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Can Psychology Contribute to the Mental Wealth of Nations?

PS4060 – 4th year Psychology Review Essay

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Matriculation Number: 08004555

Word count: 3968

Introduction

Issues such as a demographic age-shift, an increasingly competitive global economy, and technological advances are likely to be significant factors influencing the economic and social development of the UK in the next 20 years (Foresight Mental Capacity and Wellbeing project, 2008). One way to tackle these issues is to improve the nation's psychological resources, in turn increasing economic productivity. In 2008, the UK government published a study identifying barriers to improving "Mental Capital" and "Mental Wellbeing", and how they can be overcome (ibid, p.9). The report (<http://tinyurl.com/49jonm>) reviews a wide range of social, developmental, economic and medical issues.

Mental Capital is the mental capabilities and resources of an individual or group. Important aspects of this are cognitive ability and flexibility, as well as social skills and resilience to stress. All of these traits are highly desirable for individuals, companies, and governments, as people with these abilities are likely to be efficient and productive (Hough, 1990, Schmitt and Hunter, 1998; Murphy, 2008). Mental Wellbeing can be thought of in terms of personal fulfilment, the ability to develop and use their potential, and the ability to develop relationships with others. This gives individuals a sense of purpose, and may increase motivation and happiness in their work, personal, and social lives.

Mental Capital and Mental Wellbeing are closely interlinked. The ability to think flexibly and learn is likely to help people develop their potential and work

productively. Equally, building strong and positive relationships with others is likely to aid resilience in the face of stress (Cohen and Wills, 1985). The concept of Mental Capital and Mental Wellbeing can be thought of under the collective term “Mental Wealth” (Beddington et al, 2008), referring to the psychological affluence of an individual, an organisation, or a country.

The global economy is in a precarious state; huge debts and recession in America and Europe are threatening the global economy, and have already resulted in financial crises in Iceland and Greece (World Bank, n.d; BBC, 2011). Governments can improve their economic stance by investing in mental wealth: greater utilisation of cognitive resources, and improved mental health are likely to result in improved productivity and reduce costs, which in turn may have economic benefit.

Can psychological research contribute to the mental wealth of nations? To establish this, this essay will evaluate the extent to which psychology contributes to mental wealth by examining research in three areas, identified by the Foresight project as being important for the improvement of mental wealth: Depression, aging, and stress at work.

Three criteria will be used to evaluate whether psychological research has an impact on mental wealth. Firstly, theories must be developed from empirical research. Theories not developed from empirical studies are unlikely to be reliable or valid, and therefore will not be transferable. A theory that is not transferable, and only applies to one observation, or very specific situations

(i.e. a lab) is unlikely to be helpful to scientific exploration. Secondly, these theories must produce predictions and interventions that can be applied to improve mental wealth. An empirically produced theory that makes valid, reliable predictions may serve a scientific purpose, however, it must be able to generate predictions and interventions to improve mental wealth for it to successfully contribute. Theories that have limited bearing on mental wealth, such as our understanding of Working Memory, are unlikely to be of benefit. Finally, there must be a medium through which the theory can be practically applied to the population at large. Without a platform for application, a scientific theory will not contribute to mental wealth, as it will be unable to affect the mental capital and wellbeing of individuals. While a theory may have the potential to contribute to the mental wealth of nations, this will not be realised until it is applied.

Depression

Mental health issues account for 5 of the 10 leading causes of disability, costing the UK economy £77bn p.a (£1242 per person), and are expected to become even more prevalent (Foresight Mental Capacity and Wellbeing Project, 2008; Brundtland, 2000; World Bank Development Indicators, 2011). In 2000, Depression cost the UK economy £9bn (of which only 4.1% is in direct treatment costs), 109.7 million working days, and 2615 lives (Thomas and Morris, 2003). Outside the UK, Sobocki et al (2006) suggest that in Europe, 21 million are affected by depression, costing €118bn (1% of Europe's GDP). Clearly, depression has a negative effect on both the individual, and the economy.

Depression results in a lack on energy, and loss of interest in pleasure and enjoyment. Common symptoms include poor concentration, reduced attention, reduced self-esteem and confidence, poor sleep, and reduced appetite (ICD-10). Equally, deficits in cognitive resource allocation (Levens et al, 2009), memory (Bearden et al, 2006), and executive function (Must et al, 2006) have been well documented in depression. Depression damages both Mental Wellbeing, and Mental Capital. Persons suffering from depression are, by definition of the symptoms, unlikely to feel fulfilled, be able to build strong relationships, and work to their potential.

