GEROPSYCHOLOGY: A REVIEW OF STUDIES REGARDING BEHAVIORAL AND PSYCHOLOGICAL EFFECTS OF AGING

Shkelqim Osmani

University of Shkodra "Luigj Gurakuqi" / Faculty of Educational Sciences / Department of Psychology and Social Work - Albania

E-mail: shkelqimosmani1@gmail.com

Geropsychology is a branch of psychology that seeks to address the concerns of older adults. Cognitive, behavioral, and developmental changes throughout the human lifespan are a major focus in many fields of psychology. However clinical psychologists often have limited training on the unique challenges of older adulthood, increasing the importance of a field focused on meeting those challenges. The history of geriatric psychology can be written from two viewpoints. The ''externalist'' approach focuses on the social and political variables that have controlled attitudes towards abnormal behavior in old age, and on the professionalization of those charged with the care of the mentally infirm elderly. Interest in the health and well-being of the elderly has existed since antiquity; over the centuries some remarkable observations were made regarding the health, the mental changes, and the care of the elderly. Some explanations were offered for age changes that were reasonable and some were fanciful, limited by existing scientific knowledge. Mental disorder, depression, anxiety, and age-related illnesses all increase the need for older adults to seek psychological care from geropsychologists. Geropsychology encourages older adults to live full lives well into their senior years by providing psychotherapies and interventions to treat a variety of disorders, aging concerns, and challenges. A systematic literature review was conducted from lots of recent studies. This paper will explore the development of geropsychology as a branch of psychology up to date. As the elderly population in developed countries is increasing rapidly in the years to come so is the need to offer a better understanding of their needs, in order to be able to help those senior citizens to improve their quality of life, and benefit from a gratifying and enjoyable time.

Key words: *Geropsychology, elderly, depression, quality of life*

Introduction

Geropsychology is a field within psychology devoted to the study of aging and the provision of clinical services for older adults. As researchers, geropsychologists expand knowledge of the normal aging process and design and test psychological interventions that address problems that commonly arise as people age. As health care practitioners, psychologists help older persons and their families overcome problems, enhance well-being, and achieve maximum potential during later life.

Ageing As Seen During The The History

Like most other aspects of human life, ageing has also been portrayed in terms of metaphors. Classical views, following the nature—nurture controversy, conceived of ageing as resulting from either internal instructions or from the buffeting of foreign factors[1]. Across times and cultures great ambiguity has existed in regard to the treatment of old folk. Fortunately, a realistic acceptance seems to have predominated although there is plenty of evidence of hostility. The Hebrew tradition, and indeed its Christian offshoot, encouraged much reverence towards the wisdom and value of old age. But even in societies which have made great play of this view, veneration has been reserved for those in positions of power or influence[2]. Little is known about attitudes towards elderly women or old men in humbler stations[3]. J. M. Charcot, who in 1868 offered a series of 24 lectures on the diseases affecting the elderly[4]. Charcot dedicated Lecture 1 to the ‘‘general characters of senile pathology’’, Charcot’s own contribution was based on the general principle that ‘‘changes of texture impressed on the organism by old age sometimes become so marked, that the physiological and pathological states seem to merge into one another by insensible transitions, and cannot be clearly distinguished’’.

It is against this background that the history of the language and concepts dedicated to understanding mental disorders in the elderly must be understood. In addition to these neurobiological frameworks, a psychological theory that explained the manner of the decline was required. Such a psychopathology was provided by the heuristic combination of associationism, faculty psychology[5], and statistics[6] that characterized the early and middle part of the nineteenth century. Yet another perspective, originating in clinical observation, was added during the 1830s. It led to the realization that, in addition to the well known forms of mental disorder, the elderly might exhibit specific forms of deterioration, and that these could be related to recognizable brain changes.

