Full length article

Personality and video gaming: Comparing regular gamers, non-gamers, and gaming addicts and differentiating between game genres

Beate Braun [a], [*], Juliane M. Stopfer [b], Kai W. Müller [a], Manfred E. Beutel [a], Boris Egloff [c]

[a] University Medical Centre Mainz, Untere Zahlbacher Straße 8, 55131 Mainz, Germany
[b] Department of Psychology, University Göttingen, Gosslerstraße 14, 37073 Göttingen, Germany
[c] Department of Psychology, University Mainz, Bingener Straße 14-16, 55122 Mainz, Germany

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ABSTRACT

This study deals with personality characteristics of gaming addicts, regular gamers, and non-gamers while differentiating between the gamers' favorite game genres. In order to point out personality differences, we conducted an online survey assessing the Big Five in a total of 2891 participants. Additionally, the gamers were screened with a diagnostic inventory for video game addiction and categorized according to their favorite game genre. We replicated findings in which gaming addicts were described as embodying challenging personality traits such as high neuroticism, and we observed similar results for non-gamers. For regular gamers, we primarily found low neuroticism, which underlines the innocuous nature of video game playing in itself. With respect to the players' favorite game genres, we found a wide variety of personality traits. For example, participants who preferred action games had high extraversion and low neuroticism. With respect to the differences pointed out above, future personality-based studies on gamers should include non-gamers and differentiate between the players' favorite game genres.

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1. Introduction

1.1. Video games and their users

Video games go back to the 1960s (Juul, 1998) and have continuously expanded in popular appeal. In the beginning, only scientists developed and tested rudimentary video games on the large-capacity computers in their laboratories. Nowadays, video games often contain photo-realistic graphics, sophisticated systems, and communicative characteristics. They have become an integral part of modern entertainment and the time spent gaming has risen up to 6.3 h a week (Nielson Company, 2014). Even though male adolescents might be seen as the target audience of video games, adults of different educational backgrounds and both genders enjoy playing them (Entertainment Software Association, 2015). Video gaming thus receives widespread positive attention and one might assume that every character might be attracted to video games. On the other hand, playing video games is said to be connected with addiction (Kuss, 2013) and aggression (Lin, 2013), and it might thus be assumed that gamers have challenging

personality traits connected to disorders and criminality. There are indeed studies that focused on personality in gaming addicts (Müller, Beutel, Egloff, & Wölfling, 2014; Walther, Morgenstern, & Hanewinkel, 2012; Wang, Ho, Chan, & Tse, 2015); others that examined personality traits in relation to internet usage in general (Landers & Lounsbury, 2006); and those that investigated personality differences between online game players and non-players (Teng, 2008). However, there still is a lack of an overall comparison between gaming addicts, regular gamers, and non-gamers, as well as a differentiation between various games genres which we want to fill with this study.

1.2. Video game genres

When discussing video games, one is confronted with a huge amount of different game genres. Apperley (2006) differentiated between the four game genres action, role-playing, simulation, and strategy. This classification is widely accepted in the field (e.g., Arsenault, 2009; Krzywinska & Brown, 2015; Qin, Rau, & Salvendy, 2009). Simulation games imitate realistic scenarios in life, sports, and economics. Strategy games require a global view, for instance when managing an economy while fighting rivals. Action games need game-play virtuosity as the gamer controls every move of the

* Corresponding author.
E-mail address: beate.braun@unimedizin-mainz.de (B. Braun).

counter that usually can kill and can be killed. Role-playing games are rooted in pen-and-paper role-playing games and therefore have many creative and social aspects as the gamer creates and develops a character while interacting with real or digital others.

There are a few studies focusing on personality in gamers that favor role-playing games (Graham & Gosling, 2013; Simon, 1987). The personality of gamers that prefer other game genres is, however, not yet explored. There is the idea that some game genres have a greater potential for addiction as compared to others (Floros & Siomos, 2012; Lee et al., 2007). But it has not been investigated to what extent users of different game genres differ with regard to their personality. We now examined this important question in order to overcome generalizations of gamers across game genres and to provide deeper insights into the personality profiles of video gamers of various game genres.

1.3. Internet gaming disorder

In 1954, Gebsattel postulated that any human interest can become addictive. But only in the last decade have behavioral addictions such as Internet Gaming Disorder (IGD) attracted the interest of researchers and clinicians (King & Delfabbro, 2014; Kuss, Griffith, Karila, & Billieux, 2014; Weinstein & Lejoyeux, 2015). The criteria of IGD, which was recently included in the appendix of the DSM-5 (American Psychiatric Association, 2013), are based on the criteria of substance-related addiction: (a) loss of control indicates that the beginning, duration, and end of gaming sessions have slipped out of one's hands, resulting in long playing times, (b) withdrawal symptoms such as nervousness can appear when gaming is prohibited, (c) tolerance means that a subtle increase in the duration and frequency of use is needed to obtain the desired effects, (d) reduced involvement indicates that involvement in non-gaming activities is neglected, potentially causing social isolation, (e) craving means that one longs for the game and constantly thinks about it, and (f) attempts to cut back are not met with success. Since IGD appears to be a worldwide health-related issue with prevalence rates ranging from 1 to 9% (Müller et al., 2015), a better understanding of this emerging mental disorder is crucial.

1.4. Characterizing video game players according to the Big Five

The Big Five personality traits neuroticism, extraversion, openness to experience, agreeableness, and conscientiousness have been used to describe human personality for many years (Costa & McCrae, 1985). Research on video game players' personality has previously focused on gaming addicts, regular gamers without further distinctions between game genres, and role-playing gamers in particular.

According to research, high neuroticism is associated with IGD (Lehenbauer-Baum et al., 2015; Mehroof & Griffith, 2010; Müller et al., 2014; Yan, Li, & Sui, 2014; Yang, Choe, Baity, Lee, & Cho, 2005), probably abetting and maintaining it (Wölfling & Müller, 2009). This finding did not hold true in the context of regular internet use in a former study (Landers & Lounsbury, 2006). However, a recent large-scale representative study of young adults showed that global internet use was also positively related to neuroticism (Mark & Ganzach, 2014), perhaps because people who are neurotic use the internet to lower their feelings of loneliness. Our knowledge on the neuroticism level of regular gamers is limited so far; however, Teng (2008) suggested that it did not differ from non-gamers in a student sample. Regarding game genre, exposure to a role-playing game was not correlated with emotional instability, and the role-playing gamers obtained a healthy psychological profile in an early study (Simon, 1987), but role-playing gamers tended to be high on neuroticism in a recent investigation

(Graham & Gosling, 2013). The latter might indicate that the role-playing gamers deny their negative emotions through games set in fantastical scenarios but there are no further investigations up to now. No association emerged between neuroticism and video game violence exposure (Bartholow, Sestir, & Edward, 2005), thus violent contents that are primarily found in action games might be too stimulating for people high in neuroticism. On the other hand, in a recent study neurotic individuals preferred to play video games that were more violent (Chory & Goodboy, 2011). The connection between neuroticism and other game genres has not been explored yet.

There is some evidence that the frequent and addictive use of the internet and video games is related to low extraversion (Landers & Lounsbury, 2006; Müller et al., 2014; Öztürk et al., 2015). The reduced face-to-face communication and anonymity of the internet can probably provide an alternative to the eschewed offline social activities of introverts and bind them. Contrarily, some studies have found no connection between extraversion and internet addiction (Senormanci et al., 2014) or even a positive relation between extraversion and global internet use (Mark & Ganzach, 2014), use of leisure services (Amichai-Hamburger & Ben-Artzi, 2000; Tel & Sargent, 2004), online game playing (Teng, 2008), and violent video game use (Chory & Goodboy, 2011). The latter is consistent with previous media research (Bruggemann & Barry, 2002) and is explained by sensation seeking, which requires activity and a "rush". Role-playing gamers were found to be low on extraversion (Douse & McManus, 1993). Maybe role-playing allows them to expand their self by playing roles that would otherwise be inaccessible to them in real life. But there is also evidence of extraverted role-playing gamers who focus on the interactive and socializing elements of those games (Graham & Gosling, 2013; Worth & Book, 2014; Yee, 1999). Links between extraversion and other game genres have not been explored so far.

A connection between internet use and openness was confirmed (Witt, Massman, & Jackson, 2010) but as well disconfirmed (Landers & Lounsbury, 2006). These contrary findings might be due to different options to move through the internet: It is possible to search for but also to avoid new things. Regarding IGD, the user is constricted to a certain field, so it is not surprising that IGD was associated with low openness (Wang et al., 2015). However, participants performed better in creativity tests after having played action video games (Yeh, 2015). In addition, openness was high in regular gamers (Teng, 2008; Tuten & Bosnjak, 2001; Witt et al., 2010), frequent players of violent video games (Chory & Goodboy, 2011), and in role-playing gamers (Graham & Gosling, 2013; Simon, 1987; Yee, 1999), probably because games often require fantasy activities and imagination, and there are many things to explore in these kinds of games. The other game genres have not yet been investigated with regard to the players' level of openness.

Low agreeableness was associated with IGD (Lehenbauer-Baum et al., 2015) and internet usage in general (Landers & Lounsbury, 2006). These findings seem reasonable because spending time in front of a computer may contradict social harmony. Playing violent video games was related to low agreeableness (Chory & Goodboy, 2011). Especially in violent games one does not tend to be kind; these games' appeal may also stem from the lack of social rules in violent virtual worlds. Role-playing gamers who focused on achievement were found to have low agreeableness (Graham & Gosling, 2013). So far there are no studies that explored the relationship between the other game genres and agreeableness.

Internet use was negatively correlated with conscientiousness (Landers & Lounsbury, 2006). On the other hand, conscientiousness was also positively related to internet use (Mark & Ganzach, 2014) and regular gamers (Teng, 2008). This finding shows that using the