# Abstracts

## Cognitive Psychology — Patrick Rabbitt

Martin Conway, Gillian Cohen and Nicola Stanhope, 'On the very long term retention of knowledge acquired through formal education: twelve years of cognitive psychology'. *Journal of Experimental Psychology (General)*, **120**, 4 (1991), 395–409.

Among the most interesting questions about human memory that all intelligent people vainly ask of psychologists are: can we retain information that we do not continually rehearse? Do memories entirely disappear unless we continually replay them or does information once firmly acquired only gradually deteriorate even though it may seldom if ever be recalled? Can we retain, or revive, in later life skills which we learned when we were young, but have never practised since? Are there qualitative differences between the types of information we forget, and that we retain?

Laboratory-bound experimental psychologists have evaded these important issues because to answer them we need to test people's recall of large bodies of systematic information which they acquired many years ago and have seldom used since. Harry Bahrick and associates (e.g. Bahrick 1979, 1983, 1984; Bahrick, Bahrick and Wittlinger 1975; Bahrick and Phelps 1987) were the first to overcome these problems by studying very long-term retention of such bodies of formally acquired information as Spanish learned at school or university. Bahrick's most general conclusion was that a rapid loss over the first few years eventually asymptotes and no further decline occurs. Bahrick termed this basal level of recall the 'permastore'. The choice of word is not merely ornamental, and is perhaps even cunning, because it smuggles the innuendo that after some time the neurological substrate of memory may somehow become 'set' in a way that stops further change. Neisser (1984) offered an alternative, less physiologically loaded, explanation that 'permastore' memories were robust because they represented a residue of 'schemata', or dynamic procedures, which allowed people to reconstruct events, relationships and scenarios. If this is the case, 'permastore' memories should be qualitatively different from material that has been forgotten. They should be memories of procedures, or linked concepts, and not memories for particular details. This is the

point that Conway, Cohen and Stanhope test, with the unique advantage of help from a large and keen body of former students of the Open University who have read cognitive psychology and been examined in it over the last ten years (125 months). Because of the nature of this particular course, Conway *et al.* were able separately to test recall of, on the one hand, names of theories, psychologists and technical terms and, on the other, concepts and their relations. The wide age distribution of OU students also allowed them to ask another question, of particular interest to readers of this journal: do the characteristics of long-term memory remain unaltered throughout the lifespan or do people forget faster as they grow older, so that the 'permastore' becomes less permanent, either because of changes in the brain, or because efficient selection between procedures and concepts on the one hand, and details on the other, begins to be lost? Further, because students' examination results were on record, they were able to evaluate recall in terms of the level of initial knowledge, to ask the question whether the rate at which they forgot cognitive psychology material was inversely proportional to how much of it they once knew.

Their findings broadly replicate and extend Bahrick's. Names were forgotten faster than concepts, reaching a lower asymptote in 29 as against 39 months. A contrast that will astound any teacher of psychology who has laboured against students' intellectual difficulty with and aesthetic distaste for problems of methodology, is that recall of research methodology showed no decline at all, remaining at 30% above chance throughout the ten-year recall interval. Slightly adapting Neisser's hypothesis, Conway, Cohen and Stanhope take this as evidence for schema theory; schemata 'do not represent detailed knowledge, but rather... knowledge abstracted from sets of experiences... e.g. encounters with various sets of concepts in different contexts such as laboratory reports, different parts of the course material and so on. This makes them different from material such as proper names which, as Cohen (1990) has argued, may lack semantic associates and so are not part of the semantic knowledge network'.

Open University psychology lecturers who are astounded and gratified at the long-term retention of unpopular methodology will be smugly pleased that their examination gradings weakly, but positively and significantly, predicted duration of subsequent recall. A much more provocative and theoretically interesting finding is that people's levels of confidence in how accurately they had recalled material was much less strongly determined by their overall objective success than by the time since they had taken the course, and by their current ages. People expect to forget things that they learned a long time ago and,

sadly, the aged expect to be unreliable. They may have reason. Conway *et al.* find some slight but significant decline in recall in students aged over 60 years and fear that this may be the first solid evidence for that most debatable of all cognitive changes in later life: 'age-specific memory impairment'.