Over the centuries some remarkable observations were made regarding the health, the mental changes, and the care of the elderly. Some explanations were offered for age changes that were reasonable and some were fanciful, limited by existing scientific knowledge[7]. During the twentieth century, many biological and behavioral theories of aging have been advanced and tested, emphasizing that aging is a multidimensional phenomenon.

---

[1] Grant RL. Concepts of aging: an historical review. Persp Biol Med 1963; 6: 443–78.
[2] Cicero. De Senectute, De Amicitia, De Divinatione. Translated byWA Falconer, London: Loeb, 1923.
[3] Kastenbaum R, Ross B. Historical perspectives on care. In Howells J, ed., Modern Perspectives in the Psychiatry of Old Age. Edinburgh: Churchill Livingstone, 1975, 421–49.
[4] Charcot JM. Clinical Lectures on Senile and Chronic Diseases. Translated by William S Tuke. London: The New Sydenham Society, 1981.
[5] Berrios GE. Historical background to abnormal psychology. In Miller E, Cooper PJ, eds, Adult Abnormal Psychology. Edinburgh: Churchill Livingstone, 1988, 26–51.
[6] Birren JE. A brief history of the psychology of ageing. Gerontologist 1961; 1: 69–77.
[7] Busse FW, Blazer DG. The future of geriatric psychiatry. In Busse FW, Blazer DG, eds, Geriatric Psychiatry. Washington, DC: American Psychiatric Press, 1989, 671–95.

Although the term ‘‘gerontology’’ has been around for many years, the term ‘‘geriatrics’’ was not coined until 1914 by Nascher. In that year he published the book Geriatrics. The Diseases of Old Age and Their Treatment[8]. He observed that chronic brain syndrome was likely to be familial and he believed that it was an accelerated primary aging process that was influenced by heredity. Seven years prior to Nascher, Alzheimer published his landmark report, which described what is now known as Alzheimer's disease and is sometimes referred to as ‘‘the disease of the century’’[9].

The psychopharmacological approach is currently the dominant treatment for mental and emotional symptoms in elderly people. Psychotropic medications often reduce or eliminate symptoms, but do not alter the cause of the disorder. Consequently, very critically needed and exciting opportunities for research lie ahead for the geriatric psychologists. Because of the possible multiple etiology of many disorders of late life, it is highly likely that the geriatric psychiologists will have to have a broad knowledge base and therapeutic skills including the use of medications, psychotherapeutic techniques, and procedures to reduce risks inherent in the socioeconomic status and environment.

It is unfortunate that in 1905 Freud expressed the view that patients ‘‘near or above the fifties’’ were not suitable subjects for psychoanalysis[10]. For many years, this undoubtedly affected therapists' attitudes towards all psychotherapy for the elderly. Fortunately, a number of prominent psychoanalysts challenged this Freudian view and reported psychotherapeutic success with older patients[11]. Beginning in the mid-twentieth century, a number of psychotherapeutic techniques were described and clinically evaluated for their effectiveness. Some are particularly applicable to the elderly psychiatric patient and include both behavioral and cognitive forms of psychotherapy. In Europe and North America psychotherapeutic approaches have been successfully used for elderly outpatients with depression and/or hypochondriasis.

General Theories Of Aging

There is no satisfactory composite theory of aging, but numerous theories have been advanced to explain how and why living organisms age and die[12]. Given the multidimensionality of human beings, many theories of aging, some familiar and some overlapping, have been developed. Theories of aging are usually grouped by biological, psychological, or sociological sciences. A comprehensive review of theories of aging is beyond the scope of this review. However, the selected theories that are to be reviewed are particularly relevant to the psychiatry of old age.

Depending on the discipline, the phenomenon of aging takes on different definitions. Biologic aging is made up of a number of undesirable processes. There are multiple processes of aging that result in a decline in efficiency of the organism and end in its death. Aging, particularly in the psychosocial sciences, often includes a desirable process of maturation, that is, acquiring a desirable quality such as wisdom.

