# Part II

# Substantive Areas of Applied Psychology

# 17

# Applied Geropsychology

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With increasing life expectancy and at the same time, decreasing fertility, the world is experiencing "population aging" (United Nations, 2001, 2002, 2005), that is, an increase in the proportion of older people in comparison with younger people (Glass & Eversley, 1965). Moreover, over the next 50 years, population aging is expected to continue. The increase in life expectancy and in the proportion of older adults in the total population is paralleled by an increase in research in basic and applied geropsychology.

As has been emphasized by Schroots (1995), there are three models in geropsychology or psychogerontology: age, aging, and the aged. The psychology of age is devoted to age differences; it compares groups of people of various ages. The psychology of aging deals with the changes in average functioning of individuals across their life span. The psychology of the aged is concerned with the thematic study of the issues facing diverse groups among the elderly. Because this chapter is devoted to "applied geropsychology," it can be stated that geropsychology is devoted to the aged, based on the knowledge developed from the psychology of age differences and the psychology of aging.

The applied psychology of the aged is *the study of the problematic and nonproblematic elderly from a psychological perspective* (Schroots, 1995, p. 48). It is important to emphasize that applied geropsychology cannot be reduced to just the problematic aged. Biomedical studies of aging generate a negative view of old age because from a biological point of view aging is a continuous process of loss of functionality (reinforcing the existing stereotypes of the aged). However, from a psychological point of view, psychosocial functioning cannot be understood with the same principles that govern biological processes (Gould, 1981). Although there is an increasing risk of decline and a decreasing potential for growth across the adult life span, the nature

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of adult development has to be understood as multidimensional in which gains and losses can coexist (Heckhausen, Dixon, & Baltes, 1989).

Several theoretical concepts about life-span development are relevant for applied geropsychology (e.g., Baltes, Lindenberger, & Staudinger, 2006). Psychological development is a lifelong process. There is large interindividual variability in age-associated changes, and variability increases at least up to the seventh decade of life. In recognition of the heterogeneity of aging, authors agree on three different forms of aging: usual or normal, pathological, and optimal or successful (Baltes & Baltes, 1990; Fries, 1989; Rowe & Khan, 1997, 1998). Normal aging refers to growing old, even when some manifest illness occurs; the individual continues being independent. Optimal aging is the aging that would be possible under optimal personal and environmental conditions with high physical, psychological, and social functioning. Finally, pathological aging refers to changes due to physical and/or mental illness inducing disability and dependency in the older individual.

In addition to interindividual variability, there is also much within-person variability in psychological development (plasticity; Fernández-Ballesteros, Zamarrón, & Tarraga, 2005). Thus, individuals have a dynamic capacity for change across the life-span, and effective interventions are needed to promote positive change, maintain functioning, reverse negative changes (if possible), or at least delay age-associated negative changes to foster well-being across old age

But, applied geropsychology cannot be reduced to clinical geropsychology that characterizes older adults' functioning as pathological nor is that the only area in which psychologists can apply their knowledge. Because old age can be classified according to several levels of functioning (usual, pathological and successful; e.g., Baltes & Baltes, 1990; Fries, 1989), geropsychology has to deal within these three types of functioning. In summary, psychologists can contribute to the extension of healthy life through the promotion of active aging, health maintenance, and the prevention of disability through the development of healthy habits and lifestyles (Fernández-Ballesteros, 2008; Fries, 1989; Rowe & Kahn, 1997, 1998). These topics are important recommendations in the II International Plan of Action on Aging (United Nations, 2002) and the World Health Organization (WHO, 2001, 2002).

## Key Issues in Applied Geropsychology

Sterns and Camp (1998) have suggested that being an applied geropsychologist or applied gerontologist is to be an "interventionist" professional. In fact, a main goal of applied geropsychology is to increase older adults' well-being and quality of life, but applied geropsychology cannot be reduced to interventions in a narrow sense. More broadly, applied geropsychology can be defined as geropsychological research and practice designed to produce and apply knowledge that will address practical goals associated with the aging process and older adults. Several main topics of applied geropsychology have been identified, including (a) clinical geropsychology (psychological assessment, counseling, psychotherapy, rehabilitation, interventions for caregivers of ill older adults), (b) cognitive aging (e.g., consequences of cognitive decline for medication use and risk for traffic accidents, training of cognitive abilities), (c)

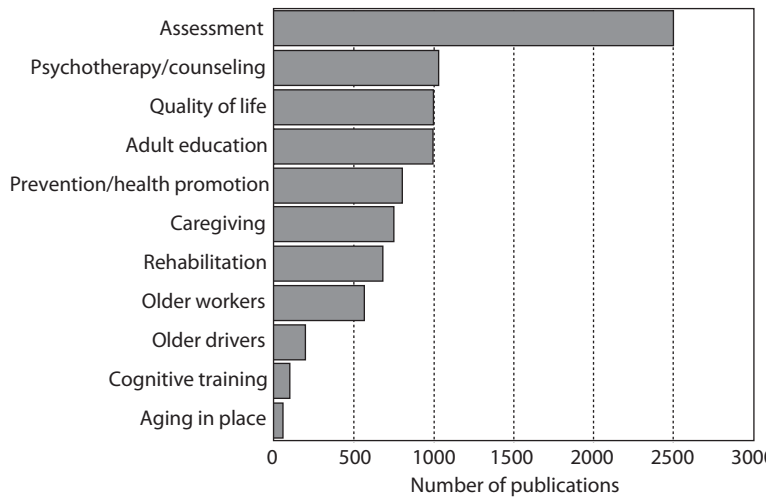


**Figure 17.1.** Number of papers on selected applied geropsychological topics in the PsycINFO data base

aging and work (e.g., designing a work place that supports older workers in their efforts to remain contributory, age-sensitive trainings), (d) promotion of lifelong learning in general, (e) improving quality of life (e.g., psychological well-being, personal competence), and (f) ensuring enabling and supportive environments such as assisted devices that reduce functional limitations from physical, sensory, and cognitive impairment (for overview, see Fernández-Ballesteros, 2006; Sterns & Camp, 1998).

For identifying the most prominent topics of applied geropsychology, we searched the abstracts in the PsycINFO data base for applied geropsychological topics. The results of this search are presented in Figure 17.1.

In a study with experts from the field of geropsychology from 30 European countries, key persons were asked to identify the three most important fields of application of geropsychology in their country (Pinquart, Fernández-Ballesteros, & Torpdahl, 2007). Geropsychology was most often applied in the clinical field (70% of the countries under investigation). Specialists in the field of clinical psychology provide assessment, consultation, and intervention services related to psychological adaptations in later life (e.g., adapting to age-related changes, bereavement), psychopathology (e.g., affective disorders, dementias), behavioral problems (e.g., wandering, aggressive behavior), problems in daily living (e.g., marital and family problems, coping with acute and chronic stressors), medical and legal decision-making capacity (e.g., legal guardianship), independent living arrangements, and behavioral competencies (e.g., driving, management of medications, self-care skills, financial management). About 60% of the key persons reported the social field as one of the three most important applications of geropsychology in their country (e.g., psychological assessment, competency determinations, help with dealing with age-associated developmental tasks, and staff development in long-term care settings). Applying geropsychology in the

prevention of health problems and health promotion were reported by 40% of the respondents, and the field of adult education was included by 33% of the key persons. However, only 17% of the key persons reported geropsychology being widely applied in the field of work. In addition, the key persons were asked about future fields of application in geropsychology in their countries. Here promotion of healthy aging and prevention were most often reported (33%), followed by work/retirement (27%), life-long learning/adult education (20%), the social field (20%), psychotherapy (7%), liaison with primary somatic units (7%), caregiving (7%), traffic psychology (3%), successful aging (3%), and health economics (3%).

As the graying of society has consequences for different fields of application of psychology (e.g., work, leisure, health care), psychologists who have been trained in aging-related topics are needed for each of these fields. Three levels of specialization of practitioners can be distinguished (Qualls, 1998): Generalist practitioners who work very limitedly with older adults need some *basic knowledge* of age-associated changes. Generalists with *proficiency* in geropsychology need additional training for evaluating and treating the unique problems of aging in a variety of settings. Finally, specialists who will operate at the *expertise* levels of practice need advanced skills in geropsychology for providing advanced practice skills, generating new knowledge, setting standards for practice, and providing training at the specialty and proficiency levels. Amongst others, training in applied geropsychology at the proficiency level is offered in clinical psychology and aging doctoral programs (for overview, see DeVries, 2005), programs in industrial geropsychology (e.g., Sterns & Camp, 1998), and as part of broad master programs in gerontology (see, for example, the European Master Programme in Gerontology; Heijke, 2004). But none of these programs are yet common offerings across all universities.

This chapter presents some of the relevant work on selected topics of applied geropsychology: assessment, behavioral interventions, promotion of successful aging, and caregiving.

## Assessment

As shown in Figure 17.1., "Assessment" is the topic with highest number of references in PsycINFO and has been reported as an important field in geropsychology research and in training in European countries (Pinquart et al. 2007).

### Ethical and conceptual prerequisite

Let us emphasize that—beyond national ethical principles—applied geropsychologists should take into consideration a set of general principles, norms, or guidelines for psychological practice with older adults. The American Psychological Association (2000) published a set of guidelines whose main objective was to "develop criteria to define the expertise necessary for working with older adults and their families and for evaluating competencies at both the generalist and specialist levels" (p. 238). We are trying to introduce some of these guidelines related to assessment as well as other applied settings.

First of all, given that professionals usually hold nihilistic attitudes regarding older adults, Fernández-Ballesteros, Reig, and Zamarrón (2008) emphasize four essential considerations: (1) Geropsychologists must have stamped into their knowledge systems that, even if age is an important biological factor, *per se* it cannot explain psychological functioning. Across the life span and into old age, the human being is an agent acting in an active and interventive world (e.g., Bandura, 1986). (2) Historical and situational factors should be taken into consideration in the assessment as well as strength and weaknesses in behavioral competences. (3) Social and environmental resources (within the family, the community, etc.) which could optimize and/or compensate behavioral components should be carefully assessed (Baltes & Baltes, 1990). (4) From a conceptual point of view, the idea that plasticity (modifiability) is always present across the life span—even in people who are frail and very old—must be kept in mind throughout the process of psychological assessment (Smith & Baltes, 1999; Fernandez-Ballesteros et al., 2003; Fernández-Ballesteros, Zamarron, & Tarraga, 2005).

## Geropsychological assessment characteristics

Older adults have a set of common characteristics associated with age; therefore, psychological assessments have a set of characteristics. These include:

1. *Comprehensive multidimensional and multilevel assessment.* It is commonly claimed by experts that a geropsychological assessment should be comprehensive and multidimensional, taking into consideration several dimensions of the individual assessed (e.g., Kane & Kane, 1981; Fernández-Ballesteros et al., 2008; Wahl & Lehr, 2003) as well as the different levels of functioning of the individual and his/her context.

Table 17.1. shows several multilevel dimensions from physical functioning and health to environmental contexts, and quality of life. This Table shows also a set of selected instruments and describes the contents assessed and some psychometric properties of the instruments. Most of the instruments included in Table 17.2. were developed for older populations.

Finally, it should be emphasized that good practice in psychological assessment involves the utilization of multidimensional, multilevel, and multimethod assessment.

2. *Idiographic and nomothetic assessment.* In some cases, psychological assessment consists of an idiographic functional analysis of the individual; other cases require a normative analysis of a set of psychological characteristics in order to make comparisons between the individual assessed and a normative sample. In both cases, most of the available instruments are developed for young adults. As stipulated by APA Guideline 10, "Psychologists strive to be familiar with the theory, research, and practice of various methods of assessment with older adults, and knowledgeable of assessment instruments that are psychometrically suitable for use with [them]"; and by Guideline 11, "Psychologists strive to understand the problems of using assessment instruments created for younger individuals when assessing older adults and to

**Table 17.1.** Multiple Dimensions Assessed by Selected Instruments in Geropsychological Assessment

| *Assessed dimension* | *Selected instruments* | *Content and psychometric information* |
|---|---|---|
| Functional and physical competence and health | Katz Index of Activities of Daily Living (Katz, Ford, Moskowitz, Jackson, & Jaffe, 1963) | Includes bathing, dressing, toileting, transfer, continence, and feeding. Assess assistance received. Higher interrater reliability in three- than in four- or five-point scales. |
| | ADL/IADL (Lawton & Brody, 1969) | Assess basic and instrumental activities for daily living. Internal consistency in each subscales are higher than .70. |
| | Balance | Assess competence for standing on only one foot. Predictive power for fall. Concurrent validity with ADL. |
| | SF-36 (Ware, 2001) | A multipurpose, short-form health survey with 36 questions. It yields an 8-scale profile of functional health and well-being scores. High subscales internal consistency (.93-.68) and test–retest reliability. |
| Cognitive functioning | Wechsler Adult Intelligence Scale (WAIS and WAIS-III) (Wechsler, 1958, 1998) | Widely used in clinical setting. Reduced versions (Verbal subtests: vocabulary and comprehension; performance subtests: blocks and object assembly). High internal consistency in all subscales (>.70), predictive and discriminant validity. Norms until more than 85 years old. Norms are provided. |
| | AVLT-Learning Potential (Fernández-Ballesteros et al., 2003; Fernández-Ballesteros 2006) | A list of 15 words (Rey, 1964) are taught through 7 trials (the last one a delayed trial). Posttest scores and gains scores correctly (89%) classified health elders, mild cognitive impaired (MCI) individuals, and Alzheimer disease patients. |
| | Mini Mental State Examination (MMSE; (Folstein, Folstein, & McHugh, 1995) | 30 items assessing orientation, memory, naming, understanding, viso-motor coordination. Cut-off score by education for cognitive impairment. 87% sensitivity. |
| | The Rivermead Behavioral Memory Test (Wilson, Cockburn, & Baddeley, 1991) | 12 tasks with high ecological validity are administered assessing memory for names and objects, design recognition, orientation, faces, appointments, routes, messages, dates, stories. High interrater reliability (100% agreement), parallel-form reliability run .67 to .84, test–retest reliability coefficient was .78. Neurological patients significantly lower scores than the control groups; high correlations with other memory tests and everyday observations of memory lapses. |

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|---|---|---|
| Affect, control and coping | Positive and Negative Affect Schedule (PANAS; Watson, Clark, & Tellegen, 1988) | A list with 10 positive and 10 negative adjectives. Construct validity very high (two-factor solution), internal consistency of both scales high. |
| | Philadelphia Geriatric Morale Scale (PGCMS; Lawton, 1972) | 22 items (reduced to 15) questionnaire, response format YES/NO. Two-half reliability .79, internal consistency .81, test–retest reliability .80. Concurrent validity with instruments assessing well-being (correlations. .47 to .80). |
| | Geriatric Depression Scale (GDS; Yesevage, Brink, Rose et al., 1983) | 30 items questionnaire, response format Yes/No. A cut-off 11 sensitivity 84% (classified correctly depressive elders) and a 95% specificity. |
| | Perceived Control (Pearlin & Schooler, 1978) | 13 items (7 EC, 6 IC) rating scale (4); results come from the EXCELSA-P Study (Fermández-Ballesteros, Zamarrón, Rudinger, et al., 2004). It is very sensitive to age, Alpha coefficient run from .82 to .53. High test–retest reliability. Internal control subscale predicts competence. |
| | Ways of Coping Checklist (Short form) Folkman & Lazarus, 1996). | Checklist scales, individuals respond to each item on a four-point Likert scale, indicating the frequency with which each strategy is used classified in the following: confrontive, distancing, self-controlling, seeking social support, accepting responsibility, escape–avoidance, planful problem solving, positive reappraisal. Reliability across subscale scores ranged from .60 to .75. Factors related to this variability were age and format of administration. |
| Social Relationships | Lubben Social Networks (Lubben, 1988) | 27- item scales, assessing family, friend networks and confidence, caregiving and general intimacy. High test–retest reliability (.78), subscales internal consistency and predictive power of competence (Fernández-Ballesteros, Zamarrón, Rudinger, et al., 2004). |
| | Convoys of social relationships (Antonucci & Akiyama, 1995) | An open instrument collecting those social networks individuals place in a close-distance dimension. Convergent validity between respondents and significant others. |

*Continued*

**Table 17.1.** *Continued*

| *Assessed dimension* | *Selected instruments* | *Content and psychometric information* |
|---|---|---|
| Environmental resources | The Housing Enabler (Iwarsson, 1999) | This instrument is a reliable assessment tool of the accessibility of the housing environment and the immediate outdoor environment. Interrater reliability. Kappas for the different domains assessed run .68 to .87. |
| | The Multiphasic Environment Assessment Procedure (MEAP; Moos & Lemke, 1996) | Assessed residential setting through five subscales (physical and environmental features, policy and organizational characteristics, residents and personnel characteristics, social climate dimensions, and rating scales). Fernández-Ballesteros (1996) added three more dimensions (residential satisfaction, needs, environment–behavior interactions). Internal consistency of the subscales runs from .99 through .47. Interrater reliability runs from .99 to .69. Norms for USA and Spain residential facilities (respectively by Moos and Lemke, 1996, and Fernández-Ballesteros , 1996.) |
| | Checklist for Evaluating Residential Factors (Morese & Wisocki, 1991) | A simple instrument that contains three domains: Physical environment (9 items), social environment (5 items), and mobility (3 items). No psychometric data are provided. |
| Quality of life | World Health Organization Quality of Life Scales (WHOQOL, 1993) | The World Health Organization has produced a generic quality of life questionnaire (WHOQOL-100), together with an abbreviated version of 26 items (WHOQOL-BREF) assessing five domains: Physical and mental health, social relations, and environmental conditions. Preliminary data suggest that the WHOQOL-BREF provides a valid and reliable alternative providing data about its sensitivity to change. |
| | Quality of Life Inventory (QOLI; Firsch, 1994) | QOLI is a questionnaire assessing subjectively 15 domains: Health, self-esteem, goals and values, money, work, play, learning, creativity, helping, love, friends, children, relatives, home, neighborhood, and community. Domain internal consistency runs from .62 to .79. Concurrent validity with measures of several personality traits and well-being. |
| | Schedule for Evaluation of Individual Quality of Life (SEIQoL; Browne et al., 1994) | SEIQoL is an idiographic instrument which allows the individual to nominate and weight those domains of greater relevance for his/her quality of life. Several samples arrive to different domains. |
| | Cuestionario Breve de Calidad de Vida (CUBRECAVI; Fernandez-Ballesteros & Zamarrón, 1996a, 2007) | A screening questionnaire assessing the following nine domains of QoL: physical and mental health (subjectively and objectively), functional abilities, social integration (social network, and social satisfaction), activity and leisure, environmental quality, life satisfaction, social and health services (use and satisfaction), education, and income. There are questions to allow the individual to weight all these domains. The manual provides data about internal consistency (.92 to .47), construct validity, and sensitivity to intervention programs and norms for Spanish elders as well as for other elders from Latin America. Also, there are data about the influence of impression management. |

develop skill in tailoring assessments to accommodate older adults' specific characteristics and contexts."

Thus, an important aspect of assessment in old age is that it should contain both idiographic examination of some of the individual psychological functioning and, also, nomothetic assessment for making comparisons between the subjects and a normative sample of older adults. In both cases, geropsychologists have to examine carefully the quality of the adaptation of the materials and norms to older adults. Table 17.1. also provides data on which instruments have norms and which are idiographic instruments. It is also important to emphasize that some standard instruments do not have norms but are criterion-based. For example, as is shown in Table 17.1., the MMSE has a cut-off for screening mental impairment; because mental status is strongly related to education, this cut-off is at least partially education-based.

In summary, geropsychological assessment can be idiographically or nomothetically based but the assessor should always take into consideration the appropriateness of the instrument for the older adult assessed.

3. *Interaction of assessor-assessed.* Behind any geropsychological assessment (as any other type of assessment) is the interaction between the assessor and the assessed. This interaction is governed by at least two conditions: (a) the stereotypes and wrong beliefs the assessor has about the aged, and (b) the specific historical and concurrent conditions in the assessed individual.

As stated in APA Guideline 2, "Psychologists are encouraged to recognize how their attitudes and beliefs about aging and about older individuals may be relevant to their assessment and treatment of older adults, and to seek consultation or further education about these issues when indicated." Several studies have pointed out that negative appraisal of age, aging, or the aged acts on the individual as a threat (e.g., Schooll & Sabat, 2008), but negative stereotyping also has an effect on the assessor who can make wrong inferences by attributing dysfunctions to age rather than to (modifiable) environmental factors (e.g., Fernández-Ballesteros, Bustillos, Huici, & Caprara, 2006).

Also, since there is usually a cohort distance between the assessor and the client, some of the clients' historical characteristics may be neglected by the assessor. For example, the assessor needs to be aware that the older client could have low primary education, or be less habituated to a psychological consultation, and unaccustomed to being assessed. Also, the assessor has to take into consideration physical conditions (such as a need for help with hearing or vision) before starting the assessment sessions.

## The process of assessment, intervention, and evaluation

As has been pointed out by the European Association of Psychological Assessment (EAPA) Guidelines for the Assessment Process (GAP; Fernández-Ballesteros et al., 2001), psychological assessment is a long process of decision making and solving problems starting when a given person/institution (client) asks a certified

psychologist a question about a subject/single case. This question can involve operations such as description, classification (or diagnosis), prediction, or intervention.

Although some authors use "assessment" and "evaluation" as interchangeable terms, Cronbach (1990) has emphasized that assessment refers to an individual (or group of individuals), whereas, by contrast, evaluation is concerned with treatments or interventions. In the common evaluation literature, there are general recommendations about how to select sensitive, efficient, reliable, and valid targets for evaluating change (dependent variables) and which are the most suitable designs (e.g., Nezu & Nezu, 2008). Here, three main recommendations regarding treatment evaluation in old age are emphasized: (1) The use of multiple measures and multiple informants. Usually older adults are assessed through rating scales filled out by professionals in clinical settings without taking into consideration observations made by relatives in natural settings or self-reports by the older adult. In order to neutralize the variance due to method, multiple measures from multiple informants (including the older person) must be taken. (2) "Maturation" is an important threat for treatment validity in older adults. As Campbell and Stanley (1966) pointed out, "maturation" (in our case it could be "involution") is one of the internal validity threats defined as changes in participants due to time (age) and confounded with treatment. The intervention and change process may take a long time; additionally, positive changes expected in older adults after a given treatment can be attenuated by time (due to age-associated or illness-associated declines), which may lead to the erroneous conclusion that treatment has had no effects. (3) In common practice, use of a multiple-baseline design can help target multiple measures coming from multiple informants assessed across time.

## Key issues in assessment

Wahl and Lehr (2004) thoroughly described a number of factors that must be taken into consideration when older persons are assessed. Also Fernández-Ballesteros, Reig, and Zamarrón (2008) described some problematic issues. Let us summarize those that are most important:

1. The use of multidimensional, multilevel, multimethod instruments is a necessary strategy in geropsychological assessment;
2. Older adults have less experience with testing than younger adults such that more time needs to be allowed. Also, instruments not prepared for older population should be avoided, particularly when age norms are necessary but are not provided;
3. Performance tests which require (speeded) motor behavior or other strongly age-related conditions should be avoided (when they are not the target for assessment);
4. When a very old adult cannot fill out a questionnaire, it never should be filled out by their relatives; rather, the information can be collected by interviewing the older adult. (Data about the nonequivalence of protocols administered through self-report and through interview are provided by EXCELSA results; Fernández-Ballesteros, Zamarrón, Rudinger et al., 2004);

5. A response format using Likert-type scales should be simplified as much as possible; reliability is increased when no more than 3–4 point rating scales are provided;
6. Fatigue and motivational and emotional aspects should be carefully taken into consideration throughout the assessment process; the elderly tire quickly and their attention may drift;
7. Assessors must consider that social desirability or impression management are response biases of high frequency in older populations (Fernández-Ballesteros & Zamarrón, 1996); and
8. A major theoretical-methodological challenge in psychological assessment is construct equivalence; for example, depression or quality of life may be not the same at different ages. Idiographic assessment may be preferable in some cases.

## Behavioral Interventions

Only a few studies have analyzed the overall prevalence of psychiatric morbidity in the elderly, and the prevalence varies depending on the assessed age groups and the methods of assessment. Overall psychiatric morbidity, usually implying the need for professional help, affects about 20 to 25% of persons aged 65 and older. For example, in a study of people aged over 70 years, Wernicke, Linden, Gilberg, and Helmchen (2000) found that 18.8% of the older adults suffered from insomnia, 13.8% were affected by dementia, 4.8% by major depression, 4.2% by anxiety disorders, and 2% by dysthymia. Other psychiatric diagnoses, such as schizophrenia, were less common. We will focus on psychological interventions for the four most prevalent psychiatric disorders and summarize their effects with the help of meta-analyses.

### Nonorganic sleep disorders

Between 9% and 19% of older adults report sleep difficulties on a persistent basis (Wernicke et al., 2000), and the prevalence of insomnia increases with age. Insomnia may take the form of poor sleep quality or lack of restful sleep, reduced duration of sleep, problems falling asleep, or waking repeatedly through the night. Chronic sleep disturbance may lead to disturbances in mood, energy, and performance during the day, and it is associated with declines in quality of life and health functioning such as increased risk for cardiovascular disease.

A meta-analysis by Irwin, Cole, and Nicassio (2006) of 23 randomized controlled studies supports the effectiveness of behavioral interventions for the treatment of insomnia. The strategies used in behavioral treatments were heterogeneous, including relaxation practice, stimulus control that renews the association of bed and bedtime stimuli with sleep rather than sleep-competing activities, sleep restriction by limiting the time spent in bed, cognitive-behavioral therapy that changes dysfunctional beliefs about sleep that lead to emotional distress and further sleep problems, and instruction on "sleep hygiene" about the impact of lifestyle habits on sleep. The meta-analysis found moderate to large effects of behavioral treatments on sleep quality (improvement of $d = .76$ standard deviation units), sleep latency ($d = -.50$), and wakening

after sleep onset ($d$ = −.64). Different types of intervention (cognitive-behavioral treatment, relaxation, behavioral interventions only) revealed similar effects. Similar improvements in the outcome measures were shown in adults and older adults 55 years of age and older. Thus, the authors concluded that behavioral interventions constitute an important part of the arsenal of efficacious interventions for patients with chronic insomnia.

## Cognitive decline/dementia

It has been estimated that nearly one quarter of all Americans over age 65 may suffer from memory loss and mild cognitive impairment, with increases of about 10 additional percent for every 10 years of age after age 65 (Unverzagt et al., 2001). Many older adults with cognitive decline will develop Alzheimer's disease and other forms of dementia. For example, in Western Europe, rates of dementia increase from 0.9% in 60–64-year-olds to 24.8% in those aged 85 years and older (Ferri et al., 2005; ILCE-Merk, 2006).

Cognitive training and cognitive rehabilitation are methods that aim to help people with mild cognitive impairment and early-stage dementia make the most of their memory and residual cognitive capacity. Training programs are guided by the assumption that practice has the potential to improve, or at least maintain, cognitive functioning in a given domain. They involve guided practice on sets of tasks that reflect particular cognitive functions, such as memory, attention, or problem solving, which can be done in a variety of settings and formats. However, a meta-analysis of nine randomized studies on the effects of cognitive training with patients with early stages of Alzheimer's disease or vascular dementia found, on average, no significant positive effects of cognitive training (Clare & Woods, 2008). There were also no significant negative effects, such as frustration or depression of the trained older adult. It remains open whether insufficient practice (frequency, intensity, and duration) may explain the lack of significant effects or whether some gains resulting from intervention may not be captured adequately by standardized outcome measures. Because only nine studies could be included in the meta-analysis, more research is needed for testing whether positive training results may be found under specific conditions.

Reality Orientation (RO) is a psychological intervention aimed at reducing confusion and inappropriate behaviors in people with dementia. It operates through the presentation of orientation information (e.g., time-, place-, and person-related), and it is usually applied in residential or inpatient settings. The level of cognitive demands of RO can be adapted to the cognitive abilities of the participants. Reality orientation has been divided into (a) a 24-hour informal format and (b) a classroom or group format. The informal format depends on continuously available environmental cues and memory aids such as clocks, calendars, newspapers, door labels, and incidental conversations that support orientation. The classroom format involves groups of about 6 people with similar levels of cognitive function, meeting for 30–60 minutes, 3–5 times weekly, with one or two facilitators focusing on specific orientating tasks. A meta-analysis of 6 controlled randomized studies showed that classroom RO used for older people with dementia has a moderate statistically significant beneficial effect on measures of basic cognitive abilities ($d$ = .59) and reducing behavior problems

($d$ = .64; Spector, Davies, Woods, & Orrell, 2000). Unfortunately, there are still insufficient data on whether improvement is sustained over longer time intervals.

Recent advances in the development of interventions for people with mild to moderate levels of dementia combine aspects of reality orientation and cognitive stimulation into Cognitive Stimulation Therapy (CST) which involves 14 sessions of themed activities, typically run twice a week over a 7-week period. CST has shown significant benefits in cognition and participant-rated quality of life when compared against a no-treatment control group. However, the initial cognitive improvements following CST were only sustained at 4-months follow-up when the initial CST was followed by a program of maintenance CST sessions (Spector, Woods, & Orrell, 2008).

Available data indicate that demanding cognitive trainings are more adequate for reducing age-associated cognitive decline in healthy older adults than in adults with dementia. Cognitive trainings with healthy older adults have shown small to moderate improvements even at 5-year follow-ups, although training-related gains were specific to the trained abilities (Willis et al., 2006). Less cognitively demanding interventions, such as RO and CST, have positive short-term effects on cognitive functioning of dementia patients, but, given the progressive cognitive decline in dementias and Alzheimer's disease, training effects may be difficult to sustain over longer periods.

## Depression

Depression is one of the most common mental disorders in advanced age. Estimates of the point prevalence of major depression in community-dwelling older adults range from 1.5 to 5%. In addition, minor depression and dysthymia are present in about 10% of older adults (Hendrie, Callaham, & Levitt, 1993; Lyness, Caide, King, Cox, & Yeodino, 1999). Depressive conditions contribute to medical illness and disability in later life, increase risk of institutionalization, and amplify risk for all-cause mortality and suicide (for an overview, see Blazer, 2002).

A recent meta-analysis of 57 controlled psychological intervention studies with clinically depressed older adults (60 + years; $n$ = 1,956 treated patients) showed that after controlling for nonspecific change in control group members, self-rated depression improved by $d$ = .84 and clinician-rated depression improved by $d$ = .93 (Pinquart, Duberstein, & Lyness, 2007). Effect sizes were large for cognitive and behavioral therapy (CBT; $d$ = 1.06) and reminiscence ($d$ = 1.00), and medium for psychodynamic therapy ($d$ = .76), psychoeducational interventions ($d$ = .70), and supportive interventions ($d$ = .57). However, interpersonal therapy had only very small and nonsignificant effects on depression in older adults. Interestingly, age differences in treatment effects were not observed. Weaker effects were found in samples of physically ill or cognitively impaired patients and in patients with major depression as compared to less severe forms of depression. The data indicate that major depression might be relatively more difficult to treat with psychotherapy than other forms of depression, perhaps due to the presence of more chronic or severe symptoms (Pinquart, et al., 2007).

A comparison of psychotherapy and pharmacotherapy showed similar efficacy in studies that included only patients with major depression (clinician-rated depression: $d$ = .96 and $d$ = .79). The effects of psychotherapy on clinician-rated depression were

even stronger than pharmacotherapy in studies that included patients with minor depression or dysthymic disorder ($d$ = 1.18 vs. $d$ = .66; Pinquart, Duberstein, & Lyness, 2006).

## Anxiety disorders

Although anxiety disorders are less common in the elderly than in younger adults, estimates of the point prevalence in community-dwelling older adults range from 1% to 19% (US Department of Health and Human Services, 1999). General Anxiety Disorder (GAD) is the most common anxiety disorder in older adults, with prevalence rates of about 5% (Flint, 2005). Other anxiety disorders, such as phobic disorders (.7 to 7%) and panic disorder (0.1 to 1%), are less common (Flint, 1994). Anxiety disorders have been related to disability (DeBeurs et al., 1999) and steeper declines in memory performance (DeLuca et al., 2005). In addition, there is considerable comorbidity of geriatric depression and anxiety disorders.

A comparative meta-analysis of 32 studies of treatments focused on anxiety disorders in older adults ($n$ = 2,484) receiving psychotherapeutic/behavioral interventions or pharmacotherapy showed similar levels of reduction in anxiety symptoms in both behavioral interventions and pharmacotherapy, when controlling for nonspecific change in the control group ($d$ = .80 and $d$ = .83; Pinquart & Duberstein, 2007). However, when analyzing absolute levels of improvement, greater reductions of anxiety symptoms are found in pharmacotherapy than in behavioral interventions ($d$ = 1.76 vs. $d$ = .81). Intriguingly, in the control groups, greater reduction in anxiety was found in pill-placebo control groups (used in pharmacological interventions) than in waiting-list control groups (used in psychotherapeutic studies)—perhaps reflecting biased expectations for forms of treatment. Treatment effects did not differ between CBT and other behavioral interventions. Positive treatment effects of pharmacological and behavioral interventions were maintained at the follow-up. Contrary to the belief that older patients would benefit less from treatments than younger patients, the observed effect sizes of pharmacological and behavioral interventions were similar, or even larger, than those reported in meta-analyses of studies conducted on younger patients.

In summary, the meta-analyses provided clear evidence that psychotherapeutic and other behavioral interventions are efficacious in reducing insomnia, depressive symptoms, and anxiety symptoms in older adults. Cognitive interventions have been found to improve the trained cognitive abilities in healthy older adults, but there is not enough evidence from high-quality studies for a benefit from cognitive training for patients with early stages of dementia. The present findings suggest that for minor clinical depression not meeting the criteria for major depression, psychotherapy should be preferred over pharmacotherapy. Because psychotherapeutic and pharmacological treatments were similarly effective for major depression, treatment choice should be based on contraindications, availability of psychotherapy in the community, and treatment preferences of the older adults or their guardians. As long as there are no medical contraindications and contradicting patient preferences, pharmacotherapy might be recommended over behavioral interventions for the treatment of anxiety disorders in old age, although behavioral interventions are a satisfactory alternative

in most circumstances. We conclude that old age is no contra indication against using effective psychotherapeutic treatment; intervention effects do not wane with increasing age, at least in the age range of 60 to 80 years.

## Prevention and Promotion

As pointed out earlier, broad variability can be found in the ways people age; usually, they are classified as "usual," "pathological," and "successful" aging by authors. The balance between both positive and negative changes across life span leads to the diversity of forms of aging; if we keep in mind a standard distribution shape, "usual" (or normal) age could be defined as the average functioning of the older individual at physical, psychological, and social levels, "pathological" and "successful" (or optimal) aging would be located at the two sides of this distribution. But what percentages of older adults may be assigned to these three categories?

Successful aging is defined through a set of bio-psycho-social criteria: good health and physical conditions, high cognitive and emotional functioning, and social participation and involvement (Rowe & Kahn, 1989; Fernández-Ballesteros, 2008). Nevertheless, not all researchers have defined successful aging with similar indicators. Peel, McClure, and Bartlett (2005) reviewed those cross-sectional and longitudinal empirical studies on successful aging that identified percentages of successful aging. Although the proportion of people aging successfully will depend on the definition of successful aging used in a particular study, an average of 25% (range 49% to 12.7%) of individuals can be identify as "successfully aging"; that is, about one fourth of the participants of empirical studies on successful aging are aging well (for a review see Fernández-Ballesteros, 2008).

Pathological aging has been defined as poor health, and/or physical disability, and/or deficit in the activities of daily living (both basic and instrumental), all with a need for care. If data about dependency in the elderly are examined, about 25% of adults older than 65 suffer from such disabilities (see, e.g., Manton & Gu, 2001). Obviously, prevalence depends on individual differences in age, education, SES as well as national differences in socio-economic trends (education, health protection system, etc.).

If, as noted in the preceding paragraphs, 25% can be classed as "successfully aging" and 25% classed as "pathologically aging", it can be estimated that about 50% of older individuals can be placed in the "usual" category, defined as people who rate their health, and physical and psychosocial functioning as average by several bio-psycho-social indicators. Finally, these proportions of successful, usual, and pathological aging are in agreement with the distribution of older people reporting "very good or fairly good," "average," and "fairly poor or poor" health (see, e.g., Ferrucci, Heikinnen, Waters, & Baroni, 1995).

Any policy on aging must increase the proportion of successful agers by reducing the prevalence of dependency in old age. At population level, the objective of any healthy or active aging promotion program must be evaluated through population indicators, looking for increasing healthy life expectancy and disability-free life expectancy, and reducing disability rate and disability-phase life expectancy (Jaegger,

**Table 17.2.** Negative Conditions Associated with Aging, Medical Problems and Illnesses, and Behavioral Preventive or Protective Factors

| *Negative psychological conditions* | *Examples of behavioral preventive or protective factors* | *Medical problems and illnesses* | *Examples of behavioral preventive or protective factors* |
|---|---|---|---|
| Low physical fitness | Aerobic exercise, weight control, not smoking | Blood pressure, CVD, peripheral diseases | Exercise, diet, stress control, not smoking |
| Low mobility, flexibility, balance | Stretching, flexibility & balance exercise | Osteoarticular diseases | Exercise, diet, weight control |
| Low reaction time, speed | Training | Dementia | Lifelong education, cognitive, sociocultural activities<br>Aerobic exercise |
| Decline in intelligence and memory | Lifelong education, cognitive activities<br>Cognitive & memory training<br>Aerobic exercises | Depression and anxiety | Social skills training<br>Pleasant activities<br>Cognitions |
| Low control, negative self-stereotypes | Improving control and self-efficacy for aging | Inmuno- neuro-psychological system regulation | Stress control and coping<br>Positive emotions |
| Social isolation, anxiety, and sadness | Social skills training<br>Promoting pro-social behaviors, Social networks<br>Pleasant event and coping trainings | Cancer | Diet, not smoking |

*Source:* Fernández-Ballesteros, 2008, based on Fries, 1989

Matthews, Matthews, Robinson, & Robine, 2007). In fact, Marin and Zaidi (2007) collected a series of indicators to assess the Second International Plan of Action on Aging (United Nations, 2002).

WHO has developed a set of policy guidelines that formalize action recommendations on the life-style and behavioral factors we have noted in the text and in Table 17.2.

## Promoting healthy aging and preventing dependency

As has been pointed out by WHO (2002), from a life course perspective, the process of aging well starts from birth and continues throughout infancy, adolescence, and adulthood. Health, physical and functional capacity, cognitive capacity, and emo-

tional and social relationships increase in childhood and peak in early adulthood; on average, these peaks are followed by a slow decline. The rate of decline, however, is dependent upon factors related to lifestyles, schooling, selected profession, intellectual and cultural activities, coping with stressful situations, social participation, etc. All of these factors provided by the environment (from a physical, cultural, and political point of view) and selected by the individual, can contribute to health and a good life throughout the aging process. If individuals do not optimize their development across their life span, they are at higher risk for disability in old age caused by different types of morbidity (stroke, diabetes, dementia, and/or social isolation, etc.).

Life-long health promotion programs have to be complemented with other programs during adulthood and old age. Thus, several *prevention programs* have been developed and implemented to improve medical and geriatric care in institutional health services based on: (1) the prevalence of most common diseases in old age and their repercussion in mortality (life expectancy) and disability (disability life expectancy), and (2) the risk of or protective factors for those more prevalent diseases and negative conditions. Several health promotion programs have been implemented to promote health behaviors and prevent prevalent diseases. Up to now, almost no integrative meta-analyses are available on the effects of such prevention and behavioral health promotion programs in old age. Meta-analysis of the effects of exercise interventions on functional status outcomes yielded modest but statistically significant effect sizes for functional performance and physical performance but not for activities of daily living (Gu & Conn, 2008).

Although there are evaluation studies looking at the efficacy, effectiveness, and efficiency of health promotion and illness prevention programs (such as "Community Healthy Activities Model Program for Seniors" or "Multiple Risk Factor Intervention programs," e.g., Clark, Nigg, Greene, Riebe, & Saunders, 2002; Li, Zhang, He, & Zhang, 2001; Moe et al., 2002; Toobert, Strycker, Glasgow, Barrera, & Bagdale, 2002), there are not yet any clear conclusions about their effectiveness and long-term effects on health and quality of life. Regarding health promotion and illness prevention programs, usually called "psychosocial interventions"—based on the relationships between healthy habits and disease—Syme has noted that "to develop more effective prevention programs, we will have to train a new generation of active aging experts who can not only provide people with risk information but also work with them as partners in achieving mutually agreed upon goals" (Syme, 2003, p. 400). Geropsychologists should participate as experts in the task of developing and evaluating new health promotions and illness preventions programs; in fact they *are* experts both in changing behaviors and in evaluating change.

## Promoting active and productive aging

Positive or successful aging does not mean only long and healthy life, but also active and productive life; as Glass (2003, p. 282) said: "It refers to the capacity to function across many domains, including cognitive, social and emotional … envisioning exceptional functioning as possible."

As has been mentioned, healthy and active aging implies a life-long process. Baltes and Baltes (1990) formulated a psychological theory and definition of successful aging defining it as the process of selective optimization with compensation (SOC).

The SOC theory predicts that, across one's life span, a positive developmental trajectory might maximize growth (gains) minimizing decline (losses). Selection, optimization, and compensation are processes behind the promotion of human growth, development, and successful aging; for example, through selecting physical activities the individual optimizes his or her sensory-motor repertoires, through reading and writing the individual reaches the highest level of linguistic skills, involvement in social contexts usually increases social skills and high participation. Also, when losses occur, as expected in old age, they can be compensated through new training or new strategies for solving difficult problems and situations (see Freund & Baltes, 2007).

Since WHO (2002) published the booklet *Active ageing*, several programs entitled "active ageing" have been implemented at community level, for example, the "California Active Aging Project" (Hooker et al. 2005; Hooker & Cirill, 2006), "Active For Life" (AFL), "Active Ageing South Australia," and the "Active Ageing European Union Policy." Also, several electronic information and self-help books are available on the internet or published (e.g., Bond et al., 1995; Fernández-Ballesteros, 2002; Fries, 1989; Rowe & Kahn, 1998); other multimedia programs such as "Vital Ageing" have been developed (for a review, see Fernández-Ballesteros, 2005, 2008).

After a review of these programs, it can be concluded that most of them consist of the promotion of physical exercise and its consequences on social relationships and participation; only one program (the European Union "Policy on Active Ageing") refers to workplace/employment, and only one ("Vital Ageing") takes into consideration several domains for promoting successful aging, including the cognitive. Finally, very few of these programs have been evaluated. It is concluded that much more evaluative research must be conducted. Geropsychologists need to be involved in the development, implementation, and evaluation of much more comprehensive multidimensional programs to promote active aging and prevent disability during old age.

## Caregiving

The increase in life expectancy has led to a growing number of older adults being in need of help and personal care. The majority of this support is provided by informal caregivers, who are in most cases spouses and adult children. Almost everyone is involved in caregiving at one time or another, and over half are likely to provide 20 hours or more care per week at some point in their lives (Hirst, 2002).

Providing care for a frail older adult is a stressful experience that may erode the psychological well-being and physical health of caregivers. In a meta-analysis, caregivers reported higher levels of symptoms of distress ($d$ = .43 standard deviation units) and of depressive symptoms ($d$ = .37), lower levels of positive psychological well-being ($d$ = .19), and slightly lower levels of physical health ($d$ = .09) than noncaregivers (Pinquart & Sörensen, 2003a). Providing care to demented adults is especially stressful; larger differences were found between caregivers of dementia clients and noncaregivers than between caregivers of physically impaired adults and noncaregivers (Pinquart & Sörensen, 2003a). In has been reported that 20–50% of dementia caregivers themselves suffer from clinical depression (Zarit & Femia, 2008).

Care recipients' behavior problems show stronger associations with caregiver outcomes than other stressors. In addition, higher levels of care provision and greater physical impairments of the care recipient are associated with higher levels of caregiver sense of burden and depression (Pinquart & Sörensen, 2003b). Furthermore, experiencing the suffering of a chronically ill family member may have an independent effect on the psychological health of other family members, even if they do not provide care (Schulz et al., 2008).

Given the high levels of psychological distress in informal caregivers, several forms of intervention have been developed and evaluated. Psychologists are actively involved in the development and application of most of these forms of interventions, and the following paragraphs will focus on these programs.

Interventions most often focus on (a) reduction of the level of objective stressors (e.g., reducing symptoms in the care recipient or the amount of support provided), (b) reduction of psychological distress (e.g., caregiver burden and depression), (c) increasing the resources of the caregiver (e.g., coping abilities, self-efficacy, availability of social support), and (d) delay of institutionalization. Some interventions have also included other goals, such as improving the quality of family ties or promoting the positive health-related behaviors of caregivers.

A meta-analysis on the effects of 127 controlled intervention studies with informal dementia caregivers has been published (Pinquart & Sörensen, 2006).

This chapter reports a number of updates based on 154 studies with 15,519 caregivers in the intervention condition and 14,136 caregivers in the control condition. The effect sizes in these updates, reported below, control for non-specific change in the control group.

1. Cognitive-behavioral therapy (CBT) with caregivers focuses on identifying and modifying caregiving-related beliefs, developing a new behavioral repertoire to deal with caregiving demands, and fostering activities that may promote the subjective well-being of the caregiver. CBT has the strongest effect on caregiver depression ($d = -.91$ standard deviation units) and caregiver burden ($d = -.46$).
2. Psychoeducational interventions are the most often applied interventions for caregivers. They focus on the structured presentation of information about the illness of the care recipient and caregiving-related issues, and they may or may not include active participation of participants (e.g., role playing, applying new knowledge to individual problems). These interventions have the strongest effect on caregiver knowledge and perceived abilities ($d = .72$). However, only the active—but not the passive—psychoeducational interventions reduce caregiver burden ($d = -.16$) and depression ($d = -.39$).
3. Interventions targeted at reduction of symptoms (e.g., behavior problems) and at increasing the competence of the care recipient (e.g., training of cognitive abilities) were expected to have an indirect effect on psychological distress of caregivers. Although they did have a small significant effect on symptoms of the care recipient ($d = -.36$), the hoped-for effect on caregiver depression and burden could not be shown.
4. Compared to the other forms of intervention already discussed, supportive interventions are less structured. For example, they may be organized as a

professionally led support group or as a self-help group. In this kind of intervention, caregivers learn that other caregivers have similar problems and how others deal with their problems. A meta-analysis showed that these interventions do not have significant effects on any outcome variables (Pinquart & Sörensen, 2006). Although the empirical base for the present analysis is small, supportive interventions cannot be recommended as an intervention of choice.

5. Finally, multicomponent interventions combine the above components, but also add nonpsychological aspects (e.g., a center-based day-care program that offers congregate care for a certain number of weekly hours). Only multicomponent interventions were found to reduce the risk for institutionalization (Risk ratio *RR* .51), but effects on other outcomes were less clear.

6. As a tool for evaluating the practical effects of the interventions, we compared the elevated levels of distress and depression of caregivers in comparison to noncaregivers to the observed intervention effects. For example, the difference between levels of depressive symptoms of dementia caregivers and noncaregivers is about $d$ = .65 standard deviation units (Pinquart & Sörensen, 2003a). As cognitive-behavioral therapy resulted in a decline of depressive symptoms of $d = -.91$, we can conclude that this form of intervention reduced the level of depressive symptoms of caregivers below the level that could be expected in noncaregivers. Results were less positive for symptoms of distress (elevated symptoms: $d = .85$; reduction of symptoms: $d = -.46$), but these numbers are difficult to compare because most intervention studies used caregiving-specific measures of symptoms of distress whereas nonspecific measures had to be used when comparing caregivers to noncaregivers. Nonetheless, despite practically meaningful effects, psychological interventions are not able to eliminate all caregiving-specific stressors so that very large declines in caregiver burden are unlikely to be found.

Fewer applied psychological studies have focused on formal caregivers. Behavioral observation studies by Margaret Baltes (1996) found that formal caregivers of older adults actually reward dependent behavior on the part of care recipients and most often ignore—or even punish—independent behavior. Thus, dependency among elderly care recipients is often learned.

An intervention program aimed at changing the behavior of formal caregivers was developed and evaluated. Caregivers learned how to promote independent self-care behaviors. Note that the intervention has been applied to older adults whose dependent behavior could not be explained by physical illnesses or dementia. Intervention research showed that the training of the formal caregiver increased independence–supportive behavior. In addition, changes in caregiver behavior were associated with an increase in independent self-care behavior of the older adults, although they could not completely eliminate dependent behavior (Baltes, 1996).

In summary, interventions targeted at reducing the psychological distress of caregivers, improving competence in coping with caregiving demands, and reducing symptoms and promoting competence of care recipients are an important concern within applied geropsychology. Future work with informal caregivers should provide flexible interventions that screen for needs and preferences of the caregivers and

match the offered components to their needs. For example, because the majority of caregivers are not clinically depressed, many caregivers will not need cognitive-behavioral interventions that are based on the principles of depression therapy, but they may need other interventions, such as respite.

## Concluding Remarks

The rapid increase in the absolute numbers and proportions of older adults creates a growing need for applied geropsychology. This has several implications.

First, geropsychology should become a regular topic in training at Bachelor level in the field of psychology. In addition, courses at Master level should include information on aging-related topics in applied fields (e.g., psychological assessment and evidence-based interventions with older adults in programs of clinical psychology; age-associated change in performance and motivation of older workers in programs of industrial and organizational psychology). Recommendations for the integration of aging-related topics into teaching undergraduates in different fields of psychology (Whitbourne & Cavanaugh, 2003) and in clinical geropsychology in particular (Hinrichsen & Zweig, 2005) have been published.

Second, as assessment and intervention research has shown that applied geropsychology provides significant contributions of practical value for the physical and mental health, cognitive abilities, emotional motivational and psychosocial functioning, physical competence, and quality of life of older adults in general. Interventions shown as effective should be made available to all older adults in need. Adaptations may be needed according to the cultural conditions of each country. Given the fact that controlled randomized studies often find stronger intervention effects than in ordinary practice (e.g., due to restricted inclusion criteria and highly motivated therapists), we need research on the effectiveness of interventions with older adults in their daily routine.

Third, whereas the effects of several kinds of interventions have been well demonstrated in some areas (e.g., cognitive-behavioral interventions with depressed older adults, anxious older adults, and caregivers), more efforts are needed in developing and evaluating effective behavioral interventions in the fields of cognitive impairment, prevention, and health promotion. Evaluations have to include the assessment of long-term effects.

Fourth, an analysis of the training for and application of geropsychology in Europe showed a large degree of heterogeneity between countries. Whereas applied geropsychology was well established in some countries, few if any psychologists were trained for working with older adults in others (Pinquart et al., 2007). The heterogeneity would probably be much larger if other continents were included. Thus, efforts are needed to decrease this gap by establishing applied geropsychology as an important field of applied psychology in all countries across the globe.

Fifth and finally, guidelines for defining the expertise necessary for working with older adults and their families and for evaluating competencies at both the generalist and specialist levels, should be developed and approved at an international level.

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