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## Economics of care

**Paul Plant**

K. Liu, T. D. McBride and T. A. Couglin. Costs of community care for disabled elderly persons: the policy implications. *Inquiry*, **27** (1990), 61–72.

Interest has been expressed by the United States Congress in expanding long-term care services for the elderly. As part of the debate as to how this would be best done, issues of the definition of eligibility for programme benefits, expected participation among eligible persons, and the expected costs of programme participation have surfaced. One factor that will affect expenditures on any programme is the cost of providing community care services for disabled elderly people. This paper presents the results of analyses conducted to estimate the effects of the characteristics of this group, such as levels of physical and cognitive impairments, on community-based long-term care costs.

The data used by the authors were obtained from those collected by the Long-Term Chaneling Demonstration Project. This was a scheme that had set up case-management projects in 10 demonstration sites across the United States in 1982, to assess the eligibility of the disabled elderly for long-term community-based care services. As part of the evaluation, the impact that case management had on the types and amounts of services received by the people in the Project was investigated. Two different models of intervention were employed and evaluated by the Project. The first offered only case management and the second case management with enhanced service payments. Baseline data were collected on 6,000 people included as to their demographic characteristics, financial resources, living arrangements, health and functional status, level of cognitive impairment and the use they made of health and social services. During the course of the Project, which ended in 1985, additional information was collected on the use made of acute and long-term care service and the costs incurred in purchasing these services.

Unfortunately from a research perspective people initially screened for inclusion in the demonstration projects were not selected by random sampling. Instead they entered by initiating contact themselves, or by being referred by a formal provider organisation. Criteria for subsequent inclusion in the demonstration projects was based on the person having certain functional limitations, as measured by Activities of Daily Living (ADL). The nature of referral and the eligibility criteria suggested that those included in the programme were more likely to use formal community-based services than those who were not included.

Two categories of community-care costs were looked at by the project: medically oriented assistance and long-term care. The medical assistance included skilled nursing, therapy and home health care – which are generally covered by Medicare and Medicaid. Long-term care related to personal care services and housekeeping and as such was not covered by Medicare and Medicaid. An expected cost in dollars per day was calculated for all those living outside of institutions who were at risk of using community services and not just those in receipt of care.

As a result of there being a large percentage of people who did not receive care, the statistical analysis of the data was difficult. In order to overcome this a Tobit estimation technique[1] was used to look at the factors associated with differences in the costs that were incurred by the Project's participants. This showed that both the likelihood of receiving and the amount of money spent on personal care were significantly higher for women (an average expenditure of $6.56 per community day for women as opposed to $5.35 for men), older persons ($5.87 per

community day for those aged under 85 years as compared to $7.31 for those over 85 years) and persons living alone ($6.70 per community day for those living alone and $5.75 for those who were not), even after holding all other factors constant. Apart from the result for women, these findings are in line with what would be expected *a priori*. It was suggested, with respect to gender, that the higher level of service use by women could possibly be explained by men having greater access to an informal care giving network, and/or that women may be more accustomed to receiving and making arrangements for receiving personal care services.

The results demonstrated that the level of disability had a significant impact on a person's personal care costs: the greater the number of limitations on ADL the greater the cost incurred. For example, the average cost for a person with one ADL and mild, or no, cognitive impairment was $5.11, whereas the average for a person with 5 or 6 ADLs was $7.79. The presence of cognitive impairment had an incremental effect on the costs of personal care for people with any level of ADL dependency. Personal income and wealth were also not surprisingly found to be associated with service use. As expected costs were higher in the case management group, as compared to a control group, and higher still for those who received enhanced payments.

When the amount of money spent on medical home services was compared to that spent on personal care, it was found that the average respondent in the sample incurred $4.72 in costs per community day for medical home services and $6.23 per community day for personal care and housekeeping. Although medical care costs more per visit, the lower average medical cost can be explained by fewer visits per person. Although the very old (over 85 years) had higher personal care costs, they had lower medical costs than did people aged 65 to 84. People living alone were found to incur higher medical costs.

Once again average costs per person increased with disability; the effects of such being even more marked than with personal care costs. On average a person with one ADL cost $3.57 per community day and a person with five or six ADLs $7.65. Persons with severe or moderate cognitive impairment were *ceteris paribus* observed to have lower medical care costs. A possible explanation for this was that, given the Rcriteria for inclusion in the project, the people in the sample who were not cognitively impaired were so severely physically disabled that they were in greater need of skilled nursing and therapy services.