[8] Nascher IL. Geriatrics: The Diseases of Old Age and Their Treatment. Philadelphia, PA: Blakistons, 1914.
[9] Reisberg B. Preface. In Resiberg H, ed., Alzheimer's Disease. New York: The Free Press (Macmillan Inc), 1983
[10] Freud S. On Psychotherapy. In Collected Papers, Vol 1. London: Hogarth. First published 1905; reprinted 1949.
[11] Abraham K. The applicability of psycho-analytic treatment to patients at an advanced age. In Abraham K, ed., Selected Papers of Psychoanalysis. London: Hogarth, 1949.
[12] . Busse EW, Blazer DG. The theories and processes of aging. In Busse EW, Blazer DG, eds, Handbook of Geriatric Psychiatry. New York: Van Nostrand Reinhold, 1980, 3–27.

The Biological Theories Of Aging

Biological theories of aging can be broken down into two broad categories: the developmental genetic theories (primary aging) and the stochastic theories (secondary aging processes)[13]. Primary aging refers to those declines in function that are genetically controlled, while secondary (stochastic) aging consists of random changes resulting from acquired disease and trauma. If the hostile events related to secondary aging could be prevented, life would be extended but, because of primary aging, decline and death are inevitable.

Miller provides a working definition of aging as follows: ‘‘Aging is a process that converts fit adults into frail adults with a progressive increased risk of illness, injury and death’’[14]. He favors as an explanation for aging the existence of a single aging clock. This aging clock is in turn linked to many of the observed biological clocks that are seen in both humans and animals.

The autoimmune theory of aging was proposed by Burnett, Walford and Comfort. It was suggested that a small number of immunologically competent cells may mutate in such a fashion as to lose their tolerance to their host antigen and subsequently give rise to a clone of ‘‘renegade’’ cells[15], producing antibodies that might result in death or damage in a large number of cells, including neurons. ‘‘Anti-brain antibodies’’ are believed to be related to neuronal injury in senile dementia of the Alzheimer type.

Psychological Theories Of Aging

Psychologists have accumulated a wealth of information regarding mental stability and change in late life. As in biology, this information has not been integrated into a viable comprehensive theory. The main areas that have been studied by psychologists can be placed in three broad categories: cognition, personality and coping mechanisms.

Cognitive Psychology

The term ‘‘cognition’’ subsumes the range of human intellectual functioning[16]. Cognition is to perceive, to remember, to reason, to make decisions, to solve problems and to integrate complex knowledge. Measures of various types of cognition are influenced by chronological age, environment, task characteristics and other influences. With advancing age, individual differences in cognitive functions seem to increase. In general, adults with high intelligence and education will show minimum decline in their performances with increasing age, while a significant decline is observed in adults with lower intelligence and age. However, older adults in general tend to perform less well in new or novel situations[17].

Loss of memory is a common complaint of old age and has received considerable attention by psychologists. There are several theoretical models of memory functioning. Such theories attempt to define various stages of information processing. Often attempts are made to distinguish short-term from long-term memory. Other theorists talk about primary, secondary and tertiary memory.

---

[13] Cristofulo VJ. An overview of the theories of biological aging. In Birren JE, Bengtson VL, ed, Emergent Theories of Aging. New York: Springer, 1988, 118–27.

[14] Miller RJ, Kleemeier A. Are there genes for aging? J Gerontol Biol Sci 1999; 54: B297–307.

[15] . Rennie J. The body against itself. Sci Am 1990; 263(6): 106–15.

[16] Siegler IC, Poon IW. The psychology of aging. In Busse EW, Blazer DG, eds, Geriatric Psychiatry. Washington, DC: American Psychiatric Press, 1989.

[17] Siegler IC, Poon IW. The psychology of aging. In Busse EW, Blazer DG, eds, Geriatric Psychiatry. Washington, DC: American Psychiatric Press, 1989.

