



# Prudence, pleasure, and cognitive ageing: Configurations of the uses and users of brain training games within UK media, 2005–2015



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## ABSTRACT

The use of 'brain training' games is often regarded as relating to wider ideals of self-improvement and youthfulness. Hence, use is intertwined with discourses of 'active' ageing. This paper analyzes how the use and users of brain training games were configured in the UK media, from 2005 to 2015, and examines how notions of active ageing relate to these representations. Game users were rarely constructed solely as gamers, and were more often presented as prudent individuals focused on a serious goal. This configuration related to assumed and enjoined motivations for brain training; specifically, users were commonly framed as seeking to enhance cognition and limit/delay cognitive decline. Scientific evidence about brain training was often deployed to explain how games might work; sometimes, however, it was used to undermine the utility of games and assert the significance and cognitive health-benefits of other activities. A minority of texts explicitly critiqued ideals of self-improvement, arguing that game playing was important for its own sake. Yet, even the pleasure associated with gaming was occasionally instrumentalized as a mechanism for ensuring prudent life choices. The analysis casts fresh light on how debates around health, ageing, and science correspond to configurations of technology uses and users. It presents evidence of the widespread cultural circulation of enjoiners regarding self-care and healthy ageing within British society. However, the paper also provides indications of the limits to such imperatives: discourses of pleasure co-exist with and perhaps supplant logics of prudence in (accounts of) practices ostensibly aimed at ageing 'well'.

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## 1. Introduction

Within many societies, the meaning of ageing seems to be changing. Notably, 'active ageing' (i.e., "the process of optimizing opportunities for health, participation and security in order to enhance quality of life as people age" (WHO, 2002, 12)) has become a proxy for good ageing. Ageing well is not only something people do when they are old. Rather, individuals across much of the life-course are encouraged to eat healthily and stay fit: to undertake prudent practices of self-care that will maintain "oneself in a non-diseased state for as long as possible" (Pickard, 2011, 326; Lamb, 2014). This relates to a more general imperative to live, and stay,

'well' (Higgs et al., 2009). Hence, discourses concerning active ageing and health promotion intertwine and reinforce one another.

Computerized 'brain training' games are devices or software that purport to improve cognition. Promoted as one way to ameliorate the (cognitive) ageing process, games often focus on enhancing arithmetic and cognitive processing skills (e.g. memory) (Owen et al., 2010). Through game design and marketing, manufacturers draw on scientific ideas about neurological plasticity and cognitive development and deterioration - as well as wider notions of healthy ageing and fears about age-related decline (such as dementia). The use of computer games (including brain training) has extended to demographics previously less concerned with gaming technologies, such as older adults (Jones and Thiruvathukal, 2012; Juul, 2012; see also De Schutter et al., 2015). Some scholars have explicitly linked brain training to cultural narratives of active ageing, which they regard as placing undue pressure on older adults (Millington, 2012).

Enthusiasm for brain training has been noted in various countries, with popular and academic science articles reflecting on the

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associated 'hype' (e.g. George and Whitehouse, 2011; Yong, 2016). These have been critical of some of the claims made about its effectiveness, with various researchers studying or commenting on the evidence in this regard (e.g. a 2014 Consensus Statement). The scientific basis for brain training can today perhaps best be regarded as inconclusive (Owen et al., 2010; Papp et al., 2009), although one recent discussion of brain plasticity and training in *Nature Reviews Neuroscience* noted that the cumulative evidence for generalised or transferred effects on cognition resulting from one trained skill was weak (Lindenberger et al., 2017).

Scientific interventions into debates on brain training support on-going discussion in popular spheres. In doing so, they also enhance connections between news media, academic forums, and civil society. The BBC, the Alzheimer's Society, and the Medical Research Council (MRC), for instance, partnered in 2015 to test the effectiveness of brain training (Roberts, 2015). The focus was on the effects of games on memory and reasoning in older adults. Such endeavours underscore how demand and interest in brain training seem to reflect wider conversations, assumptions, and fears about cognitive decline and dementia (George and Whitehouse, 2011).

In the UK, the traditional news media has engaged extensively with brain training games (e.g. we located 336 items between 2005 and 2015 across six newspapers). In it, issues like enhancement, ageing, fun, and health are diversely conceptualised and discussed. Such reporting at once undergirds and propels societal engagement with brain training, and is the focus of our analysis. Specifically, we analyze how writers in UK newspapers imagine and articulate the users of computerized brain training games, and the uses to which games are put.