Beck et al (1979) suggested that depression is characterised by pre-existing negative schema, into which people with depression distort their experiences. Therefore, experiences are likely to be negatively warped to fit with their schema, causing people with depression to focus on the negative parts of an experience. This will lead to consistently negative interpretations of events (Beck et al, 1979, Williams et al, 2000). Lloyd and Lishman (1975) found that depressed participants took longer to recall pleasant memories compared to controls. According to Beck's model, since past memories are likely to be interpreted negatively, it may be harder to find positive memories as they are either distorted to fit negative schema, or fit with the less prominent (and thus harder to access) positive schema. Beck's theory combined both prior research (for example, the work of Ellis, 1973, and Beck 1964), and clinical observations, giving it both experimental and ecological validity (Beck et al, 1979). This theory led to the creation of Cognitive Therapy (CT).

Research suggests that only some elements of Beck's original CT were effective (Jacobson et al, 1996), and have since been refined into the Cognitive Behavioural therapy (CBT), a widely used and effective treatment for depression (Dobson, 1989; Teasdale et al, 2000; Furlong and Oei, 2002). CBT aims to address negative thought processes (Beck et al, 1979), automatic thoughts (i.e assuming the worst will happen) and dysfunctional thought processes (i.e overgeneralising) (Furlong and Oei, 2002). As well as being an effective treatment, CBT has also been shown to reduce relapse rates compared to pharmacological treatments (Evans et al, 1992; Fava et al, 1998) and is more cost effective in the long term than antidepressants (Vos et al, 2005).

Despite CBT having lower relapse rates (21-25%) than pharmacological treatments (50-80%)(Evens et al, 1992; Fava et al, 1998), relapse rates of depression are still high. A recent development of CT is Mindfulness Based Cognitive Therapy (MBCT) (Hofmann, Sawyer, Witt and Oh, 2010).

Mindfulness is a process that encourages a non-judgemental awareness of the present, including one's thoughts, feelings, and environment (Ibid, Bishop et al, 2004). According to Teasdale et al (2000), relapse is caused by dysphoria causing the reactivation of old depressive schema. By increasing self-awareness, and awareness of negative thoughts, the re-introduction of old depressive schema can be avoided. Mindfulness based therapy has been shown to reduce relapse rates in depression, particularly for those who

regularly relapse (Kuyken et al, 2008, Ma and Teasdale, 2004, Teasdale et al, 2000).

In 2009, the UK government set up the Improving Access to Psychological Therapies (IAPT) initiative specifically to provide low intensity CBT based therapy to large numbers of people with mild to moderate anxiety and depression (www.iapt.nhs.uk). In pilot studies, 55% and 76% of patients who attended two or more sessions for depression were classified as recovered or remitting on leaving IAPT services (Clark et al, 2009, Richards and Suckling, 2009). The IAPT initiative can also provide a delivery platform for other psychological therapies. Despite this, access to MBCT is poor. According to the Mental Health Foundation (mentalhealth.org.uk), only 1 in 5 GPs can access MBCT, and only 1 in 20 prescribe it on a regular basis (Mental Health Foundation, 2010). There are, however, recommendations in the National Institute for Health and Clinical Excellence guidelines on depression for the use of mindfulness therapy to prevent relapse (NICE, 2009). If mindfulness therapy could be accessed through the IAPT initiative, then this could be a long-term and cost-effective method for reducing relapse rates of depression. However, this would also involve IAPT services emphasis being on prevention, as well as cure.

Psychology has met all the required criteria to impact mental health in depression. Beck's schema theory and CT approach fulfils the first criteria. Schema theory and CT also fulfil the second criteria (although extensively developed and modified). The implementation of the IAPT initiative has also

allowed psychological research into depression to meet the third criteria, as it provides a platform for delivery. However, while this is applied well for CBT, it has yet to be applied for MBCT. Therefore, while psychology is contributing to mental wealth, its potential is not fully utilized.