Research on intellectual functioning has been under way for many years and has been productive. Intellectual performance seems to be strongly influenced by physical health. However, patterns of stability and change across the life cycle vary according to the ability that is being measured[18]. Perlmutter[19] crystallizes the issue of psychological change and stability by positing a ‘‘multiprocess phenomenon conception’’, as opposed to Baltes’ ‘‘dual process phenomenon conception’’ of development followed by decline. Perlmutter sees decline as neither inevitable nor universal and says that some cognitive skills may improve or may be acquired as one ages. However, as one reaches the point of ‘‘terminal drop’’[20], which is a curvilinear decline related to the distance of death rather than old age itself, there will be a decline in intellectual functioning. Schaie’s[21] stage theory of adult cognitive development attempts to formulate four cognitive stages in sequence. The first stage in childhood and adolescence is ‘‘acquisitive’’, which is followed by the ‘‘achievement’’ stage in young adulthood, then by the ‘‘responsible and executive’’ stage in the middle-aged individual, and finally the ‘‘reintegrative’’ stage in old age. The shift is translated essentially from ‘‘What should I know?’’ to ‘‘How should I use what I know?’’ to ‘‘Why should I know?’’

Personality Theories

Thomae and Lehr[22] have proposed an antistage theory of aging, where personality, development and adjustment are affected by the historical events throughout the life cycle. This theory is in partial conflict with the eight-stage theory of Erikson[23], which is a stage theory of ego development through the life cycle, culminating with the stage of maturity, as the elderly person may find either ego integrity through satisfaction with his past life, or despair and disgust over past failures. Bortwinick[24] has noted increasing cautiousness with advancing age, with the degree of cautiousness being influenced by the type of problem and its timing. Okun et al.[25] point out that cautiousness is not strictly an age effect, but that differences can be attributed to cohort influence.

According to Neugarten and Gutman[26], people maintain their personality characteristics in late life. When personality changes occur, they appear to be related to losses, particularly those involving health and social support systems. Some sex differences are noted; men are more affiliative and more nurturant, women are more individualistic and more aggressive as they become older. Costa and McCrae[27], in their literature review on personality stability throughout the life cycle, also report that series of longitudinal studies show stability of personality traits in adulthood. The variables studied have included anxiety, introversion, conservatism, irritability or apathy.

[18] Siegler IC, Poon IW. The psychology of aging. In Busse EW, Blazer DG, eds, Geriatric Psychiatry. Washington, DC: American Psychiatric Press, 1989.
[19] Perlmutter MI. Cognitive potential throughout life. In Birren JE and Bengston VL, eds, Emergent Theories of Aging. New York: Springer, 1988, 249–68.
[20] Kleemeier R. Intellectual changes in the senium. Proc Soc Stat Sect Am Stat Assoc, Washington, DC, 1962, 290–5.
[21] Schaie KW. Toward a stage theory of adult cognitive development. Int J Aging Hum Dev 1977; 8: 129–33.
[22] Thomae H, Lehr U. Stages, crises, conflicts and life-span development. In Sorensen AB, Weinert FE, Sherrod LR, eds, Human Development and the Life Course: Multidisciplinary Perspectives. Hillsdale, NJ: Erlbaum, 1986, 429–44.
[23] Erikson EH. Identity and the life cycle. In Psychological Issues, I. New York: International Universities Press, 1959, 120.
[24] Botwinick J. Cautiousness with advanced age. J Gerontol 1966; 21: 347–53.
[25] Okun MA, Siegler IC, George LK. Cautiousness and verbal learning in adulthood. J Gerontol 1978; 33: 94–7.
[26] Neugarten BI, Gutmann DL. Age–sex roles in personality in middle age: a TAT study. In Personality in Middle and Later Life. New York: Atherton, 1964, 44–89.
[27] Costa PT Jr, McCrue RR. The case for personality stability. In Maddox GL, Busse EW, eds, Aging: The Universal Human Experience. New York: Springer, 1987

Social Theories Of Aging

Broadly, the sociological theories of aging can be broken down into those that examine the relationship of the older person to society and those that study the role and status of the elder. In their disengagement theory, Cumming and Henry[28] claimed that the withdrawal of the elderly from their previous societal roles with reduction in all types of interaction, essentially a shift of attention from the outer world to the inner world, was desirable and helped the elderly to maintain life satisfaction. With their exchange theory of aging, Homans[29] and Blau[30] also suggested that elderly people withdrew from social interaction. Ongoing social exchanges had become more costly in old age and therefore less rewarding. In contrast to the disengagement theory, the activity theory[31] proposed that activity contributes to health and life satisfaction.

Undoubtedly, the selection of activities to be pursued by the elderly is limited by the decline that accompanies aging. However, remaining active is felt to be good for the elderly. Neugarten and Gutman[32] sought a compromise in the continuity theory, by noting that older adults tend to behave in a pattern established in their earlier life as they cope and make adaptive choices. At times the person may disengage and at other times remain active. Atchley[33] felt that the continuity theory was an illusive concept because aging produces changes that cannot be completely offset, so that there is no going back to a prior state.

Age and sex stratification provide different perspectives about aging by looking at different age and sex groups with different roles and expectations. As each group moves through time, it responds to changes in the environment[34].

Normal And Pathological Ageing

The word ‘‘normal’’ is used to refer to what is statistically normal, that is within the average range. The range can vary somewhat, say from the middle 50% of a normal distribution to perhaps the middle 80%, depending upon one’s purpose. The word is also used to refer to prototypical members of a category, members with characteristics that best exemplify the category as a whole. The word is used to refer to what is socially prescribed and expected, such as the usual forms of appearance and behavior for a given occasion in a community. Another usage refers to a standard pattern or sequence of events that have a high probability of occurrence, such as impairment of vision and hearing in later life.

With regard to human ageing, the word ‘‘normal’’ is used in all the above senses, depending upon the context. In professional gerontology, however, the phrase ‘‘normal ageing’’ usually implies the existence of a contrasting condition or process.

Difficulties arise because normal ageing and pathological ageing are conceptually interdependent. The main historical landmark in attempts to distinguish between them was the publication of Korenchevsky’s Physiological and Pathological Ageing[35]. Korenchevsky drew attention to the fact that some physiological functions in some elderly human subjects were

[28] Cumming EH, Henry WE. Growing Old: The Process of Disengagement. New York: Basic Books, 1961.
[29] Homans GC. Social Behavior: Its Elementary Forms. New York: Harcourt Brace Jovanovich, 1961.
[30] Blau PM. Exchange and Power in Social Life. New York: Wiley, 1964.
[31] Havighurst R. Successful aging. In William R, Tibbitts C, Donuhue W, eds, Processes of Aging. New York: Atherton, 1963.
[32] Neugarten BI, Gutmann DL. Age–sex roles in personality in middle age: a TAT study. In Personality in Middle and Later Life. New York: Atherton, 1964, 44–89.
[33] Atchley RC. A continuity theory of normal aging. Gerontologist 1989; 29(2): 183–90.
[34] Palmore E. Social Patterns in Normal Aging: Findings from the Duke Longitudinal Study. Durham, NC: Duke University Press, 1981.

