activities may therefore be a consequence of the type of job assignments they receive.

3. Treatment with Respect to Training Resources

Similarly situated older and younger workers have been found to be treated differently with respect to access to retraining [Crew, 1984; Fossum et al., 1986; Lee & Clemens, 1985]. Specifically, older workers are less likely to be selected for training or retraining than younger workers, perhaps because decision makers feel that the return on the investment is lower for an older worker, or that the potential for development is higher for a younger worker [B. Rosen & Jerdice, 1976].

IV. Conclusion

The time may have arrived to confront the question of whether it is necessary, or desirable, to treat age as a primary variable in discussions of job performance, career development, and other aspects of work. A fundamental assumption of the perspective we have advocated is that all age relations are mediated through other variables—that is, KSAOs, and variables reflecting system factors. If one accepts the premise that these are the variables of greatest
relevance instead of age, then the focus in future research should be on identifying and understanding these mediating variables, and the mechanisms by which age is related to these variables, rather than on examining relations between age and work behavior. In other words, if aging really is a continuum along which factors exert their influence, then although it is true that an individual at any age is a product of those influences, aging per se is not a direct cause of work behavior.

We therefore suggest that careful consideration is needed before concluding that any work-related issues are really age specific. Our argument can be illustrated with an anecdote attributed to Kleemeier by Griew (1959). An enthusiastic, well-meaning, geriatric specialist was speaking to an architect and emphasizing the need to build warm and resilient floors in designing houses for old people when the architect replied, “And for whom, Sir, should I build them cold and hard?” The point in this context is that the goal should not be to design for the elderly, but to design for people with selected characteristics, which in certain situations could include a sizable proportion of the population.

It is important to emphasize that we are not advocating the use of functional age as a replacement for chronological age. Instead, we are suggesting that age is not meaningful as a causal variable in either a chronological, or a functional, sense (Avolio et al., 1984; Salthouse, 1986).

It is true that reliance on relevant predictors [i.e., KSAOs] in organizational settings may have an adverse impact on older adults because of negative relations between age and some of those predictors. Age may therefore function as a risk factor for low job performance or reduced participation in career development activities, not because of advanced age itself, but because of characteristics that are associated with age. It is therefore appropriate and desirable that research be directed at understanding the factors responsible for relations between age and what we have termed KSAO variables. Furthermore, if the relevant characteristics can be identified, then a more focused target will be available for intervention. That is, critical aspects of the workplace might be modified, or attempts could be made to train employees in very specific skills. In contrast, and despite valiant attempts by seekers of the fountain of youth or an antiaging elixir, no intervention is ever likely to be successful in altering an individual’s age.

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**I. Introduction**

The focus of this chapter is the diagnosis and risk factors of age-related changes in older adults. There are a number of questions that need to be considered. First, what are the rates of disorder? Second, when do cases first appear in the population? Third, what are the characteristics of syndromes of age-related changes compared to younger or older adults? Fourth, what do diagnostic systems look like when considering older adults? Fifth, can age differences in stressors explain age differences in the age of onset of disorder? The purpose of this chapter is to critically examine these questions and features of various disorders.

For purposes of this chapter, the focus will be on older adults who experience cognitive syndromes. It will be important to document the characteristics of older adults who experience cognitive syndromes. It will be important to document the characteristics of age-related changes in cognitive syndromes. For this purpose, a major database for examining cognitive syndromes in older adults remains the Epidemiology Area survey. This survey was conducted a decade ago [Regier et al., 1988] to examine the characteristics of cognitive syndromes in older adults. The survey included a large sample of older adults who were interviewed using a standardized interview format that permitted diagnosis according to the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV).