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This article reviews the literature on aging in the workplace for the years 1992–1996. The review is organized into seven general sections: Aging, job performance and occupational well-being; Successful aging in the workplace; Aging, health, and safety; Careers; Retirement; Older working women; and Age discrimination. Strategies for integrating these diverse research perspectives are examined and recommendations for needed research are provided.

Our charge in this paper was to present a selective review of the literature from 1992–1996 on older workers and the transition to retirement. It is our sense, however, that analyses of the vocational behavior of older adults cannot be conducted out of context. Thus, we conceptualize the topic broadly. It is important to consider the nature and course of human aging, but also to appreciate the broad social, economic, and institutional contexts that can influence the process. Important also are the nature of one’s occupation and industry and a realistic assessment of the demands or risks inherent in continuing to work in a particular environment as one ages. We have attempted, therefore, to broadly survey the many scientific and practitioner disciplines that have contributed to our understanding of successful aging at work. Successful aging is a theme of considerable interest in the gerontological literature generally and one that has begun to guide important research in the areas of health and cognitive functioning. One of our goals in this paper will be to examine its value also in integrating a diverse body of literature on the experience of aging at work and transitions to retirement.

We define the older worker as being age 40 or over. This age presents a psychological milestone for many and, in the United States, is the criterion for protection under the Age Discrimination in Employment Act. Labor-force
participation rates for men and women age 55–64 years in the United States in 1995 were 66 and 49%, respectively (U.S. Bureau of the Census, 1996, Table 615, p. 393). This represents approximately a 6% decrease for men and an 8% increase for women since 1980. With increasing age, also, older adults are more likely to be working only part-time or to be self-employed (Quinn & Burkhauser, 1990). As we will discuss in a later section of the paper, the trend toward earlier retirement is viewed to reflect a variety of interacting influences. These include health and obsolescence, but also the availability of social-security benefits, improved employer retirement benefits, and the development of positive societal attitudes toward retirement (Quadragno & Hardy, 1995).

Some analysts believe that labor participation rates of older adults will stabilize and perhaps even begin to rise in the 1990s (Besl & Kale, 1996). A number of reasons are suggested for this. For example, labor-force participation is positively associated with level of education among all age groups, and educational level is rising even in older workers. Federal pension policy is also expected to encourage older persons to continue to work. The age of eligibility for social-security benefits is gradually being raised from age 65–67 years, penalties for early retirement are increasing, and retirement credits associated with deferred retirement are increasing. It should be noted, however, that research on the effects of such manipulations of social security in the past suggest only very modest effects on decisions to retire or on the average age of retirement. The expected incentives in such changes in social-security provisions appear instead to interact with other personal variables, such as one’s financial or health status or one’s continued match with the demands of a job (Leonesio, 1993). In addition, tighter Federal budgets increase pressure on such retirement programs as Medicare. Private pension schemes, e.g., 401(k) plans, have not completely filled in the gaps. Perhaps one-quarter of eligible persons are not yet participating, and there is some concern that many of those who do participate lack the sophistication to manage the risks inherent in long-term investing. Many older workers have also seen pension plans disrupted during the recent recession and restructuring of the economy. Finally, increased divorce rates tend to disrupt access to pensions for older women (Besl & Kale, 1996). Among U.S. workers, 45–64 years old, only 57% of men and 50% of women have some form of pension coverage (U.S. Bureau of the Census, 1996, Table 588, p. 377).

A number of factors also appear likely to affect employment opportunities for older workers in the near future (Barth & McNaught, 1991). For example, most American jobs no longer involve heavy physical demands and have become suitable for older workers. Similarly, as the workplace adapts to the needs of a more diverse workforce, accommodating more women and ethnic employees, managers and corporate policy may also become more flexible with respect to the needs of older workers, providing opportunities for part-time or flex-time positions. In addition, the pressures of a globalizing economy
place increased pressure on employers to retain skilled workers, and older workers in recent decades have increased dramatically in educational level and skill acquisition. Several supply-side factors also suggest that larger numbers of older workers will be available in the near future (Barth & McNaught, 1991). For example, the baby-boomer generation is fast approaching this age range, and they are healthier than previous cohorts. Of persons between ages 55 and 64 years, for example, over 75% report no work disabilities, and many of those who are not currently working would like employment.

At some point, however, health and disability can become a concern for older working adults and their employers. Normal aging involves progressive deterioration of critical physiological functions (e.g., aerobic capacity, sensory and perceptual function, temperature control, healing capacity, and the immune response). Older adults, therefore, are generally more vulnerable to disease and to the accumulation of chronic health conditions such as arthritis, heart disease, and vision and hearing impairment (Hayflick, 1994). Among older adults, a deterioration in health seriously affects the odds of dropping out of the workforce (Ruchlin & Morris, 1992). We note with great interest, however, that age-related change in physical, sensory, and cognitive abilities among older working adults need not necessarily translate into job-related risk or impaired performance. Moreover, a body of research now strongly indicates the positive effects of physical and cognitive training interventions in areas of such decline (e.g., Kemper, 1994; Lawrence & Jette, 1996; Schaie, 1994).

Age-related changes in ability present older workers with a number of adaptive challenges, but it is also important to recognize that individual differences become prominent with increasing age. For some older workers, the focus may begin to shift more to issues of maintaining status, consolidating gains, and planning for a successful endgame. For others, the issue is one of adaptation to partial disability and the search for strategies for extending the productive portion of their work lives. Still other older adults, however, will show very little change in competence or performance until very old age, and from these successfully aging individuals we have much yet to learn. It is our sense that older workers themselves, employers, and vocational counseling professionals can play a role in facilitating greater success in this area, and research has begun to suggest how that might occur.

A number of earlier papers have helped to organize our thinking on the subject of older workers and retirement. These works form a baseline for the current review, and we will be discussing some of them at greater length in the sections to follow. The work of Sterns and colleagues (e.g., Sterns, 1986; Sterns & Miklos, 1995; Sterns et al., 1990; Sterns & Sterns, 1995) has been especially helpful in framing the issues that emerge as employers begin to cope with an aging workforce (e.g., the implications for employers of age-and-disability protections in the law, and the complexity involved in career and training/retraining progressions after midlife). Perhaps their most im-
portant contribution, however, has been their translation of the life-span developmental orientation into terms understandable in work organizations. The essence of this viewpoint is that one’s late-life vocational potential at any point reflects a unique combination of age-related and non-age-related influences, that positive adaptation is possible, that opportunities for training should focus on that unique potential, and that older workers need not disengage from their career aspirations and involvements.

Recent reviews have also examined trends in retirement statistics, the influence of national economic policy and pension systems, the nature of the labor market for older workers, and potential obstacles within the labor market to full participation on the part of older adults (Cutler, Gregg, & Lawton, 1992; Mitchell, 1993; Quadagno & Hardy, 1996; Quinn & Burkhauser, 1990). Industrial and organizational psychologists and labor-relations analysts have also begun to attend systematically to older worker issues. Major integrative reviews on age and employment have recently summarized the literature on age-related changes in work-related abilities; new enabling technologies, implications for training, job performance, and safety; issues of motivation and job satisfaction; and the need for work organizations to develop policy to ensure the retention and productive employment of older adults (Forteza & Prieto, 1994; Snel & Cremer, 1994; Warr, 1994a).

To identify the relevant research for the present review, we conducted computerized searches within several computerized databases (PsychLit, ABI-Inform, and Academic SearchBank). In addition, a physical scan was conducted of the following journals for the years 1992–1996 (Journal of Vocational Behavior, Journal of Applied Psychology, Journal of Gerontology, Gerontologist, Psychology and Aging, Monthly Labor Review, Journal of Occupational Medicine, Journal of Counseling Psychology, Psychological Review, Psychological Bulletin, Annual Reviews of Geriatric and Gerontology). The review is organized into seven general sections: Aging, job performance and occupational well-being; Successful aging; Aging, health, and safety; Careers; Retirement; Older working women; and Age discrimination.

AGING, JOB PERFORMANCE, AND OCCUPATIONAL WELL-BEING

Much research has addressed the relation between aging and performance. In a comprehensive review of this research, however, Warr (1994a) concluded that no consistently strong relations have been demonstrated. Cross-sectional studies including workers of all ages sometimes result in small negative, positive, or inverted-U functions, but on balance the relation approaches zero. The difficulty in interpreting such studies is that they often do not take into account the many external variables that might influence the assessed relation between aging and performance. Such variables include the reliability of performance criteria used, self-selection of older workers into or out of any given job category, cohort differences such as educational level, within-cohort individual differences in health, cognitive function, or relevant job experience.
In this context, Warr (1994a, 1994b) proposed a framework for predicting the relation between age and performance in later work-life. The issue in this framework is the fit between an older worker’s changing abilities and the demands of the job. Where important physical or cognitive capacities decline and are overwhelmed by the demands of one’s job, if one’s years of experience and current coping efforts are insufficient to compensate, job performance would be expected to decline (Warr, 1994a).

In this connection, Park (1994) has also suggested a number of hypotheses to explain the lack of consistent correlation between age and job performance, given considerable evidence that (1) age is associated with diminished cognitive functioning and (2) cognitive function is a reliable predictor of job performance. Park noted, for example, that many older workers hold jobs with which they are highly familiar and in which there are few demands for new learning. Another possibility is that some older workers have considerable experience and practice in the specific skills required in their jobs, permitting them to continue to perform on the job, even in the event of decline in broader cognitive abilities. Still another possibility is that some older workers, over many years in a job, will have developed highly complex knowledge structures (expertise) and job-related problem-solving abilities with which to compensate for specific declines in important skills. Finally, with experience and seniority, older workers are often able to access environmental supports in the workplace, for example, the assistance of co-workers to help offset the consequences of any cognitive declines. When confronted with demands for new, complex skill learning, however, the research consensus is that older learners take longer to learn new skills, make more errors in the process, and show less mastery on completion of training (Kubeck, Delp, Haslett, & McDaniel, 1996; Park, 1994). Recent experience with related skills appears, however, to facilitate such learning among older adults. One conclusion, then, is that older employees should be encouraged to work constantly on updating their skills and to maintain a recent experience-base on which to continue to build (Park, 1994).

It may also be important, however, to differentiate between areas of job performance that may be related to age. For example, Gilbert, Collins, and Valenzi (1993) examined supervisor ratings of 1438 employees, ranging in age from under 25 to over 50, in nine performance areas. Age-group differences were found in four of these domains (technical competence, overall performance, job commitment and positive work relations), but in no case were there linear age-relations. For example, technical competence was rated highest among 25- to 30-year-olds, but comparisons with groups of increasing age produced no significant differences. On overall performance and on job commitment, the highest rated group was again the 25- to 30-year-olds, with a significantly lower rating for workers in the 50-and-older group. The over-50 age group was rated highest on positive work relations, although group differences on this were not significant.
Other creative approaches to advancing our understanding of age–work performance relations also have emerged in recent years. For example, Schulz, Musa, Staszewski, and Siegler (1994) examined lifetime performance patterns of professional baseball players. Here too, performance on average appears to peak at different ages for different competencies. For example, most measures of batter performance (e.g., home-runs, stolen bases, best batting average) peak at about age 27. However, strike-out percentage and base-on balls peak at age 28. Fielding average peaks at age 30. Pitchers have their best strike-out seasons at age 27 but experience their best ERA’s at age 29. The pattern for elite players (Hall of Famers), however, exhibits fascinating differences from the norm. At each age, they excel, but their peak performances are generally experienced 1–5 years later than the average player. The authors note that those skills which depend more on pure power or speed (physiological capacity) are the first to peak, whereas skills with a greater experience and judgment component appear to continue to improve over a longer period (Schulz et al., 1994). Here too, however, it is important to consider individual differences in age-related patterns of ability or performance. A focus on average performance can often mask significant patterns of intraindividual change over time. For example, a longitudinal analysis of the batting and earned-run averages of career batters and pitchers revealed a substantial percentage of players whose performance consistently improved and a large number whose performance steadily worsened over a period of 7 to 10 years (Hofmann, Jacobs, & Gerras, 1992).

Many researchers have also attempted to assess the relation between age and occupational well-being (e.g., job satisfaction). Early studies suggested a modest, positive correlation. However, these studies seldom took into account the complexity in such relations (Warr, 1994a). Aging workers are highly diverse. As individuals, we begin our work lives with a unique profile of physical, cognitive, and psychological abilities. The nature and trajectory of age-related change then varies considerably, not only across individuals, but also across abilities. In addition, the nature of work is changing, with fewer physically demanding jobs and increased demands for technical and interpersonal (team) skills. Technology advances so quickly that obsolescence in some occupations is possible within only a few years. Similarly, the nature of the workplace is changing. A decade of downsizing and restructuring in the United States has resulted in increased demands that workers of all ages find ways to adapt to an environment of increased uncertainty and decreased job or career security. Adaptation is difficult, however, in an environment in which many older workers continue to feel the impact of age-stereotypes, associated patterns of discrimination and pressures to retire; and in which they sense that their skills are becoming obsolete, that training is unavailable, and that much of their worth to their current employer is not transferable to a different employer (Bailey & Hansson, 1995; Warr, 1994a).

The relation between age and occupational well-being, then, should also
reflect the fit between an older worker’s changing abilities and the demands of the job. Job performance, job security, and psychological well-being may be threatened where important physical or cognitive capacities decline and are overwhelmed by the demands of one’s job, and where one’s years of experience and current coping efforts are insufficient to compensate (Warr, 1994a).

A number of additional questions about age and occupational well-being have interested researchers recently. Warr (1992) addressed two of these in a large sample of employed persons ages 18–64. The first analyses from this study assessed the linearity of the modest relation between age and two measures of well-being (job anxiety–contentment and job depression–enthusiasm), finding a slight U-shaped relation with both measures. The pattern was one in which an initially high level of morale among young, entry-level workers diminishes somewhat during the mid-20’s to mid-30’s and then begins to rise, reaching higher levels in the 50’s and 60’s than at any earlier age. The second issue in this study concerned any factors that might explain the age and well-being relation. A number of variables related to job position, job characteristics, work values, demographic status, and family-life cycle were assessed in stepwise multiple regressions. A few such variables (e.g., decision latitude, working conditions, and commitment to employment) accounted for minor portions of the age–well-being relation. In studies like this, however, it is difficult to rule out potential cohort effects. In addition, the present findings in the occupational context may simply reflect broader findings that older adults generally show increased levels of life satisfaction, report less exposure to life stress, and report less personal conflict over life-challenges and the future.

It may also be useful to consider the question of which measure of age to use in such research. For example, Cleveland and Shore (1992) found subjective age to be relevant in addition to chronological age. Employees who labeled themselves as older and who perceived themselves to be older than most of the people in their work group exhibited more job involvement, job satisfaction, and organizational commitment.

Other researchers have focused on the meaning of work for older persons. For example, Mor-Barak (1995) studied the meaning of work among older men and women. In this research, paid work was found to serve four broad types of needs: social contact, exemplified by respect and esteem from others and avoidance of feeling alone; personal needs, such as feelings of pride and self-worth; financial needs, a source of needed income and health benefits; and generativity, the opportunity to pass on one’s knowledge and skills to younger people.

SUCCESSFUL AGING IN THE WORKPLACE

Researchers have made considerable progress in mapping the average trajectories of age-related change or decline with respect to physiological, sen-
sory, cognitive, and social status. However, in most of these areas of ability, longitudinal research has now shown that there is considerable variability around the usual trajectories of age-related change. Some of this variability can be attributed to pathology. Some also reflects the influence of external, and perhaps remediable, factors (Hayflick, 1994; Rowe & Kahn, 1987; Schaie, 1994). However, many older adults do not experience substantial declines until very old age; that is, they appear to be aging more successfully than most. Their success in part appears to result from their having asserted some control over a wide variety of life-style factors (e.g., nutrition, exercise, health habits, and continued social and intellectual involvement), and the search has now begun in earnest to discover the lessons of successful aging. A number of important conceptual papers have appeared on this topic. Major research programs are under way and are beginning to produce a wealth of data. There have also been efforts to test some of the more interesting ideas with respect to successful aging in the workplace. The concept of successful aging thus provides a useful organizing structure for thinking about many of the issues raised in this review.

Conceptual approaches to successful aging tend to converge on several basic themes: (a) developing strategies for psychological accommodation of loss of ability or status; (b) planful prevention or deferral of usual decline by asserting a degree of control over life-style, social support, and exposure to harmful environments; (c) use of remedial or rehabilitation interventions to recover lost capacities; and (d) finding meaningful ways to compensate for inevitable age-related declines (Dixon & Backman, 1995; Schulz & Heckhausen, 1996).

One early model addressed the clinical and adjustment issues arising from failure to adapt successfully to age-related declines (Pfeiffer, 1977). The point of this early model was to identify the adaptive demands associated with such loss and the consequences of failing to adapt. Coping strategies in this model included attempting to replace what had been lost, retraining lost capacities, learning to make do with less, continuing to pursue an active life in order to maintain function, pursuing alternative sources of rewards, life-meaning and purpose, and finding ways to adjust psychological perspectives to accommodate new realities.

Rowe and Kahn (1987) adopted a more direct and proactive perspective on successful aging. Given the immense heterogeneity found among normally aging older adults, they focused on differentiating between those older adults who follow expected (or usual) trajectories of age-related decline and those who show little or no such decline. Noting that a variety of extrinsic factors (e.g., education, positive health habits, continued social involvement, and access to social support) appear to be associated with continued functioning in old age, they called for research to learn from those older adults who appear to age more successfully.

Strategies for successful aging in the workplace also have been proposed.
One such perspective focuses on the construct of adaptive competence (Featherman, 1992). Featherman and colleagues conducted research on engineers of similar training and ability who had (or had not) achieved prominent status in their fields. The more prominent engineers appeared to have developed a strategic expertise in the management of their careers, which involved specialization, careful choice of where to invest that expertise, and planful adaptive responses to arising career-related challenges. The cognitive orientation of the more successful engineers then appeared to involve “reflective career planning” and a disposition or ability to respond strategically to changing circumstances or abilities, such that a lost strategic advantage might be regained.

Another perspective of considerable relevance to the workplace is Baltes and Baltes’ principle of selective optimization with compensation (Baltes & Baltes, 1990; Baltes, 1993). In a context of age-related declines in ability and adaptive reserves, this model suggests the advantages of increased focus and specialization across one’s work-life (Selection). First, the older adult must understand that at some point it may become increasingly difficult to maintain peak-performance levels across all domains of life (or occupational) activity and that it would help to consciously select a smaller number of performance domains to try to maintain. It is thus important to identify priorities in one’s life or job on which to focus all efforts. Second, one must devote increased efforts (e.g., practice) to optimizing performances in those selected, priority domains (Optimization). Third, one might seek ways to compensate for the consequences of age-related declines that might affect performance (Compensation). In the workplace, this might entail the use of prosthetic devices to increase ability or to reduce work demands, machinery or computers, job redesign to redistribute workloads, or efforts to collaborate with other workers in such a way as to minimize the consequences of changing ability.

Focus and specialization also appear to play a part in learning to manage one’s life more generally. For example, Carstensen (1992) found similar patterns in a longitudinal study of social relations. In youth, diverse social contact is central to a host of developmental functions such as the acquisition of knowledge, assistance, selection of friends, social comparison, and the like. Yet, social relations involve costs as well as benefits, in terms of time, commitment, and the potential for negative interactions. It is consistent, then, that Carstensen found age-related narrowing of such interactions and emotional closeness with acquaintances, beginning in early adulthood, but an increase in interactions and emotional closeness with family and close friends. Parallel analyses of relational networks across one’s work-life would be of immense interest.

A similar pattern of selectivity may influence the experience of job stress across adulthood. In one stress-and-coping study, for example, Aldwin, Sutton, Chiara, and Siro (1996) found 43% of adult subjects age 45–54 years reported work-related problems, compared to only 24% of respondents age
55–64 years. A suggested explanation for this pattern was that across the lifespan, many people learn to manage their lives (and work-lives) in such a way as to avoid known problems. Increased life-management skills then make it less necessary to have to cope with encountered stressors. Given the uncontrollability of many of the stressors of later life (e.g., deteriorating physical health), more direct empirical investigations of this possibility in the work setting could prove especially interesting.

The concept of successful aging has begun to stimulate a great deal of basic and applied research. Of particular interest have been the comprehensive, interdisciplinary, longitudinal projects funded by the MacArthur Foundation Research Network on Successful Aging. Such studies, for example, have begun to report findings on predictors of change in later life in cognitive function (Albert, Savage, Blazer, Jones, Berkman, Seeman, & Rowe, 1995), productive activity (Glass, Seeman, Herzog, Kahn, & Berkman, 1995), physical disability (Bruce, Seeman, Merrill, & Blazer, 1994), physical performance (Seeman, Berkman, Charpentier, Blazer, Albert, & Tinetti, 1995), activities of daily living disability (Seeman, Bruce, & McAvay, 1996), and mortality (Schoenfeld, Malmrose, Blazer, Gold, & Seeman, 1994). To date, however, the MacArthur studies have focused only on postretirement-age elderly persons.

Two recent papers, however, have addressed successful aging in the workplace. In the first of these, Abraham and Hansson (1995) developed occupational measures of Baltes and Baltes’ constructs, Selection, Optimization, and Compensation (SOC), for a study of employed adults, age 40–69 years. Selection strategies were found to be used more frequently among men, persons who enjoyed the latitude to organize their own jobs and work-days, and those experiencing greater job stress. In contrast, women, persons with lower incomes and with more uncontrollable job stress, were more likely to use Optimization and Compensation strategies. Among older subjects (age 49 and older), use of SOC strategies was significantly related to reported success in maintaining important job competencies, whereas among younger subjects (age 40 to 48) these relations were negligible. Regression analyses showed that the relation between use of SOC strategies and maintenance of occupational competency became increasingly positive when assessed across three age groups, with mean ages of 43, 49, and 56 years.

In a series of related studies, Bailey and Hansson (1995) investigated psychological obstacles to adaptive career change among employed persons age 45 years and older and attempted to identify those kinds of persons who might be more vulnerable to such obstacles. This topic is of increasing importance, given recent disruptions in the economy and massive occurrences of job loss and dislocation, regardless of age. Three general types of risks were identified as likely to inhibit adaptive risk-taking and career change in this age sample: (1) perceived age-inappropriateness of the change, e.g., having to retrain or start one’s career again at the bottom; (2) concern about age-
discrimination in a new work setting; and (3) the likelihood of hastened occupational obsolescence, e.g., not being able to build on past job experiences. Elevated perceptions of obstacles to career change among these subjects were related to the degree to which a subject’s actual age exceeded what they considered to be “normal” for their job. Also, individuals who held negative attitudes in general about their own aging perceived greater obstacles. In addition, those persons with greater worries about financial security felt more threatened by the prospects and uncertainty of a late-life job or career change. Older dislocated workers would, of course, have less time left to recover any serious losses before they had to retire.

AGING, HEALTH, AND SAFETY

Safety concerns greatly affect both older workers and their employers. However, chronological age, per se, does not prove to be a valid predictor of vulnerability in general. There is now substantial evidence, for example, that exercise and life-style adjustments can minimize or defer the negative consequences of aging for ability to work. However, health limitations do affect the safety of older workers. Human-factor safety analyses seek to identify systematic aspects of the environment, the person, or the interaction between the two that place the older worker at increased risk (Sterns, Barrett, & Alexander, 1985). The human-factors approach can thus provide important information and guidelines for employers who choose to accommodate older workers (Garg, 1991; Charness & Bosman, 1990). In recent years, much progress has been made in the understanding of the relations among human-factors issues, occupational injury, and rehabilitation of older workers.

Human Factors and Aging in the Workplace

Many age-related changes in physical or cognitive capacity can result in a poor (or even dangerous) person–environment fit to the workplace. Such changes may involve vision, hearing, the cardiovascular system, musculoskeletal systems, the immune system, speed of information-processing, and so on (Mital, 1994). One practical consequence of such change can be seen in age-related changes in tolerance for shift work. After about age 40, shift workers as compared to day-workers, experience increased incidence of sleep disturbance and illness-related absenteeism from such causes as gastrointestinal and cardiovascular disease (Harma, 1996). Of particular interest, older workers experience greater difficulties in adapting to the altered sleep, mealtime, and retirement and rising patterns required of shift work. Here too, however, proper diet and exercise increase shift-work tolerance. Thus, much can be done by the individual to reduce vulnerability to stressful or hazardous work environments.

Researchers are also increasingly focusing on environmental-design solutions to poor person–environment fit in the workplace (Budnick, 1993). For example, Schwoerer and May (1996) examined the relation between age,
quality of tool design, and job performance. Results indicated that among younger workers, tool quality was unrelated to job performance. However, among older workers, quality of tool design made a significant difference. Those older workers with tools viewed to be poorly designed had the lowest performance ratings of all groups. In contrast, older workers with tools of high design quality had the highest performance ratings of all groups.

**Occupational Injury and Health**

There is now much research showing that the consequences of accidents are typically more serious among older adults, that they experience more serious disability, and that they are less likely to recover (Sterns et al., 1985). Age–injury relationships are also found for the more frequent, minor forms of workplace injury. For example, sprains and strains that can interrupt work capacity for limited periods of time occur with increasing frequency after age 30 (Choi, Levitsky, Lloyd, & Stones, 1996). Ergonomic interventions can do much to reduce workplace hazards for older workers, but such interventions are often limited by technology and cost. Sterns et al. (1985) concluded, therefore, that further reduction of accidents among older persons would require attention to the human factor, to include periodic assessments and feedback to older workers regarding any changes in important safety-related abilities, and continued training and management attention in the area of safety.

Researchers continue to examine the implications of age-related injuries at work. For example, Agnew and Suruda (1993) examined the relative contributions of age, industry, and occupation with respect to total injury incidents, temporary disability, permanent disability, and fatalities, using NIOSH data. Results indicated that the percentage of variance accounted for by age in total injury incidents, temporary disability, permanent disability and work-injury fatalities was 11.4, 10.7, 39.6, and 79.5%, respectively. An additional analysis focused on the age–environment characteristics of risk for fatal falls on the job. Results indicated that older workers are at increased risk, and that after the age of about 45 years, the incidence of fatal falls increases dramatically. There is an especially telling interaction in these data, however. Among younger workers (age 15–44 years), the average height of a fatal fall is approximately 15 feet. Among older workers (age 45+), however, the average height of a fatal fall is less than 7 feet. This suggests, then, that not only are older workers in today’s work environment at greater risk of fatal falls, but this risk occurs in a less dangerous environment.

A similarly interesting finding with respect to age and industrial injuries and fatalities was reported by Kisner and Fosbroke (1994). This study used nationally aggregated data from the construction industry, in which the annual fatality rate (25.6 per 100,000 workers) is approximately $3\frac{1}{2}$ times that of the rest of industry combined. Consistent with earlier findings (Sterns et al.,
frequency of injuries in this study was found to actually decrease with age, but the fatality rate from these injuries increased with age (age 25–65+).

It is a concern that aggregate statistics like this might suggest a rationale for not employing older workers in physical or hazardous job settings. Indeed, they are a likely basis for stereotyped perceptions of older workers as less able to perform in such jobs. However, a closer examination of such findings suggests that in many hazardous occupations, there are important individual differences to be considered. Recent testimony before the U.S. Senate Committee on Labor and Human Resources provides such an example (Landy, 1996). Frank Landy directed a congressional study to assess the validity of the use of chronological age in determining the mandatory retirement of public-safety officers (a current exception to older worker protections under age discrimination in employment law: ADEA). There were two major conclusions from this study. The first of these is that police officers and firefighters, age 50 and over, were less likely to die from catastrophic illness than were workers in other stressful occupations. Testimony indicated that an officer’s level of physical fitness and job experience could significantly reduce health and safety risks in such occupations and that fitness, in particular, was an important norm in these occupations and is tested annually. Landy noted that many reliable and valid tests of fitness are available for use in determining an individual’s continued ability to perform. It is thus consistent that in a recent study of the relation between physical activity and risk for cardiovascular disease among police officers, degree of exercise was significantly associated with 10-year risk of cardiovascular disease among officers age 49 and older, whereas this relation was nonsignificant among all younger age groups (Franke & Anderson, 1994).

A similar pattern was observed in a review of research on firefighters by Sothmann, Landy, and Saupe (1992). The focus of the review was the expected relation among firefighters between age and measures of aerobic capacity necessary to deal effectively with times of intense demand on physical effort. It is acknowledged that many older firefighters do not meet recommended levels of aerobic capacity; however, some studies showed that performance and aerobic functioning of experienced older firefighters appear not to differ significantly from those of younger workers. This may reflect selection effects based on continued fitness and the benefit of experience.

Similarly, recent research on airline-pilot safety concluded that there was no compelling evidence of increased flight accident rates as pilots approached the age of 60 years. Cross-sectional analyses of pilot accident rates actually showed a declining incidence with age until about the mid-40’s, after which the rate remains level (Kay, Harris, Voros, Hillman, Hyland, & Deimler, 1994). The above findings would be consistent with research on the “healthy worker effect,” in which older workers, because of deselection on the basis of health, are found to have lower morbidity than the general older population (Nuyts, Elseviers, & DeBroe, 1993).
In the next section, we note how rehabilitation and fitness interventions may also permit some older adults to continue to perform safely and effectively, even in strenuous or hazardous work environments.

Rehabilitation and Intervention

The dual themes in this section are worker adaptation and employer accommodation. As we have noted earlier, the incidence of injury is lower among older workers, but there is a greater prospect of long-term disability when injury does occur. For example, analyses of some 80,000 worker-compensation claims over a 5-year period in Australia found a strong (near-linear) relation between age of claimant and the percentage of claims that resulted in long-term compensation awards (Thomas, Browning, & Greenwood, 1994).

In developing a rehabilitation plan, it is important to understand that the goals for rehabilitation may differ between younger and older workers. Older workers tend to be injured more seriously. Moreover, the effects of an injury or illness among older persons may be compounded by a variety of chronic conditions and there is a greater likelihood of secondary disability (e.g., pain, infection). Also, older persons may respond in less predictable ways to treatment, and they are especially susceptible to the effects of forced immobility (Kemp, 1985). Thus, older adults take longer to recover from illness or injury in general and are at greater risk of not recovering (Hayflick, 1994; Rowe, 1985). It also appears that older persons have less satisfactory access to established rehabilitation services, and they tend to receive less encouragement from employers to pursue full rehabilitation (Thomas et al., 1994). It is not surprising, then, that outcome data from a recent study of the rehabilitation treatment of disabled workers show that workers under the age of 55 were approximately three times more likely to return to work than were their older counterparts (Thomas et al., 1994).

The good news, however, is that many employers are highly sensitive to the health and well-being of their older employees and find ways to accommodate valued employees who experience a health or functional impairment. A study by Daly and Bound (1996) provides perspective on this process. This study followed 1192 employed men and women over the age of 50 who had experienced a health event that could impair their ability to work. Approximately 27% of these persons left the workforce as a result of their health condition. Of those who continued working, about one-third changed employers. Of those who remained with their employer, 34% were accommodated by the employer in a way that made a significant difference (e.g., receiving help with their jobs, adjusted or shorter work schedules, breaks from work, special transportation, job redesign, training in new skill areas, and special equipment). Many of the people who changed jobs might also be viewed as having pursued their own accommodative solutions.

A related issue in the literature is the potential for new technologies that might enable older workers to remain productive. In this context, however,
there are continuing concerns that older workers are less responsive to the
opportunities afforded by changing technology and they have less positive
expectations and attitudes with regard to technology. Such responses are
interpreted to mean that many older workers feel more uncertain about their
ability to learn the technology or how the technology might actually affect
their career, including whether the computer might make their job more
difficult or even replace them (Mowery & Kamlet, 1993; Marquie, Thon, &
Baracat, 1994). The older-worker training literature has addressed this issue
for some time (Sterns, 1986).

CAREERS

A number of career-related themes emerged during the review period. Of
particular interest, an issue of the *Journal of Vocational Behavior* in 1995
featured theoretical reviews from several perspectives on the topic of careers
in midlife and beyond. Greller and Stroh (1995), for example, point to the
disproportionate effects on older workers of recent disruptions in the U.S.
economy, which involved the restructuring and downsizing of many corporate
employers. They note a number of factors inherent in this situation that affect
older workers including discrimination in job opportunities and compensation,
social pressures to retire, the need to learn new skills and technologies, estab-
lishing a relationship with a new employer, finding a way to build on one’s
current experience base, and being willing to take reasonable risks associated
with branching out into a new or different occupation. Greller and Stroh argue
that a theoretical framework for understanding career behavior from midlife
must be multidisciplinary and must accommodate this broad range of person
and environmental variables.

Hall and Mirvis (1995) argue further that a new form of “career contract”
with employers will be important for older workers. The new contract would
encourage two competencies central to sustaining a career in a fast-changing,
increasingly challenging workplace. These competencies involve enhancing
one’s adaptability through continuous learning and mastering new occupa-
tional challenges, and working toward growth and flexibility in one’s occupa-
tional identity.

Sterns and Miklos (1995) also describe a highly individualized approach
by which employers might facilitate productive career choices among their
older employees. This paper builds on Sterns’ earlier work (e.g., Sterns &
Patchett, 1984; Sterns, 1986; Sterns et al., 1990) integrating the life-span
developmental orientation and career choices in later life. The approach em-
phasizes that employers’ human resource policies and systems (e.g., selection,
training and performance appraisal) need to reflect an understanding of norma-
tive age-graded, generational, and nonnormative influences on an individual’s
development and abilities. They should further reflect an understanding of
the potential for older employees to experience positive growth at almost any
time in their work-life. In practical terms, then, it should always be useful to
focus (e.g., in performance appraisals) on the worker’s ability and expertise rather than on stereotyped, age-related expectations or standards for performance. Similarly, employers should assume that workers of all ages would likely benefit from training programs, opportunities to take on challenging developmental assignments, and interventions to reduce workplace hazards or to promote health behavior. This point is consistent with recent findings from a study of the efficacy of career and life-planning workshops with adults ranging in age from 45 to 72 years (Robbins, Chartrand, McFadden, & Lee, 1994). Outcome measures reflecting satisfaction with the training process and career exploration and job-seeking behavior were generally positive for all treatment formats, and there were no significant differences in these relations associated with age of the participant.

In contrast, evidence continues to accrue regarding age-related determinants of career patterns and aspirations. Two papers have recently appeared assessing organizational age norms among employees. Findings indicate that organizational norms for typical age at each career level are stronger in organizations with a more stable employment picture (Lawrence, 1996) and that expectations regarding promotion decline with age, although to be off-time (behind) on the promotional ladder appears to send a clearer signal to younger employees than to older employees regarding the likelihood of ever receiving another promotion (Lashbrook, 1996).

Such findings are consistent, also, with studies of age and tenure in organizations showing that, among older male employees in particular, seniority increases one’s attachment to the employing organization. Approaching pension eligibility, diminishing value on the external job market, employer accommodation, and comfort with career timetables in the current organization all appear to reduce job mobility in later life (Krecker, 1994). Finally, we note that a broader, meta-analytic study of age and voluntary turnover (including voluntary quits for all reasons) recently concluded that the relation was near zero (Healy, Lehman, & McDaniel, 1995).

At a more basic level, Bailey and Hansson (1995) found a major psychological obstacle to job or career change among older working adults to be the fear that such a change would involve starting again at the bottom, that is, at a level inappropriate for “someone my age.” Similarly, a study by Wolf, London, Casey, and Pufahl (1995) found that older and more experienced unemployed engineers experienced less success after a job-search training program, as measured by placement, salary adequacy, and so on. Presumably, for these individuals, beginning a new job would be a more dramatic career change, probably in a new industry in which the value of their previous experience would be discounted.

A study by Fletcher, Hansson, and Bailey (1992) identified three components of occupational self-efficacy among older workers that appear to be associated with continued confidence and career motivation. As expected, the first of these involves the respondent’s belief in his or her continued ability
to meet occupational goals, persevere, contribute productively, and be a safe worker. Similarly, the second component, ‘‘learning self-efficacy,’’ reflects a belief in one’s ability to change and learn new technologies. However, the third component reflects the respondents’ belief in his or her social/organizational competence, ability to work with others, earn co-workers’ trust and cooperation, and deal with interpersonal difficulties on the job.

RETIRED

Research concerning the decision to retire has garnered much attention over the years, and with the ‘‘baby-boom’’ cohort approaching the traditional retirement age, this research should increase. We noted earlier that labor participation rates by older workers are expected to stabilize. Moreover, an increasing number of retired males under age 65 have returned to the workforce on either a part-time or full-time basis (Herz, 1995). Among those approaching retirement age, there also appears to be an increasing recognition of the need for retirement income outside of social-security provisions. Of working Americans over age 50, only 28% feel that social security will be their main source of income in retirement (Star, 1996).

Influences on the Retirement Decision

Financial status plays a critical role in the decision to retire. The personal finance equation at this stage of life includes one’s current assets, retirement savings, expected income stream from social security and pensions, housing, adequacy of health insurance, number of dependents still at home, and so on (Karoly & Rogowski, 1994; Wise, 1996). Individuals experiencing financial pressure related to any of these areas would be expected to try to continue working or, in the event that they have retired, seek reentry into the workforce.

Physical limitations and health problems that inhibit a person’s ability to work will also influence the retirement decision. This decision is also affected by the health of one’s spouse but may differ by gender. Men appear less likely to retire if their spouse is in poor health, reasoning that their continued employment will provide the finances necessary to ensure proper medical care. Conversely, women appear more likely to retire if their spouse is in poor health so that they might be able to provide direct care (Talaga & Beehr, 1995).

Psychological factors such as diminished job attachment, satisfaction with career attainment, and anxieties about separation from the workplace also appear to play into the retirement decision. For example, Ekerdt and De Viney (1993) have suggested that as individuals approach a fixed age of retirement, they may come to view their jobs as a burden and become less psychologically invested. Job attachment, however, may also be influenced by perception of career attainment. The decision to retire and subsequent satisfaction with retirement appear, in part, to be predicated upon having satisfied one’s em-
ployment intentions. Being able to leave on one’s own terms, voluntarily, is central here (Maule, 1995).

For many people, the reasons for reluctance to make a retirement decision are more straightforward. Forteza and Prieto (1994) report that approximately two-thirds of the individuals about to retire think of retirement as unpleasant, in part because they believe retirement ends any further opportunities for success or development and marks the transition into a boring life. It is understandable, then, why so many individuals either delay their retirement decisions or find themselves reentering the workforce after retirement.

**Effects of Retirement**

A remaining concern for many older persons is whether there are any negative changes in health after retirement. A decade ago, Ekerdt (1987) questioned the widely held view that retirement is detrimental to one’s health, concluding that health deterioration is a normal part of aging rather than of retirement. In most cases, health limitations appear to increase the likelihood of all types of retirement, suggesting that the beginnings of poor health are present before the decision to retire is made (Henretta, Chan, & O’Rand, 1992; Midanik, Soghikian, Ransom, & Tekawa, 1995).

The relation of retirement to life-satisfaction and well-being has also been heavily researched. For example, one longitudinal study found that over a 3-year period, change in workforce status had no effect on either quantitative or qualitative social support, although long-term retirees had the least quantitative social support and full-time workers the most (Bosse, Aldwin, Levenson, Spiro, & Mroczek, 1993). Changes in experienced social support between long-term retirees and full-time workers did not appear to be heavily influenced by recent changes in employment status, suggesting that retirement does not create a threat to this aspect of psychological well-being. Similarly, research indicates that the event of retirement appears to have little effect on marital satisfaction (Ekerdt & Vinick, 1991; Higginbottom, Barling, & Kelloway, 1993).

Psychological well-being in retirement also has been assessed more directly. Recent studies have found no systemic differences attributable to retirement in self-rated mental health, stress, coping efficacy, self-esteem and depression (Midanik et al., 1995; Reitzes, Mutran, & Fernandez, 1996a, 1996b).

Another perspective on psychological well-being in retirement concerns the effects of “early retirement” programs. Such programs often take the form of employer-provided incentives or buyouts. Hardy and Quadagno (1995) found that the timing of early retirement is important to retirement satisfaction. Retirees who had anticipated early retirement for more than 2 years prior to retiring were more satisfied with their retirement experience than were those who had made the decision to retire early less than 6 months prior to retirement. This difference may be due to the latter group’s lack of information and uncertainty about whether to accept early retirement or to
continue working for an indefinite amount of time. Such findings are consistent with earlier research finding that individuals whose participation in the workforce reflects personal choice report greater levels of physical and psychological well-being than do those whose participation is constrained by other factors (Herzog, House, & Morgan, 1991).

**Structure of the Retirement Decision**

Researchers have also examined the retirement process in an attempt to understand the various dynamics at work. In this connection, it seems increasingly important to appreciate the complexity of the retirement decision (Henretta, 1997). A particularly interesting issue concerns an increasing tendency toward “blurred” rather than “crisp” exits from the workforce. Examples of blurred exits include multiple labor-force entrances and exits and various combinations of work and retirement characterized by gradual role-transition or overlapping roles (Mutchler, Burr, Pienta, & Massagli, 1997). For many older workers, retirement involves not so much a line to be crossed as a status to be approached with care with approaching age.

Recent longitudinal data suggest that the most important factors in the retirement decision are pension-plan incentives, health status, job difficulty, and an interaction with the spouse’s choice of retirement (Gustman & Steinmeier, 1994). The decision to retire early also appears to involve at least three choices: leaving a long-term job before the age of 65, accepting bridge employment (limited work before total retirement), and whether or not to obtain bridge employment in the same occupation or industry as the previous job (Feldman, 1994).

It also appears that retirement rarely occurs for one reason alone. Usually, several variables interact to influence the decision to retire. This suggests a need for more comprehensive models of the retirement process that examine a larger set of variables and their interactions (Henretta et al., 1992).

We can also learn from older adults who continue to work successfully into old age. For example, Parnes and Sommers (1994) describe the dynamic of “shunning retirement.” This research identified good health, continued psychological commitment to work, and a dislike of retirement as key factors. In a follow-up survey of the original members of the 1966 National Longitudinal Surveys of Labor Market Experience, the 90% who were not working reported that it was not so much health problems as “simply having had it with work” (pg. S120). Of that 90%, 60% reported that health would not be an impediment to continued working. In contrast, the 10% who were still working at age 69+, reported that they would not look forward to retirement and that they would likely continue to work even if they did not need the money.

It is clear, then, that there are many possible pathways to retirement, and the event may even occur without planning or a conscious decision. Such complexity makes it difficult to conduct research on predictors of retirement or...
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on the nature of decision-making. Ekerdt, DeViney, and Kosloski (1996) have attempted therefore to develop a measurement model to facilitate such research. In an analysis of responses from over 5000 employed men and women, age 51–61 years, from the 1992 Health and Retirement Study (Juster & Suzman, 1995), they developed a taxonomy of retirement intentions. Five general types of intentions emerged in this analysis. About 21% intended to simply stop working completely. About 20% anticipated a planful reduction of effort. Nine percent planned to remain employed but perhaps this would involve a change of jobs. Seven percent intended never to stop working, and 43% had no plans regarding retirement. The authors note that this broad taxonomy of retirement intentions should be useful in future research efforts to understand diverse retirement strategies and outcomes.