[35] Korenchevsky V. In Bourne GH, ed. Physiological and Pathological Ageing. New York: Karger, 1961.

equal to or superior to those of chronologically younger subjects.
Psychological research into sensorimotor and cognitive performance often reveals that some elderly subjects perform as well as or better than the average younger subject.
On the basis of evidence that some individuals show relatively little physiological impairment with age, at least until late life, Korenchevsky inferred the existence of primary (non-pathological) ageing. On the basis of evidence that other individuals show substantially greater than average impairment earlier in adult life, he inferred the existence of secondary (pathological) ageing. These two inferences, however, are simply two versions of the same argument, namely, that ageing is characterized by wide differences between individuals. If we plot the distributions of scores on physiological or psychological functions for several age groups in a cross-sectional study, we often find considerable overlap between even widely spaced age groups. If the distributions of performance scores for the same respondents at different ages in a longitudinal study are compared, we usually find that individuals tend to retain their position (rank order) relative to other respondents. A minority, however, show decline relative to their position at earlier ages. These are the people who appear to exhibit pathological ageing. Thus, individual differences in normal ageing tend to be maintained, even though there is a decline with age, on average, over the period studied. These differences are brought about by various causes, including genetic characteristics, life-history events, life styles and environmental conditions.
Even among the community-dwelling elderly, there are wide variations in physical and mental health and wide variations in such things as living conditions, social support, stress and coping strategies and health. In a multicultural society, the range of differences between individuals at later ages is likely to be very wide. The process of normal ageing is a social as well as a biological process. That is to say, society prescribes or normalizes various stages in the life cycle, so that there are typical ages for the completion of full-time education, marriage (or sexual partnership), parenthood, occupational status and retirement. Such arrangements may change from one generation to the next. This, together with secular changes in health, longevity, life styles and so on, make the concept of ‘‘normal ageing’’ a moving target.
Flynn has reported substantial secular (cohort) effects on measures of intelligence[36]. Consider how the contraceptive pill and hormone replacement therapy have changed the life styles of women. Consider also how drugs, AIDS, migration and economic factors may affect ageing in sections of the population. These are technical issues for demography and epidemiology.
It is possible to demonstrate general age trends and effects. For example, the sex difference in longevity is well established; there is a differential decline in fluid and crystallized psychological abilities; anatomical and physiological functions have their characteristic normal patterns of change with age. There are some similarities between the normal (common) effects of ageing and the effects of pathologies such as Alzheimer’s disease, as shown by neurological and psychological tests. These trends and effects are compatible with the view that ageing is the result of a multiplicity of causes. They are not proof that there are two sorts of ageing: pathological and normal (non-pathological)[37]. On the other hand, there is the question of whether senile dementia of the
The argument in favour of the notion that there are two sorts of ageing—normal and pathological—is supported by evidence that people suffering from identifiable pathologies, such as cancer, heart disease or diabetes, have reduced life expectations and are functionally less

[36] Flynn JR. Massive IQ gains in fourteen nations: what IQ tests really measure. Psychological Bulletin 1987; 101: 171–91.
[37] Bromley DB. Behavioural Gerontology: Central Issues in the Psychology of Ageing. Chichester: John Wiley, 1990.

competent in some respects (see van Boxtel et al.[38]). Moreover, some of these disorders are age-related; some, such as Simmonds' disease, mimic the normal (usual) effects of ageing. Individuals who survive to a late age do not have a history of such disorders. The difficulty with this argument is that it is circular: pathological conditions are conditions that increase the likelihood of functional impairment and death; conditions that increase the likelihood of functional impairment and death are pathological. If an adverse effect commonly associated with age is not attributable to pathology, then, by definition as it were, it is ''normal''. If the underlying cause is identified, it is then labeled ''pathological''. Diseases can be regarded as concepts rather than entities (unless a cause can be found), in which case the distinction between normal and pathological ageing is a matter of definition, not an empirical issue. The empirical issue is how to identify and deal with the many age-related causes of impairment, regardless of whether they affect many people or just a few. In order to demonstrate the existence of pathological ageing (as distinct from pathologies that increase functional impairment and the probability of death), we would need to show stepwise discontinuities in age trends, or departures from the ''normal'' distribution of differences in performance. Stepwise discontinuities and bimodal distributions are not common in the sorts of samples recruited for cross-sectional or longitudinal research in ageing.