Aging

Life expectancy has grown by over forty years in the last 160 years (Oeppen and Vaupel, 2002). However, while people are living longer, they are not necessarily working for longer. This could mean that a static workforce has to pay for an increasingly large number of pensions. This is a particularly big issue for Japan, where 23% of their population are over 65 (World Bank, 2011), rising to 33% past retirement age (60) by 2015 (AP, 2005). One potential solution, adopted by the UK (direct.gov), is to increase the retirement age, simultaneously increasing the work force and decreasing the retired population.

As we age, we experience a decline in some of our cognitive abilities (Hidden and Gabrieli, 2004). Some aspects, such as verbal and numerical reasoning and general knowledge remain mostly intact (Deary and Glow, 2008), while others, such as memory, reasoning, processing speed, and executive function decline in line with physical age related changes (Schaie, 2005; Deary and Glow, 2008), which reduces Mental Capital. Given the necessity of mental capital to productive employment, it is important to understand how cognitive abilities decline with age, and how to support them.

Processing speed, inductive reasoning, spatial orientation, working memory, and encoding of episodic memories have all been shown to decline slowly across adult life (see figures 1 and 2) (Craik, 1994; Hedden and Garieli, 2004, Schaie, 1996, Nyberg, 1996). Other aspects, such as short-term memory, appear to only show moderate deterioration until age 70, after which deterioration is more rapid (Gregoire and Linden, 2007). Autobiographical and semantic memory appears relatively stable throughout life (assuming no neurodegenerative disorders) (Hedden and Garieli, 2004, Fromholt et al, 2003, Nyberg, 1996).

Figure 1: Longitudinal decline of cognitive abilities. Data from Seattle Longitudinal study (Schaie 1996). Graph from Hedden and Garieli, 2004 p88)

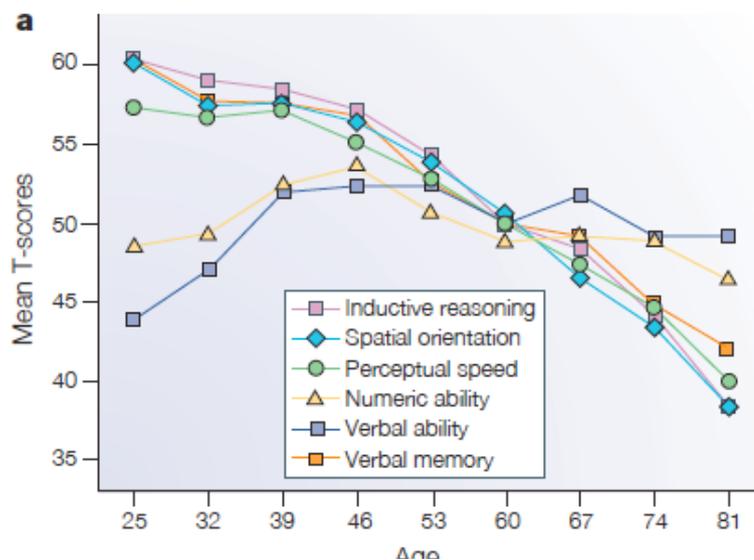
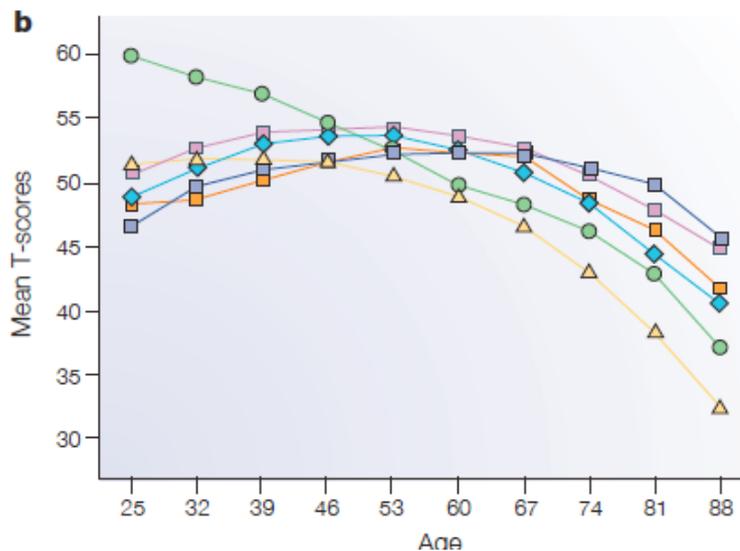


Figure 2: Cross sectional decline of cognitive abilities. Data from Seattle Longitudinal study (Schaie 1996). Graph from Hedden and Garieli, 2004 p88)



Two key strategies for slowing cognitive decline have been highlighted by literature: Cognitive stimulation (Hulsch et al, 1999), and physical activity (Yaffe et al).

