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Switch on to games: Can digital games aid post-work recovery? ☆, ☆ ☆

Emily Collins, Anna L. Cox*

University College London Interaction Centre, University College London, Gower Street, London, United Kingdom

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ABSTRACT

Recovery is a necessary factor in avoiding work-related strain and in feeling prepared for the next day of work. In order for recovery to be successful, an individual must experience psychological detachment from work, relaxation, mastery experiences and a sense of control, all of which have been argued to be assisted by digital game use. However, it is unclear whether these associations will be greater for certain digital game genres, or whether this would extend to other recovery-related outcomes, for instance work home interference (WHI), where the stress from work interferes with home-life. These factors may be vital in determining whether interventions aimed at improving recovery using digital games would be effective, and what form these should take. The present research surveyed 491 participants and found that the total number of hours spent playing digital games per week was positively correlated with overall recovery. Correlations varied with genre, highlighting the importance of game characteristics in this relationship: first person shooters and action games were most highly correlated with recovery. Moreover, digital game use was not related to a reduction in work-home interference. When restricting the analysis to gamers who report to have developed online relationships, online social support mediated the relationship between digital game use and recovery. Results are discussed in terms of how digital games may be utilised to improve recovery and reduce work-related stress.

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1. Introduction

The rise in mobile technologies has facilitated tele-working which in turn has enabled people to combine work with other commitments. This has had both financial and personal benefits for individuals by enabling those who may otherwise have been excluded to contribute to the workforce. For instance, the increased flexibility provided by the ability to work from anywhere, at any time, has allowed many to work around other responsibilities such as childcare, to work despite health complaints or to avoid lengthy and expensive commutes.

However, the negative impacts of the resulting always-on culture are well documented. For example, Stawarz et al. (2013) looked at tablet use and argued that these devices tend to encourage people to engage in work activities even when they had planned to undertake a leisure activity. Such activities can have negative consequences because, even for those who enjoy their employment, recovery is a necessary factor in avoiding work-related strain and in feeling prepared for the next day of work. In

order for recovery to be successful, an individual must experience psychological detachment from work, relaxation, mastery experiences and a sense of control (Sonnentag and Fritz, 2006).

Research suggests active pastimes involving some mental engagement are better as distractions from work stresses than passive ones (Sonnentag and Fritz, 2007). While it is clear that a large number of activities may therefore be suitable for this purpose, many of these require substantial time to be completed, preventing them from being possible for those who may be most at risk of suffering the consequences of insufficient recovery. For instance, sport and exercise have been highlighted to be especially useful in promoting recovery (Sonnentag, 2001), although for some, taking time out of an evening to pursue a sport regularly may simply not be feasible due to time or location constraints. It is therefore important to identify possible other methods of recovery promotion that can be performed easily and that can be integrated into existing schedules.

As one of the possible factors in declining post-work recovery is the introduction of mobile technologies (Derks et al., 2012), we were interested in whether the devices that can impede this process may also be key to reversing this. Digital games of all kinds are now available on a number of different devices, from smartphones, to tablets, to laptops. One widely held description of digital games is that constructed by Juul (2005), namely that they contain formal rules, have variable and quantifiable outcomes (with different outcomes associated with different values), involve

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* Corresponding author.

E-mail address: anna.cox@ucl.ac.uk (A.L. Cox).

players directly influencing the outcomes, to which the player feels attached and have consequences that are negotiable and optional. This makes digital games ideal candidates for promoting recovery.

Previous research has shown that playing digital games contribute to all four aspects of recovery (Reinecke, 2009a, 2009b), and Reinecke hypothesises this may be due to the online social support now provided by many digital games. However this has not been directly investigated, nor has it been established whether this enhanced recovery also results in improvements in related factors, such as a reduction in work-home interference.

We report the results of a questionnaire study that surveyed a total of 491 people. Our findings showed that the total number of hours spent playing digital games per week was positively correlated with overall recovery. Analysis of the subscales indicated that this relationship could be attributed to increased relaxation and psychological detachment experienced by those who spent a higher number of hours playing. We also demonstrate that for gamers who report to have developed online relationships, online social support enhanced the beneficial relationship between digital game use and recovery. Results are discussed in terms of how digital games may be utilised to improve recovery and reduce work-related stress.

1.1. Related work

The unprecedented rise in the popularity of digital games over the last few decades has triggered an increased appreciation of the potential benefits of this activity. Far from being the waste of time gaming was once perceived to be, research has identified potential applications in improving life satisfaction, well-being (e.g. McGonigal, 2012; Przybylski et al., 2010; Ryan et al., 2006), mental health (Wilkinson et al., 2008) and even cognition (Green et al., 2012), to name only a few. Unlike alternative interventions in these areas that may improve the measured outcome but not be engaging for the user, digital games stand to be an enjoyable activity in their own right, and have been argued to result in significantly greater retention rates (e.g. Mark et al., 2008).

An area that has received only limited attention in terms of the potential application of digital games is occupational health. With up to 28% of workers within the European Union experiencing work-related stress (Health and Consumer Protection Directorate-General, 2005), it is one of the most common work-related health issues (Paoli, 1997). Estimates suggest that the resultant absenteeism of work stress costs employers between £353 and £381 million per year (Mackay et al., 2004). On an individual level, repeated exposure to work related stress and associated psychosocial risk factors may result in more general health problems, ranging from sleep disturbances to heart problems (Goldstein, 1995; Karasek et al., 1981; Karasek and Theorell, 1990; Toomingas et al., 1997; Theorell et al., 1998) and even to death (Kivimaki et al., 2006).

Even for those who derive enjoyment from their work, recuperation and recovery is still a necessary and important factor in feeling prepared for the next day and in being able to appreciate free time. Recovery has been defined as “the process of replenishing depleted resources or rebalancing suboptimal systems” (Sonnetag and Zijlstra, 2006, p. 331) and research suggests that activities pursued outside work can be highly influential in whether or not recovery is successful (Demerouti et al., 2007). The ability and opportunity to recover from work related stress is one of the most significant influences on resultant physical and mental health (De Vries-Griever, 1992), and for the majority of workers, recovery is a vital component of positive health (Zijlstra and Sonnetag, 2006) and of avoiding the negative outcomes of work related stress (Sluiter et al., 2003; van Amelsvoort et al.,

2003). Over a prolonged period of time, the need for recovery can result in psychological distress, health problems (Jansen et al., 2002) and result in illness-related absence from work (Rydstedt et al., 2009).

In order for recovery to be successful, several aspects must be present. Sonnetag and Fritz (2007) identified these to be psychological detachment from work, relaxation, mastery experiences and control. Psychological detachment refers to the experience of not only being physically away from work, but also being in a separate place mentally (Sonnetag and Bayer, 2005; Sonnetag and Fritz, 2007; Etzion et al., 1998). This involves being free from job-related activities and not ruminating about work, allowing the demands on the psychological processes employed during working hours to be rested (Sonnetag and Fritz, 2007). Relaxation on the other hand, is identified by positive affect and low activation (Stone et al., 1995), and contributes to improved recovery due to prolonged activation mediating the relationship between work stress and health complaints (Brosschot et al., 2005). Mastery experiences are opportunities for the individual to learn and gain proficiency in areas outside of work, which help to improve mood and develop proficiencies (Fritz and Sonnetag, 2006). Finally, control refers to the ability to control free time activities, which can impact on the experience of competence and self-efficacy, especially if an individual has little control during working hours (Sonnetag and Fritz, 2007).

The absence of these factors following work can be detrimental. For instance, if there is no opportunity for psychological detachment, individuals may continue to ruminate about work-related events or tasks and this will negatively impact recovery, as well as other factors such as sleep quality (Fritz and Sonnetag, 2006; Rook and Zijlstra, 2006; Sonnetag and Bayer, 2005). Current technologies encourage workers to be connected to work at all times, limiting the opportunities to disengage from work. For optimum health and occupational experiences, individuals need to be able to mentally disengage from their employment, reduce the related psychological and physiological activation, take part in challenging activities outside of their work and finally, feel a sense of agency.

One other potential outcome of poor recovery is an increase in work-home interference (WHI), which refers to the issue of when the roles and demands of employment interfere with those of the home domain (Van Hoofe et al., 2006). Digital behaviours such as frequent checking of email on a mobile device can increase the level of WHI experienced (Derks and Bakker, 2012; Waller and Ragsdell, 2012). Consequently, WHI is associated with symptoms such as tiredness (Van Hoofe et al., 2006) and problems sleeping (Geurts et al., 1999), known outcomes of unsuccessful recovery experiences. Two central causes of WHI, namely work-induced strain and high time demands (Van Hoofe et al., 2006), have been found to negatively impact on health if a solution is not reached (Ursin, 1980), making this an important factor in reducing health complaints of employees.

Due to this conceptualisation, WHI usually refers to the negative experience of work impacting on home-life. However, some have argued that this can also occur in a positive manner, for instance, having to adopt an organised approach at work may encourage an individual to adopt similar strategies to deal with family finances (Geurts and Demerouti, 2003). This has led to the development of measures such as the Survey Work-home Interaction-NinjmeGen (SWING; Geurts et al., 2005) including subscales relating to both positive and negative WHI, as well as those relating to the reverse situation, namely when home impacts on the work domain (home-work interference, HWI).

Although, for some, digital game play may represent the antithesis of productive employment, the aforementioned benefits have been argued to also extend into the domain of work.

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