Defining pathology in terms of a marked deviation from normal function means that the cumulative adverse effects of ageing eventually become pathological relative to standards for younger people but not older people—hence the view that there are many normal old people but few healthy ones!

Improvements in living conditions, diet, exercise and medical treatment have the effect of extending the average span of life, and so have the effect of redefining what we mean by normal and pathological ageing[39]. The distinction between the ''young old'', and the ''old old'' is now well established. Normal ageing can be taken to mean that set of intrinsic age-related effects that characterizes the adult life of people who occupy the middle ground of a distribution of age at death, or that characterizes and explains the average elderly person's functional competence.

Pathological ageing can be taken to refer to the intrinsic agerelated effects that characterize people who die relatively young, or who perform well below comparable people of the same age, as a consequence of these effects.

Conclusion

Normal ageing can be defined as a cumulative process of adverse changes in physiological, psychological and social functions that, in a general way, characterize average members of successive older cohorts of adults. This process is at present irreversible and to some extent predictable, but it produces a wide range of differences between individuals in age of onset and rate of change. To a limited extent, people can retard and ameliorate these adverse changes.

Normal ageing is a ''socially constructed'' concept, referring to an accepted range of variation in the health, appearance and performance of adults at different ages. It is also a ''scientifically constructed'' concept, referring to research findings in gerontology and other disciplines. Gerontologists find the concept of pathological or abnormal ageing useful in identifying

[38] Stoller EP. Interpretations of symptoms by older people. A health diary study of illness behavior. J Aging Health 1993; 5(1): 58–81.

[39] Verbrugge LM. Longer life but worsening health? Trends in health and mortality of middle-aged and older persons. Milbank Mem Fund Qu/Health Society 1984; 62: 475–519.

exceptions to and deviations from the normal pattern, but the distinction between normal and pathological ageing remains problematical.