On a large-scale longitudinal study, Hulsch et al (1999) found people who regularly did cognitively-demanding tasks (learning languages, home maintenance, playing bridge) showed decreased cognitive decline. Equally, Seidler et al (2004) found that intellectual challenge at work and opportunities for control reduce the risk of developing dementia. However, a causal relationship has still to be definitively established. This would support Salthouse's (1991) suggestion that disuse of cognitive functions over the long term results in atrophy of the skills, abilities and cognitive resources that are not being used.

Similarly, in a large scale longitudinal study of elderly women, Yaffe et al (2001) found that cognitive decline occurred in 17% of the top quartile of women for walking and caloric expenditure, declining to 18%, 22% and 24% for the following three quartiles, suggesting that exercise may play an important role in preserving cognitive abilities.

Given the value of mental and physical stimulation in preserving cognitive abilities, programs encouraging learning and exercise may improve mental wealth in older adults. This could be done in a similar way to the Educational Maintenance Allowance in the UK for 16-19 year olds perusing further education (direct.gov.uk). Subsidising education and enrichment courses for the over 60 may encourage advanced cognitive processing of information, as well as mild physical activity and social engagement. Doing so may improve both individual and societal Mental Capital, and though greater engagement with the community and personal fulfilment through learning, individual Mental Wellbeing.

There are barriers to this; Goodrow (1975) found issues such as vision, transport, and home responsibilities were limiting factors in any participation in older adult learning opportunities. Despite these difficulties there are already schemes to encourage elder learning in China (www.gov.hk). Utilising existing schemes, such as niace.org.uk – which aims to facilitate adult learning, may provide a cost efficient mechanism to do this.

Another opportunity to improve societal Mental Capital is through improving mental resource allocation, specifically, ensuring that older adults are in jobs, which they not only enjoy, but that use their cognitive strengths, and support any cognitive weaknesses. For example, jobs involving semantic and episodic memory, numeric and verbal ability may be more suited to older adults than jobs more reliant on short-term memory and processing speed. An additional consideration is that older individual's ability to learn new skills deteriorates. Singer, Linderberger and Baltes (2003) found that memory plasticity (measured by using the ability to learn the Method of Loci technique) was reduced in persons over 80. While they were still able to make some improvements in their performance, they were small compared to the 60-80-age range. Therefore, preparation is needed to ensure that the necessary skills are learned when memory is still pliable.

There is extensive research on the decline of various mental functions with age. However, these theories have yet to definitively establish a causal relationship. Therefore, the Psychology has failed the first criteria. Theories that have been developed do, however, have practical applications, therefore meeting the second criteria. Still, the implementation of theory seems rather limited. Further efforts need to be made, firstly in establishing a causal relationship (which would also establish the direction of causality), and secondly in lobbying for the implementation of these theories on a practical level. Until there is a widely implemented strategy for delivering psychologically based interventions for improving mental wealth in older adults, psychology has failed to improve the mental wealth of nations in aging.