The similarities between the Chaneling Demonstration Project and community-based care programmes proposed by the United States Congress are discussed by the authors. Similarities include targeting benefits to persons with a prescribed number of ADLs and having case-

management as a service feature. The total costs of such programmes are calculated using their own cost data and prevalence estimates from the 1982 national Long-Term Care Survey. Results showing incremental use and costs resulting from new programme benefits are presented for each disability level. For example it is estimated that new benefits for persons with 2 or more ADLs would have cost around $8 billion in 1989. The conclusion reached from this analysis was that the incremental change in use and costs incurred was higher for the lower disability groups than it was for the higher ones.

**Comment**

This paper offers useful data on the use made of home care services in the USA, by elderly people who are disabled. The accuracy of the estimates presented do depend, however, on how representative the data derived from the Chaneling Demonstration Project were. Two points can be made in relation to this. As acknowledged by the authors the sample screened for inclusion into the Project was not randomly selected. Also little attention is paid to the nature of the case-management systems used in the Project and how this affected costs: if a national scheme employed no such systems, or different ones then the costs could differ.

An interesting point to note about this paper is that the perspective adopted is one of assessing the costs of the care demanded by, or on behalf of, the participants of the Chaneling Project. These costs are likely to differ from those associated with the cost of providing the care needed by elderly disabled people.

NOTE

1 G. S. Maddala (1982), *Limited and Qualitative Dependent Variables in Economics*. Cambridge University Press, Cambridge.

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## Sociology and social policy — John Bond

Sara Arber and Jay Ginn, The invisibility of age: gender and class in later life. *Sociological Review*, **39** (1991), 260–91.

Whereas social policy, particularly within social gerontology, has focused on the study of later life, sociology has almost entirely neglected

it. This article is a plea to sociologists to rectify this situation. From a social policy approach a number of writers have followed the prevalent perspective which views old age as a social problem (MacIntyre 1977). There has been a specific preoccupation with the idea that the ageing population creates a society of elderly people who are dependent or a burden on younger generations (Thane 1988).

Arber and Ginn examine three traditional areas of sociological enquiry with a view to suggesting reasons why later life has been neglected in recent years by sociologists: the distribution of resources within the household, the family, and class and stratification. As examples of sociological enquiry I find the first rather too specific and narrow for the purposes of this analysis although I recognise the paucity of sociological work which looks at the distribution of resources between generations.

Turning to the family we can identify a number of pioneering studies which have considered later life from a positive perspective (Townsend 1957; Young and Willmott 1957; Shanas *et al.* 1968). That this tradition has virtually disappeared is explained by the authors as the influence of feminism with its preoccupation with the position of younger women in the family, in the labour market and in other male-dominated walks of life. Elderly women, with a few exceptions, have been ignored by feminist sociologists. Feminist sociology, where it has studied later life, has focused on the caring role of younger women for elderly parents; an approach which reinforces the problem orientation of social policy perspectives on later life.

Turning to stratification theory, Arber and Ginn review studies of class and stratification and show that age is virtually ignored as a dimension of social stratification. The sociologists' preoccupation with the concept of class based on individuals' positions in the labour market has long been criticised for its classification of women, particularly of those not in paid employment, but less criticism has been forthcoming of this traditional approach to the analysis of the position of elderly people. Where the class position of older people has been studied, only proxy measures have been available. Usually, sociologists like social policy analysts have used income or pre-retirement occupation in the case of men and husband's pre-retirement occupation in the case of women. Thus the preoccupation in mainstream sociology with the male dominated public sphere of paid work, and therefore stratification based on class positions as determined by an individual's position in the labour market, continues to ignore later life.

There are a few notable exceptions but in general sociology continues to be selective, and the masculine bias which was responsible for sexism

in sociology is also responsible for ageism. Arber and Ginn conclude, however, that whereas feminism is an action-oriented perspective, gerontology is not, and sociologists are therefore likely to continue to ignore later life in their analyses. Such conservatism is likely to reinforce the dominant problem-oriented approach of social policy.

The article concludes with an agenda for sociological studies of later life.