REFERENCES

1. Grant RL. Concepts of aging: an historical review. Persp Biol Med 1963; 6: 443–78.
2. Cicero. De Senectute, De Amicitia, De Divinatione. Translated byWA Falconer, London: Loeb, 1923.
3. Kastenbaum R, Ross B. Historical perspectives on care. In Howells J, ed., Modern Perspectives in the Psychiatry of Old Age. Edinburgh: Churchill Livingstone, 1975, 421–49.
4. Charcot JM. Clinical Lectures on Senile and Chronic Diseases. Translated by William S Tuke. London: The New Sydenham Society, 1981.
5. Berrios GE. Historical background to abnormal psychology. In Miller E, Cooper PJ, eds, Adult Abnormal Psychology. Edinburgh: Churchill Livingstone, 1988, 26–51.
6. Birren JE. A brief history of the psychology of ageing. Gerontologist 1961; 1: 69–77.
7. Busse FW, Blazer DG. The future of geriatric psychiatry. In Busse FW, Blazer DG, eds, Geriatric Psychiatry. Washington, DC: American Psychiatric Press, 1989, 671–95.
8. Nascher IL. Geriatrics: The Diseases of Old Age and Their Treatment. Philadelphia, PA: Blakistons, 1914.
9. Reisberg B. Preface. In Resiberg H, ed., Alzheimer's Disease. New York: The Free Press (Macmillan Inc), 1983
10. Freud S. On Psychotherapy. In Collected Papers, Vol 1. London: Hogarth. First published 1905; reprinted 1949.
11. Abraham K. The applicability of psycho-analytic treatment to patients at an advanced age. In Abraham K, ed., Selected Papers of Psychoanalysis. London: Hogarth, 1949.
12. Busse EW, Blazer DG. The theories and processes of aging. In Busse EW, Blazer DG, eds, Handbook of Geriatric Psychiatry. New York: Van Nostrand Reinhold, 1980, 3–27.
13. Cristofulo VJ. An overview of the theories of biological aging. In Birren JE, Bengtson VL, ed, Emergent Theories of Aging. New York: Springer, 1988, 118–27.
14. Miller RJ, Kleemeier A. Are there genes for aging? J Gerontol Biol Sci 1999; 54: B297–307.
15. Rennie J. The body against itself. Sci Am 1990; 263(6): 106–15.
16. Siegler IC, Poon IW. The psychology of aging. In Busse EW, Blazer DG, eds, Geriatric Psychiatry. Washington, DC: American Psychiatric Press, 1989.
17. Siegler IC, Poon IW. The psychology of aging. In Busse EW, Blazer DG, eds, Geriatric Psychiatry. Washington, DC: American Psychiatric Press, 1989.
18. Siegler IC, Poon IW. The psychology of aging. In Busse EW, Blazer DG, eds, Geriatric Psychiatry. Washington, DC: American Psychiatric Press, 1989.
19. Perlmutter MI. Cognitive potential throughout life. In Birren JE and Bengston VL, eds, Emergent Theories of Aging. New York: Springer, 1988, 249–68.
20. Kleemeier R. Intellectual changes in the senium. Proc Soc Stat Sect Am Stat Assoc, Washington, DC, 1962, 290–5.
21. Schaie KW. Toward a stage theory of adult cognitive development. Int J Aging Hum Dev 1977; 8: 129–33.
22. Thomae H, Lehr U. Stages, crises, conflicts and life-span development. In Sorensen AB, Weinert FE, Sherrod LR, eds,
23. Human Development and the Life Course: Multidisciplinary Perspectives. Hillsdale, NJ: Erlbaum, 1986, 429–44.
24. Erikson EH. Identity and the life cycle. In Psychological Issues, I. New York: International Universities Press, 1959, 120.
25. Botwinick J. Cautiousness with advanced age. J Gerontol 1966; 21: 347–53.
26. Okun MA, Siegler IC, George LK. Cautiousness and verbal learning in adulthood. J Gerontol 1978; 33: 94–7.
27. Neugarten BI, Gutmann DL. Age–sex roles in personality in middle age: a TAT study. In Personality in Middle and Later Life. New York: Atherton, 1964, 44–89.
28. Costa PT Jr, McCrue RR. The case for personality stability. In Maddox GL, Busse EW, eds, Aging: The Universal Human Experience. New York: Springer, 1987
29. Cumming EH, Henry WE. Growing Old: The Process of Disengagement. New York: Basic Books, 1961.
30. Homans GC. Social Behavior: Its Elementary Forms. New York: Harcourt Brace Jovanovich, 1961.
31. Blau PM. Exchange and Power in Social Life. New York: Wiley, 1964.
32. Havighurst R. Successful aging. In William R, Tibbitts C, Donuhue W, eds, Processes of Aging. New York: Atherton, 1963.
33. Neugarten BI, Gutmann DL. Age–sex roles in personality in middle age: a TAT study. In Personality in Middle and Later Life. New York: Atherton, 1964, 44–89.
34. Atchley RC. A continuity theory of normal aging. Gerontologist 1989; 29(2): 183–90.
35. Palmore E. Social Patterns in Normal Aging: Findings from the Duke Longitudinal Study. Durham, NC: Duke University Press, 1981.
36. Korenchevsky V. In Bourne GH, ed. Physiological and Pathological Ageing. New York: Karger, 1961.
37. Flynn JR. Massive IQ gains in fourteen nations: what IQ tests really measure. Psychological Bulletin 1987; 101: 171–91.
38. Bromley DB. Behavioural Gerontology: Central Issues in the Psychology of Ageing. Chichester: John Wiley, 1990.
39. Stoller EP. Interpretations of symptoms by older people. A health diary study of illness behavior. J Aging Health 1993; 5(1): 58–81.
40. Verbrugge LM. Longer life but worsening health? Trends in health and mortality of middle-aged and older persons. Milbank Mem Fund Qu/Health Society 1984; 62: 475–519.