Stress at Work

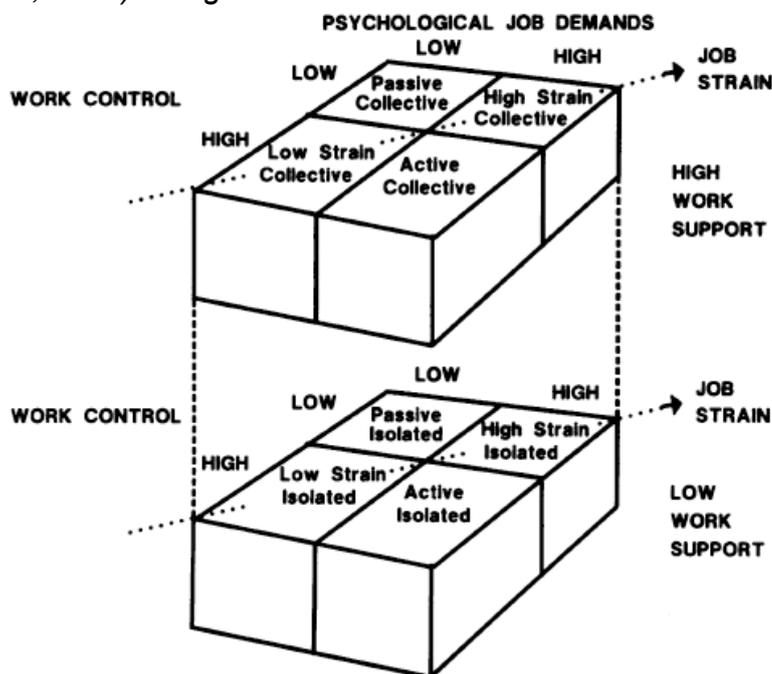
Historically, work hours in developed countries have been decreasing. However, this trend has been slowing, with the US, Sweden, Spain, and Canada showing *increases* in work hours of 5%, 11.1% 1.9% and 1.2% respectively (Evans et al, 2001). Equally, while most EU countries have average working hours of 36-41 hours per week, many show a small but significant number of people working over 45 hours per week, which is particularly prominent in the UK (ibid). With so many hours spent at work, it is important that this time supports Mental Wellbeing, as well as allowing the utilisation of Mental Capital.

For society, the workplace is where Mental Capital can be spent on productivity. For the individual, the work place is an opportunity for Mental Wellbeing to be improved through social interaction, opportunities for learning, and problem solving. This relationship needs to be balanced between the needs and capabilities of the individual and the demands of the employer. When the demands of the job are beyond (or at the limits) of a person's capabilities this can cause harmful physical and emotional responses, known as workplace stress (NIOSH, 2002; Murphy, 2008). This leads to the individual being poorly motivated and less productive (Leka, Griffiths and Cox, 2003), reducing both Mental Capital and wellbeing. This has a direct impact on the mental wealth of nations. Workplace stress is estimated to affect 30% of people in the EU (Houtman, 2005). In France alone, this equates to

between €1167m and €1975m in societal costs (Bejean and Sultan-Taieb, 2005).

The Job-Demand-Control-Support model (Johnson and Hall, 1988) suggests that workplace flexibility (i.e. control at work) and the psychological demands of the job (collectively referred to as job strain) regulate stress. High job strain is caused when there are high psychological demands, but low control. However, this can be mediated by social support (see figure 3).

Figure 3: Visual representation of the Demand-Control-Support Model (Johnson and Hall, 1988). Image from Johnson and Hall 1988.



Johnson and Hall found that their model was a good predictor of stress (However, this was only measured by cardiovascular disease). In a review of 63 studies, Van Der Doef and Maes (1999) found good support for the model,

assuming that control and demand have an *additive* relationship, rather than control *mediating* the negative effects of demand. Therefore suggesting that to reduce workplace stress, control needs to be increased *in addition to* demand being decreased. However, Van Der Doef and Maes point out that throughout studies, there is significant variation between sub-populations. This variation could be accounted for by individual factors such as distractibility, forgetfulness, and impulsiveness, that could also cause stress (Charles and Almeida, 2007). This would also support the social support element of the Johnson and Hall (1988) model of workplace stress, as they find that “shared family and unique environmental effects accounted for the variance in the perceived severity of these stressors” (p331).

Murphy (1988) identified three different levels of stress prevention. Primary interventions aim to reduce or remove the source of stress. Secondary interventions are focused on improving stress management. Tertiary interventions to provide employee assistance and counselling (Cooper and Cartwright, 1997). Primary interventions can be thought of as reducing the psychological demands in the Johnson and Hall (1988) model, secondary interventions as improving the psychological capabilities (thus making demands more manageable) and adding control, and tertiary demands can be seen as social support. All three of these interventions have the aim of reducing stress, thus improving the Mental Wellbeing of the individuals, and arguably, their Mental Capital.

One well-researched primary intervention is flexible working hours. In a sample of 19,704 workers across various industries, Grzywacz, Carlson and Shulkin, 2008 found that while stress and burn-out were lower in workers on a flexible work-time scheme, the perception of flexibility also played a large role in the reduction of stress. Flexible working hours increased an individual's sense of control, and, according to the Johnson and Hall model, reduces job strain.