- Elderly people as a resource to society
- Family relationships in elderly people's households
- Role of widowhood in later life
- Innovative developments in stratification theory
- Role of consumption in later life
- Life-course analysis in the study of leisure in later life

Gail Wilson, Models of ageing and their relation to policy formation and service provision. *Policy and Politics*, **19** (1991), 37–47.

We have seen how social policy perspectives tend to view later life as a burden or a problem. This article looks at this more closely in a discussion of models of ageing commonly held by policy makers and service providers. The author argues that many of the models which support the dominant social-problem perspective are maintained because they remain part of the *assumptive world* of policy makers. This term *assumptive world* has been used to describe our image or our perception of the environment in which we live (Young 1977). Thus because we are all continuously bombarded with the notion that old age and physical and mental decline are synonymous, policy makers and service planners can hardly avoid the conclusion that an increase in the number of elderly people represents a crisis.

Several models of ageing have been suggested. Wilson simplifies these by plotting chronological age against an estimate of social worth. In contrast to models derived in western cultures, the traditional Hindu model of ageing for men shows a positive correlation between social worth and chronological age – older men experiencing higher prestige than younger men. For older Hindu women, however, the more prevalent pyramidal model of western cultures is used to describe their experience of declining social prestige once past their family raising days. The experience of Hindu women more or less mirrors the experience of western women whose decline in social worth starts at an earlier chronological age than western men. It is proposed that the shape of the pyramid varies for men of different occupational

backgrounds with professional men traditionally enjoying greater social prestige into later life than men from the manual social classes.

Wilson joins a number of other writers who have attempted to challenge the hegemony of the pyramidal model. Demographers over the last two decades have increasingly voiced the opinion that the pyramid is becoming more rectangular (Fries and Crapo 1981). This theory proposes that the limit of human longevity is unlikely to extend beyond 115 years but that progress in health and welfare will delay the onset of disabilities which prevent independent living. There are some mortality data to support this hypothesis (Manton 1982) and it is increasingly evident from cross-sectional data that the stereotype of old age equating with disability is false. As Wilson points out, a number of general population surveys including the General Household survey report that there are a greater number of elderly people living independent lives at any one time than there are those who are frail and require the continuous support of others. Yet service providers and planners experience a different view of ageing. The old people that most nurses meet in a geriatric ward or nursing home are extremely frail; and those who are independent are the exception to their assumptive world. Thus the traditional model of service providers is one represented by a gradual decline in the physical and mental abilities of elderly clients. Their experience of another model of ageing, known as *terminal drop*, may be numerically quite high, but it will be the very frail survivors of chronic illness which will influence their perceptions about the general situation of elderly people.

*Terminal drop* assumes that most people have a large surplus of personal resources over and above the physical and mental capacities necessary to maintain independent living. Wilson argues that the terminal drop model is now the reality for the majority of old people. Unfortunately she provides few data to support this assertion although mortality trends and cross-sectional data indicate some support for this view. Only longitudinal community studies will provide conclusive evidence. In the meantime, it would help combat ageism and provide a more positive assumptive world for policy makers and service providers if these ideas were more widely discussed, since equally there is no conclusive evidence to suggest that we will all suffer from terminal dependency for substantial periods of our later lives.

Raymond Jack, Social services and the ageing population, 1970–1990. *Social Policy and Administration*, **25** (1991), 284–99.

This article shows how the assumptive world of policy makers and service providers underpins government policy. Jack shows how the fear of the crisis of the ageing population has been used to justify the Conservative Party's ideological return to residualism in social policy. In polarising the debate in social policy between residualism and universalism, the author does not deny the existence of a continuum but argues that the partnership model within the mixed economy has been used by residualists to undermine the universal welfare state and to promote a return to a residual welfare state. Much of the article uses quotations from Conservative politicians and ministers to illustrate this underlying ideological shift.

From Wilson's article we have already identified that the model of terminal drop challenges the assumptions of policy makers and service providers about the 'rising tide' (HAS, 1982) and 'demographic timebomb' (Thatcher, 1984). Jack summarises an alternative perspective which challenges these assumptions, as follows.

(i) Given the strong association between poor health and chronological age it is not surprising that elderly people are higher users of the health service than younger people. Similarly it is not surprising that young people are the major users of education services.

(ii) As Wilson pointed out, it is only a minority of elderly people who are disabled or who are high users of health services.