More formal attempts to develop theory regarding older workers, the nature of their interactions with their work and their employing organizations, and the transition to retirement would appear vital to organizations seeking to employ them. With a sizable contingent of older workers expressing their desire to continue working, it would be expected that organizations would also develop explicit policies regarding their productive employment. Yet, in a study of 197 firms, 46% of which hire retirees, only 9% had developed any formal policy for hiring them. Utilization of retirees as a percentage of the work force varied greatly by firm, with nearly two-thirds indicating that retirees constituted less than 5% of their work force, while 4% of the firms indicated that retirees made up more than 20% of their work force. Interestingly, 45% of the organizations hired retirees simply because they comprised part of the regular, qualified applicant pool. No mention of specific older worker attributes or labor circumstances were made in these cases (Hirshorn & Hoyer, 1994). However, for those organizations targeting retirees in the hiring process (due to skills, attributes, or other desired characteristics), it appears important to develop the capability to identify and recruit retirees.

Thus, retirement transitions are complex. They are characterized by multiple exits and reentries into the work force, and are multidetermined (Henretta, 1997). They reflect the physical and cognitive consequences of aging, the person–environment fit of the workplace, and the influence of the social and economic institutions with a stake in the process. Our knowledge of the process emanates from a diverse set of research disciplines and, while this broad approach to the study of retirement has been productive, there is now a need for integration of findings and theoretical perspectives.

OLDER WORKING WOMEN

The growing number of older women in the workforce presents many new challenges for employers. To a degree, women may have employment goals, career patterns, and work-styles different from their male counterparts. In addition, their needs may differ with respect to training, health coverage,
benefits, retirement-planning, and pension coverage (Gendell & Siegel, 1992; Schneer & Reitman, 1995).

Three interesting issues concerning older working women emerged during the review period. The first of these involves the caregiving role of older employed women. The second reflects gender differences in labor-force involvement in later life. A third area of research deals with retirement issues among older women workers that may differ from those of their male counterparts.

Caregiving is being recognized increasingly as a factor in women’s work choices. Caregiving begins to play an increasing role for women at mid-life (45–65), and it occurs in informal settings without paid assistance. Caregiving can be short-term, intermittent, and combined with work roles, but it does not necessarily interrupt women’s labor-force participation. Women are just as likely to combine the roles as they are to be caregivers exclusively (Moen, Robison, & Fields, 1994; Ruhm, 1996).

The stress of caregiving responsibilities can have both physical and psychological effects. An example of this can be seen in a research project that assessed blood pressure among groups of middle-aged working women who were either caregivers or noncaregivers. Results showed similar blood-pressure readings among both groups while the subjects were at work. However, blood pressure for noncaregivers decreased after they left the work setting. In contrast, blood pressure among caregivers actually increased following work, when they resumed their responsibilities as caregivers (King, Oka, & Young, 1994). Chronic fatigue in women who hold full-time jobs and provide caregiving also can affect work productivity and job performance. Employers also note increasing work-related problems associated with elder care, these include stress, unscheduled days off, late arrivals, early departures, excessive telephone use, and absenteeism (Matthews & Rosenthal, 1993).

Little research has systematically addressed the experiences of older women on the job. In particular, there are few empirical studies comparing the work experiences of varying populations of women. Most available research on women focuses instead on differences between women and men. In response, sociologists have begun to focus on theory development regarding the experience of women at work and in retirement (Calasanti, 1996). This work leads, for example, to analyses of how labor markets and the structure of employment opportunities differ for women. Traditional male models of career and retirement adjustment may not apply to the many women who have been restricted to occupations with little opportunity for training, promotion, or mobility, have had to balance family and work goals, and have more limited opportunity to participate in employment-based pension plans.

Another interesting issue in this context involves gender differences in perceived age-norms with respect to educational and work transitions. Age-norms connote the age at which people believe important transitions should occur. A study by Settersten and Hagestad (1996) showed that men and
women appear to attend to transition “deadlines” related to education and work in quite different ways. Relevant age deadlines among men were most often related to the age by which one should reach a career peak. The most frequent age deadline among women dealt with when to enter the full-time labor force. Age deadlines for obtaining one’s education, however, showed a different pattern. Women were less likely to believe in an age-related deadline by which they should have completed their education. Among men, perceived deadlines for retirement spanned 28 years, from ages 48 to 75. For women the span was wider, 35 years, from ages 40 to 75. The gender differences reflected in this study (i.e., men being concerned about when careers are over and women being more open to later-life opportunities for education and continuance of work lives beyond 65) seem to suggest that while men and women approach their work lives along the same terms, chronological age is more influential in structuring men’s lives, whereas women’s lives tend to be more fluid, variable, and possibly disjointed (Settersten & Hagestad, 1996). These patterns suggest that, at the present time, the life-course of working women more closely matches the assumptions of the life-span developmental orientation described earlier in this paper.

Gender differences also have been examined with respect to coping with work-related stress in later life. For example, Abraham and Hansson (1996) assessed the relative success of men and women employees, age 40 and older, who attempted to resolve work stress using two common coping styles. Findings indicated that an accommodating coping style was helpful to both men and women in this regard. However, only among men was a more assertive, tenacious goal-pursuit coping style associated with job satisfaction and lack of stress. This pattern speaks to the role constraints on behavior in the workplace, which may limit the coping efforts of middle-aged and older women.

Researchers and industry sources alike have expressed particular interest in the increasing numbers of women in recent years who have turned to self-employment, doing so primarily as older women (i.e., over 40 years of age). Continued discrimination against women in the labor force may be the cause of an overall increase of self-employed women, from 4.1% in 1975 to 6.7% in 1990. The average self-employed working woman tends to be married, midlife or older, highly educated, and primarily in managerial positions in service-based ventures (Devine, 1994). The importance of this area of research lies in the growing numbers of women choosing self-employment in recent years. One in fifteen employed women in all age categories was self-employed in 1990. Self-employment provides an important alternative for older working women who desire to pursue their careers beyond typical retirement ages. Similarly, self-employment may provide the flexibility needed to balance work and family needs (Devine, 1994).

Researchers have also investigated the economic well-being of older women and the role of employment and financial planning in that context.
For example, a study by Kokrda and Cramer (1996) examined the retirement saving patterns of preretirement women in their 50's. Stability of one’s work history (a variable combining total number of years employed, number of years on longest job, full-time vs part-time status, and number of times employed) was a significant predictor of pension savings. However, education, income, number of children, work history, and occupational level were significant predictors of other types of financial savings. The authors emphasize the influence of an individual’s choices regarding education, occupation, and continuity of employment as critical elements in successful retirement and financial planning among women (Kokrda & Cramer, 1996).

Talaga and Beehr (1995) studied three variables in predicting retirement status for men and women: number of dependents in the household, occupational level, and the financial and employment status of a spouse. For older women, the number of dependents at home increased significantly the odds of being retired. For men, the opposite was true, with men opting to continue to work as the breadwinner. While men in the study felt more financially secure than women, women had fewer years in the work force, with more work interruptions more likely lower wages.