Secondary interventions often focus on stress management training (SMT). Bruning and Frew (1987) tested three separate stress management techniques (Management skills, Meditation, Exercise and Control) on managers, and found that over 6 months, all three interventions were successful in reducing physiological signs of stress. Equally Orth-Gomer et al (1994) tested a SMT technique combining education about stress factors at work, relaxation and meditation training, and "self-initiatives" (p206), and again found a reduction in biochemical markers of depression in the intervention group.

In the 1980s, the UK Post Office employed two councillors to tackle the growing number of personnel retiring for psychiatric and psychological disturbances (Allison, Cooper and Reynolds, 1989). Cooper and Sadri (1991) conducted a questionnaire study to evaluate the effectiveness of the new counselling services. They found statistically significant improvements in anxiety, depression, and self-esteem, compared to controls. They also found a reduction in the number of days off, and warnings in the client group, but not

the control group. This is an excellent example of how tertiary interventions on a small scale can provide significant improvements in the psychological wellbeing of employees.

Healthy working practices are becoming more widespread. The number of people working from home (which increases employee flexibility and control) is expanding at five times the rate of employment (Warren, 2011). In addition, the UK government is encouraging employers and employees to work flexible hours, and has legislated entitlements to flexible working hours for parents and carers, unless there is a valid business reason for not doing so (direct.gov). The Health and Safety Executive has also published guidelines on reducing work related stress, highlighting demand reduction, control increases, and relationship building (mirroring Johnson and Hall) as effective methodologies (hse.gov.uk).

The Johnson and Hall 1988 model is based in primary research, therefore meeting the primary criteria. In addition, the Johnson and Hall model makes testable predictions, and practical suggestions, fulfilling the second criterion. The final criterion has also, in part, been met, both through legislation (over flexible working ours) and government guidelines.

Conclusion

Research on both depression and stress at work meet all three criteria necessary for psychology to contribute to the Mental Wealth of nations. There are, however, issues regarding the primary research and implementation in

cognitive decline in aging, as well as some implementation problems in depression. Until these problems are addressed, psychological research will be able to contribute (but not to its full potential) to the mental wealth of nations.

The primary research problems in aging are due to an inability to establish a causal relationship between lifestyle and cognitive decline. The only way to establish causality is to run a study where lifestyle is manipulated, which raises ethical concerns, particularly among the more vulnerable of the elderly. The alternative is 'diagnosis by treatment' – funding a small-scale implementation available to everyone, and monitoring whether this is effective (which, assuming implantation is not harmful, raises different, and arguably less serious ethical concerns).

Whatever solution is used to identify a causal relationship, the research in cognitive decline in aging, and other areas of psychology research, will rely on funding. Therefore, the extent to which psychology can contribute to the mental wealth of nations will also rely on funding. However, should psychology dictate how funding is allocated to both its research, and the implementation of that research? Arguably, our position as scientists and our intimate knowledge of the subject puts us in a better position than most for deciding the direction of our research, and how it is implemented. This would allow psychology to control the degree to which it can contribute to the mental wealth of nations. Alternatively, it could be seen that our view does not take into account the humanistic perspective, and bypasses the needs of society

for scientific gain. However, this would bypass psychology's ability to fully contribute to the mental wealth of nations.

Nightingale and Scott (2007) argue that research (specifically research funding) should be targeted to socially relevant topics, and that research in a field that claims to need more research should not be funded, as it is unlikely to have a direct impact. While this may be true, it is possible for this research to have an indirect impact. For example, our understanding of the structure of the brain has allowed us to monitor its changes over time, and assisted research on cognitive decline in aging. The counterargument to this that research on socially relevant topics requiring this less applicable research will identify the need, and therefore make the inapplicable applicable. While this may be true, it is worth considering why MBCT has failed to be implemented on a wide scale. The research already done indicates that MCBT has advantages over CBT, however the CBT model is still far more widely implemented. Is 'good enough' enough for society, and would their opinion be different if they were aware of the possible benefits of MBCT?

Given that research is likely to be funded by governments, charities, or businesses within a capitalist democratic society, it seems unlikely that psychology will be able to fully control its research interests and their applications. Therefore, psychology's ability to contribute to the mental wealth of nations will be constrained by what society is currently interested in and concerned by. In the coming years, with the rise in UK retirement age, deficit problems, and aging problems in Japan, society may build on the potential

within psychology and fund further research on cognitive decline in aging. While psychology clearly has the potential to contribute to the mental wealth of nations, its ability to do so is, for better or worse, regulated by society's interests.

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