(iii) Service innovation and increased efficiency in service delivery can satisfy the health needs of elderly people without necessary recourse to increased resources as a proportion of society's wealth.

(iv) Improved medical intervention, health promotion and increases in the quality of life of the population are expected to influence the health of future generations of elderly people and therefore reduce the need for health and welfare services.

(v) Improved personal resources of future cohorts of elderly people will increase the ability of individuals to remain independent.

Much of this 'evidence' is speculation and I have particular doubts about the accuracy of the last two forecasts. Health and welfare needs may change as a result of medical and health interventions and increased personal resources, but so will people's expectations and their own assumptive worlds. Relative to other groups in society elderly people are likely to remain disadvantaged by illhealth and by less resources than younger people. However, the general direction of the cited evidence supports Jack's view that a Conservative government is likely to move towards a more residualist and less universal welfare state and

will increasingly adopt ageist arguments to deny the rights of elderly people to universal health and social care.

Chris Phillipson, Inter-generational relations: conflict or consensus in the 21st century. *Policy and Politics*, **19** (1991), 27–36.

A recent argument presented by supporters of residualism has been the view that inter-generational conflict has become part of our assumptive world. Phillipson summarises the basis of their argument as follows.

(i) Older people have been active in designing a welfare state which works largely for their own benefit.

(ii) Younger people now perceive this to be the case and are beginning to act as a generational group in opposing inequities in welfare resources.

(iii) The increasing numbers of elderly people will generate instability within the system.

(iv) The relative prosperity of elderly people in comparison with younger households undermines their rights to extensive welfare benefits.

This article reviews the likelihood that population ageing in the twentieth century will increase inter-generational conflict and reviews the evidence used to support the above arguments.

Elderly people form a heterogeneous group and, as Phillipson points out, if they indeed have been active in constructing a welfare state for their own benefit, it would be a rare example of an interest group forming an institution which actually entails a drop in their economic and social status. There is little evidence that older people are better off. The evidence suggests that it is middle-aged people who are generally better off than either 'younger' households or 'older' households.

Attitudes toward the welfare state remain as positive as ever and the British Social Attitudes Survey highlights the overwhelming support among all age groups for the policy of providing health and welfare support to elderly people. Where older generations have the resources there is considerable evidence to suggest that the younger generations are in receipt of financial assistance from older members of their families. As with elderly people, the younger generations are a heterogeneous group and there is little likelihood of them working together in political opposition to people from older generations.

The so-called burden of older people on western economies is one which is promulgated by residualists and those whose ideological

objective is the reduction in the public provision of welfare. One way of estimating this 'burden' is to calculate the proportion of people who could be economically active to those who are 'retired' or still in 'education'. Thus with a shift in the distribution of population there has been an increase in the proportion of the elderly population (65 years and over) compared to the working population (18–64 years). As many commentators have observed, the increase in the so-called 'burden' of the elderly population has had very little to do with the consumption of health and welfare resources. It has had more to do with the perverse incentives of government policy in relation to income support for residents in private nursing and residential homes, and to the high levels of unemployment during the 1980s. Phillipson compares the ratio of United Kingdom National Insurance contributors to pensioners, and shows that the ratio declines fairly slowly into the next century. It is not for thirty or forty years that a significant decline is expected. Major economic, social and political changes may take place before then which will have a much greater influence on the balance of resources between the generations. But perhaps what is most missed in the argument is the benefit that an ageing population may have for society. If they have resources, elderly people will be major consumers of goods and services and will create jobs for the producers among the younger generations. There is also increasing evidence that elderly people provide important services to society which do not appear in the costs and benefits balance sheet of proponents of the 'burden' thesis.

The final step in their argument suggests that elderly people are no longer disadvantaged and can therefore afford their own health and welfare needs. One in three people aged 65 years or over are still estimated to be in poverty (Walker 1990), and those who are relatively well off are paying through taxes for many of the services they consume.

Phillipson concludes this critical analysis of the view that conflict between generations over population ageing is prevalent in western countries by suggesting that we all challenge the assumptions behind the ways that dependency ratios are calculated and revise the way they are used in policy and practice. In planning for the twenty-first century we should be aware of the major cultural, political and social transformations which may change our assumptive worlds in the future.

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