Chapter 57
Experiencing Presence in a Gaming Activity Improves Mood After a Negative Mood Induction

Stefan Weber
University of Bern, Switzerland

Fred W. Mast
University of Bern, Switzerland

David Weibel
University of Bern, Switzerland

ABSTRACT

Research suggests that immersion in computer games is beneficial for recovering from stress and improving mood. However, no study linked explicit measures of presence—individually experienced immersion—to mood enhancement. In the present experiment, immersion of a gaming activity was varied, and levels of presence and enjoyment were measured and connected to mood repair after a stress-induction. The participants (N = 77) played a game in virtual reality (VR; high immersion), on the desktop (medium immersion), or watched a recording of the game (low immersion). Positive emotions were enhanced in the high and medium, but not the low immersion condition. Presence was a significant predictor in the VR condition. Furthermore, an explanatory mediation analysis showed that enjoyment mediated the effect of presence on mood repair. These findings demonstrate positive effects of presence experiences in gaming. Strong presence in VR seems especially helpful for enhancing mood and building up positive emotional resources.

INTRODUCTION

In recent years, research about media use – especially *gaming* – has shifted its focus towards the investigation of positive effects (cf. Reinecke & Eden, 2016). A case in point is mood improvement. A number of authors suggest that interactive elements and high immersiveness of a computer game positively affect mood and may help to recover from work-related stress and strain (Bowman & Tamborini, 2012; 2015; Reinecke, Klatt, & Krämer, 2011; Rieger, Frischlich, Wulf, Bente, & Kneer, 2015). Interactivity and immersion are closely linked to *presence* – the feeling of *being there* in a mediated environment (Steuer, 1992; Witmer & Singer, 1998; Wissmath, Weibel, Schmutz, & Mast, 2011). Presence is often used synonymously with immersion (cf. McMahan, 2003). However, unlike interactivity and immersion, presence is a clearly defined term and is widely used in virtual reality (VR) and gaming research (cf. McMahan, 2003). As mentioned, it is believed that immersing oneself in the world of a computer game can have a positive effect on one's mood. Surprisingly, however, the role of presence has not yet been investigated in the context of mood repair and gaming. The present study aims to close this gap.

BACKGROUND

Presence has been described as mediated contents being experienced as real and one's self-awareness being immersed into another world (Draper, Kaber, & Usher, 1998). According to Lombard and Ditton (1997), presence is a perceptual illusion of non-mediation. Following a proposition by Slater and Wilbur (1997), the term presence is separated from immersion in more recent literature (Cummings & Bailenson, 2015; Hein, Mai, & Hußmann, 2018; Wu, Gomes, Fernandes, & Wang, 2018). Immersion is based on technical properties of the system and is objectively quantifiable. Presence, however, is the individual psychological response to the properties of the system (Norman, 2010; Wirth et al., 2007; Witmer & Singer, 1998). Empirical findings show that presence is indeed modulated by individual expectations and personality traits (Bucolo, 2004; Weibel, Wissmath, & Mast, 2010; 2011a; 2011b). This distinction will be used henceforth in this article by examining the influence of immersion (the characteristic of a computer game) as well as presence (the individual experience of immersion).

According to Reinecke (2009a; 2009b), the immersive experience (i.e. presence) is a key factor that accounts for the recovery experience of computer games. *Recovery* is a concept from organizational psychology and describes the renewal of depleted physical and psychological resources after phases of stress and strain (Sonnentag & Fritz, 2007; Sonnentag & Zijlstra, 2006). Sonnentag and Fritz (2007) proposed four central aspects of successful recovery: *Psychological detachment* (mental disengagement from work-related stress), *relaxation* (deactivation of arousal and increased positive affect), *mastery* (building up new internal resources through challenging experiences and learning opportunities), and *control* (increased self-efficacy and feelings of competence through experiencing personal control). The results of Reinecke (2009a; 2009b) suggest that presence goes along with psychological detachment, which contributes to the recovery experience of gaming activity. Additionally, entertaining media are an ideal way to stop negative cognitions and preventing episodes of rumination by letting their users immerse in the mediated environment. This is in line with Tamborini and Skalski (2006) who suggest that playing computer games requires the full attention of the player and strongly binds cognitive capacities to the screen, what in turn leads to a highly immersive experience. Games also often require taking over new roles (Bessière, Seay, & Kiesler, 2007) and experiencing fictional worlds (Yee, 2006). They

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