AGE DISCRIMINATION

The literature on age discrimination in employment during the review period continued to focus on institutional and individual responses to older persons. An emerging issue was the failure of corporations to establish formal policies for the growing numbers of older workers. A study by the International Foundation for Employee Benefit Plans found, for example, that although 86% of Fortune 2000 companies say they ‘‘value’’ older workers, only 23% have corporate policies that encourage the hiring of older workers (Capowski, 1994). There also remains a concern that older workers continue to be denied opportunities for training. Similarly, a study by Simon (1996) found that 55- to 64-year-olds received training opportunities only a third as often as 35- to 44-year-olds. It is not surprising, therefore, that age-discrimination claims continue to go to litigation in larger numbers. For each of the last 10 years, approximately 24,000 age-discrimination cases have been filed under the ADEA (AARP, 1996).

Another concern is the manner in which economic policy erects obstacles to older-worker participation in the current labor market. Such obstacles, for example, may take the form of disincentives within the Social Security system and private pension plans. Eligibility for social-security retirement payments begins at age 65. An individual who defers retirement and the start-date of benefits will eventually receive a slightly higher monthly income, which includes an incentive payment for deferring retirement. However, this incentive may not be sufficient to make up for the present value of income foregone. Similarly, a person who continues to work, even part-time, after retirement, faces limitations on the amount of income that can be earned without conse-
quences to social-security income. The compelling incentive for many, then, will be to retire upon eligibility (Quinn & Burkhauser, 1993).

Research on age discrimination also continues to focus on the roots of age stereotypes. For example, Finkelstein, Burke and Raju (1995) studied situational characteristics that may contribute to employment decisions biased by age discrimination. These researchers conducted a meta-analysis of published empirical studies examining age discrimination in employment settings, both real and simulated. Results suggested an ‘‘in-group bias,’’ with younger respondents tending to judge younger workers as more qualified than older workers, to have greater potential for development, and to be more physically qualified for demanding jobs. In contrast, older respondents in the study rated younger and older workers to be equally qualified for employment. These findings are generally supported also by more recent studies (e.g., Hassell & Perrewe, 1995; Perry, Kulik, & Bourhis, 1996).

CONCLUSIONS AND RECOMMENDATIONS FOR FUTURE RESEARCH

Conclusions

Four general conclusions might be drawn from this review. First, the research on older workers has increased in complexity as it has begun to involve more academic and practice disciplines. We noted important contributions not only by vocational and industrial—organizational psychologists, but also by gerontologists, health scientists, human-factors engineers, sociologists, economists, educators, legal scholars, and public policy analysts. It is now important to develop more integrative theoretical frameworks to accommodate these many perspectives regarding the experience of aging in the workplace.

Similarly, it is our sense that vocational psychologists will need to adopt an interdisciplinary perspective in working with older clients or with organizations that wish to maintain the productivity and well-being of their older workers. This may involve forming diagnostic/assessment teams that have the expertise to assess not only continuing career needs, interests, and skills, but also health, and the physical, social, and workload demands of the environment in which the person intends to continue working. Such a model has long been successful in the field of rehabilitation psychology (Kemp, 1985). It will first be necessary, however, to facilitate the kinds of crossdisciplinary conversations necessary for such efforts. We note with interest in this connection, that the journal, The Gerontologist, has begun to publish a column highlighting internet sites on aging, with links of interest to most applied areas of health, the economy, government and public policy. In addition, the Internet home page of the Gerontological Society of America (http://www.geron.org/) offers direct links to most of these resources.

A second theme to emerge from the review concerns the importance of viewing older employees as individuals. The literature on successful aging
focuses especially on learning from those individuals who do not follow the usual trajectories of age-related decline, and on the development of adaptive aging strategies, tailored to a person’s unique blend of physical, psychological, and social resources, in the context of the environment in which they want to function. Similarly, the life-span developmental approach emphasizes the capacity for positive adaptation at any point in later life, that many older persons can benefit from training or educational interventions to compensate for disuse or deterioration of important competencies. This perspective, however, acknowledges that older individuals will differ in their current status and potential to benefit from interventions. It is thus consistent that job performance and well-being among older workers appear to reflect the fit between one’s changing abilities and the demands of the job, but that such a fit would in part reflect the compensating effects of an individual’s years of experience and available coping resources (Warr, 1994a).

The human-factors literature also emphasized the need to assess on an individual basis the consequences of aging for a continued person–environment fit. Individualized strategies and interventions were suggested for the accommodation of age-related loss in ability, for deferring age-related declines in job skills, for the rehabilitation of lost physical or cognitive capacities, for avoiding occupational obsolescence, and for revising career strategies. A key element here, however, is that both the individual employee and the employer will need to assume responsibility for their part of the process. Aging employees must work on remaining fit and on developing new skills, and employers must continue to think about productive accommodation of valued employees.

Third, the transition to retirement is now seen as occurring in many forms and as reflecting a diversity of person and environmental variables. Attention is increasingly drawn to ‘‘blurred’’ retirements, uncertain starts, reentries, bridges, phase-ins, and unemployment turning into ‘‘retirement.’’ Such complexity can not be understood from just one perspective (e.g., career-choice theory). Here, too, analyses must begin to consider contextual factors (e.g., economic, health, family, occupational and environmental).

Fourth, our sense from the human-factors and safety literature is that the traditional workplace designed for the average 20- to 40-year-old will need to be redesigned as the work force ages. Whether on the factory floor or in the high-technology environment, ergonomic design modifications to improve the fit for older workers (e.g., larger computer screens, larger print on warning signs, reduced need for repetitive movement, and tools with better design) will likely benefit workers of all ages.

Issues for Future Research

1. Little attention has focused on displaced older workers (e.g., victims of corporate restructuring or downsizing in their 40’s and 50’s). Such persons often lose much of what they had accrued prior to a traumatic career disrup-
tion. Their subsequent experience as an aging worker would be expected to reflect the consequences of that trauma.

2. We know very little about the experience of older women in the workplace. They are increasing their involvement in the work force relative to men, and this emphasis ought to be driving more basic and applied research. Moreover, much of the research on older working women has focused primarily on their having to balance a mix of roles (e.g., work, family and caregiver). The need now is for a more systematic examination of the experience of middle-age and older women as they move into the professional and managerial ranks.

3. Much of the research on age, job performance, and occupational well-being is cross-sectional in design. Longitudinal studies might provide a very different picture, given the importance of cohort influences such as educational achievement, improved health and physical function, and technological advance.

4. Much of the research on training interventions with older adults has been conducted in the laboratory setting. It is important to field-test such interventions to assess their generalizability to the complex technical and social environment of the workplace.

5. Little attention has focused on the relational or support networks of older adults in the workplace. An individual’s social networks in the workplace would be expected to mature and change across time in both form and function. Analyses of older workers’ continued social integration into the workplace could provide fresh insights into occupational well-being, performance, organizational commitment, and intent to retire.

6. Applied research should begin to focus more directly on strategies for successful aging in the workplace. Such efforts might include the development of comprehensive assessment strategies, field studies to identify contributing factors, and longitudinal outcome studies to evaluate the efficacy of interventions designed to extend the productive work-lives of older employees.

7. Finally, our definition of the older worker for this review has included persons age 40 until retirement, but little conceptual attention has been given to distinctions within this broad age-range. We strongly agree with researchers Greller and Stroh (1995) and Sterns and Miklos (1995) that career theory and research should begin to examine the interactions of person and organization issues that arise during this important time-span.

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