As Smirnova argues, "it is important to interrogate those various media outlets that perpetuate and reify various codes related to "the will to health"" (Smirnova, 2012: 1239). By analyzing accounts of brain training in the British press, we add empirical weight to claims made regarding how brain training supports cultural ideals of self-care and active ageing (Pitts-Taylor, 2010; Thornton, 2011). Accordingly, we cast fresh light on the ubiquity of those ideals per se by examining how our data support - and suggest limits to - assumptions about the dominance of discourse around self-care in British society. By interrogating brain training, we also contribute to debates around ageing (cf. Jones and Higgs, 2010; Higgs et al., 2009; Katz, 2000; Pickard, 2011; Williams et al., 2012), and the cultural circulation of neuroscientific knowledge (Broer and Pickersgill, 2015; Choudhury et al., 2010; Pickersgill, 2013; Pitts-Taylor, 2010).

### 1.1. Age, ageing, and the brain

Within discourses of active or healthy ageing, efforts to pursue health are actions to which moral worth adheres (Higgs et al., 2009; Millington, 2012). Such pursuit can be supported by technology, which is promoted as one way of postponing ageing and remaining independent. From drugs to walking aids to surveillance technologies, older adults increasingly "interact with science and technology to negotiate health and illness" (Joyce and Loe, 2010, 171–172). Consumer products (such as brain training devices) that pertain to arrest or even 'cure' aspects of ageing are frequently found within popular media, including through advertisements that can "both promise and normalize expectations of eternal youth" (Smirnova, 2012: 1236).

The concept of 'functional age' has become increasingly important as a measure complementing or even replacing chronological age (Katz and Marshall, 2004; Pickard, 2011). Moreira (2015) has demonstrated the key place of functional age within biomedicine, and has further noted a similar trend in popular discourses (e.g. in internet tests promising people the answer to the question: 'what is your real age?') (Moreira, 2016). This notion

underscores conceptions of age and ageing as things people can (be expected to) more or less influence to maintain health and vigour (Jones and Higgs, 2010; Mykytyn, 2006). Techniques and tools for affecting cognitive vitality – promoted in the media and elsewhere – include the 'training' of brains (Lawless and Augoustinos, 2017; Thornton, 2011).

The brain, as well as its functions (i.e. cognition), is increasingly interpolated within discourses on ageing (Williams et al., 2011) as "something of a 'project' [of self-care] in its own right" (Williams et al., 2012, 67). In particular, policy discourse has come to emphasize the importance of taking care of one's brain in (and in advance of) later life, as a means of staving off age-related decline (and especially dementia) (Broer and Pickersgill, 2015). This emphasis relates to wider understandings of self-care wherein working on the brain is deemed central to maintaining a state of (optimized) normality throughout the life-course (Brenninkmeijer, 2010; O'Connor and Joffe, 2015; Rose, 2007).

Scholars like Katz and Peters (2008, 349) have viewed objects and ideals aimed at enhancing and maintaining cognitive health as reflecting a "hypercognitive society that expects infallible, anti-ageable cognitive skills". Discourse around brain plasticity - i.e., the notion that the structure and function of the brain can change over time, either by accident or design - has been understood by some social scientists to extend expectations such as these and to support an "ethic of personal self-care and responsibility" (Pitts-Taylor, 2010, 639; see also Millington, 2012; Thornton, 2011). Indeed, brain health more generally has been shown to be constructed as an individual responsibility within the media (Lawless and Augoustinos, 2017). Here, we layer empirical complexity upon assertions made around brain training per se, and self-care more generally. In illustrating the shifting configurations of uses for and users of these technologies, we simultaneously evidence and - to an extent - challenge assumptions about 'hypercognitive' societies (e.g. Katz and Peters, 2008; Williams et al., 2012).

## 2. Methods

Our analysis is informed by science and technology studies (STS) insights regarding how (imagined) technologies, users, and practices are co-configured (see in particular Woolgar, 1990). We focus on the print news media, since this is "likely to play an important role in shaping public perceptions of new technologies and their value and applications" (Coveney et al., 2009: 488). Hence, configurations of users within the media have implications for how practices and values are constituted in practice. Nevertheless, we are mindful of the divergence between the neuroscientific ideas presented within texts and the perspectives expressed by individuals (O'Connor and Joffe, 2015; Pickersgill et al., 2015), as well as how 'traditional' and 'new' media might configure issues differently.

Lexus-Nexis was used to search for articles on computerized brain training games in six major UK newspapers. Our attention to the UK relates to our broader concerns with how neuroscientific knowledge is translated and leveraged within a variety of British policy and popular contexts, and is analyzed in the context of our wider work in this area (e.g., Broer and Pickersgill, 2015; Pickersgill, 2013; Pickersgill et al., 2011; Pickersgill et al., 2015). Both broadsheets (*Daily Telegraph*, *Times*, *Guardian*) and tabloids (*Daily Mail*, *Sun*, *Mirror*) were included. Search terms were, first, 'brain training', and, then, combinations of 'game', 'improve' and 'brain'. Searches were restricted to items published from 1st January 2005 (the launch year of the seminal Nintendo DS game, 'Dr. Kawashima's Brain Training') until 31st December 2014. The ten-year period examined produced a manageable yet meaningful sample. Mentions of 'brain training games' were less frequent from 2011

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