Passion, craving, and affect in online gaming: Predicting how gamers feel when playing and when prevented from playing

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ABSTRACT

According to the Dualistic Model of Passion, two forms of passion can motivate a behavior: harmonious passion and obsessive passion. Across various life activities, studies have found that the two forms of passion show different relationships with affect, linking harmonious passion to positive affect and obsessive passion to negative affect. To investigate if this pattern also holds for online gaming, the present study investigated 160 gamers involved in playing massively multiplayer online role-playing games (MMOs) and examined positive and negative affect (a) when playing and (b) when prevented from playing. In addition, the effects of general affect and craving for playing MMOs were controlled for. Results were as expected from the Dualistic Model of Passion: harmonious passion for online gaming predicted positive affect when playing whereas obsessive passion predicted negative affect when playing and when prevented from playing. Moreover, these effects remained unchanged when general affect and craving were controlled for. With this, the present research shows that individual differences in passion for online gaming explain unique variance in gaming-related emotions. Moreover, the present findings suggests that craving is a variable that future research on positive and negative affect in online gaming should pay closer attention to.

1. Introduction

With ever more people having high-speed Internet access, online gaming has become increasingly popular, particularly among young adults. One of the most popular online games are massively multiplayer online role-playing games (MMORPGs or MMOs) such as World of Warcraft, which reached a worldwide subscriber base of over 12 million in 2010 (Blizzard Entertainment, 2010). While some research found that playing MMOs has harmful effects linking it to psychological problems such as Internet addiction (e.g., Parsons, 2005), other research found that playing MMOs has both positive and negative effects (e.g., Smyth, 2007). Following the latter perspective, the present study investigated the relationship between playing MMOs and positive and negative affect and the role that individual differences in passion for playing MMOs have in these relationships.

2. The Dualistic Model of Passion

According to the Dualistic Model of Passion, two forms of passion can motivate a behavior: harmonious passion and obsessive passion (Vallerand et al., 2003). In harmonious passion, individuals

engage in an activity entirely of their own free will, and engaging in the activity does not pose a conflict to other life domains. Here, the individual controls the passion. In obsessive passion, individuals engage in an activity because of intra- or interpersonal pressure, and engaging in the activity diverts time and resources away from other life domains. Here, the passion controls the person.

Research on harmonious and obsessive passion has investigated various life activities such as work, sports, dance, music, and studying (e.g., Carbonneau, Vallerand, Fernet, & Guay, 2008; Rip, Fortin, & Vallerand, 2006; Stoeber, Childs, Hayward, & Feast, 2011; Vallerand et al., 2003, 2006). Across activities, the findings show that harmonious passion tends to be associated with positive characteristics, processes, and outcomes and obsessive passion with negative characteristics, processes, and outcomes. In particular, harmonious passion has been shown to be associated with self-reported positive affect, and obsessive passion with self-reported negative affect (e.g., Carbonneau, Vallerand, & Massicotte, 2010; Mageau & Vallerand, 2007; Philippe, Vallerand, Andrianarisoa, & Brunel, 2009; Vallerand et al., 2003, 2006; see Vallerand, 2008, 2010, for reviews).

However, the relationships between harmonious and obsessive passion and positive and negative affect are sometimes obscured when the two forms of passion overlap, as indicated by significant positive correlations (e.g., Mageau, Vallerand, Rousseau, Ratelle, & Provencher, 2005; Ratelle, Vallerand, Mageau, Rousseau, &

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Provencher, 2004; Vallerand et al., 2003). In this case it is important to control for the overlap (e.g., by computing partial correlations or multiple regressions) to uncover the unique relationships of the two forms of passion (e.g., Vallerand et al., 2003).

3. Passion and affect in online gaming

Research on passion and affect in online gaming is limited. So far only two studies have investigated the relationships between harmonious and obsessive passion and positive and negative affect in online gaming. Moreover, both studies produced some unexpected findings. Consequently, further research is needed to investigate the relationships between harmonious and obsessive passion and positive and negative affect in online gaming.

The first study (Wang, Khoo, Liu, & Divaharan, 2008) investigated a sample of secondary school students and examined passion for online gaming and positive and negative affect when playing. Unfortunately, the measure of negative affect showed insufficient internal consistency (Cronbach's alpha = .47) so the study examined positive affect only. As expected, harmonious passion showed a significant positive correlation with positive affect when playing. Unexpectedly, obsessive passion too showed a significant positive correlation.[1] Consequently, we reanalyzed the reported correlations by testing the difference between the correlations for significance (Meng, Rosenthal, & Rubin, 1992). Results showed that the positive correlation of harmonious passion was significantly larger than that of obsessive passion. Moreover, when we controlled for the significant overlap between harmonious and obsessive passion ($r = .61$, $p < .001$) by computing partial correlations (Hays, 1973), obsessive passion ceased to show a significant positive correlation with positive affect, suggesting that only harmonious passion for online gaming (but not obsessive passion) shows a unique positive relationship with positive affect when playing online games.

The second study (Lafrenière, Vallerand, Donahue, & Lavigne, 2009) investigated a mixed sample of players using an online survey that, among other questions, asked players about their positive and negative affect when playing. Data were analyzed using canonical correlation analysis which found two canonical factors: one representing harmonious passion, and one representing obsessive passion. As expected, negative affect when playing showed a significant positive loading only on the factor representing obsessive passion. Unexpectedly, however, positive affect when playing showed significant positive loadings on both factors. Moreover, the loadings were of comparable size, suggesting that obsessive passion contributed to positive affect in the same manner (and to the same degree) as harmonious passion – which is clearly at odds with predictions from the Dualistic Model of Passion. Unfortunately, the study did not report the bivariate correlations of passion and affect, so we could not reanalyze the relationships.

4. The present study

Against this background, the aim of the present study was threefold. First, the study aimed to further investigate the relationships between harmonious and obsessive passion for online gaming and positive and negative affect when playing to address the questions unanswered by the previous two studies (Lafrenière et al., 2009; Wang et al., 2008). Second, the study aimed to investigate the relationships between the two forms of passion and affect when *prevented* from playing. Passion has been shown to predict not only affect when people are engaging in the activity

they are passionate about, but also affect when they are prevented from engaging in the activity (Vallerand et al., 2003). Consequently, we expected the two forms of passion to show different relationships also with affect when prevented from playing. Third, the study aimed to investigate whether harmonious and obsessive passion make a unique contribution to explaining variance in positive and negative affect in online gaming when controlling for the effects of general positive and negative affect and craving.

Numerous studies have shown that harmonious passions is positively associated with general positive affect whereas obsessive passion is associated with general negative affect (see Vallerand, 2008, 2010, for reviews). Consequently, it is important to control for general affect to show that the relationships with affect in online gaming (i.e., affect when playing and affect when prevented from playing) are not mere reflections of gamers' general affect.

In contrast, no study so far has investigated how passion is associated with craving. However, there is circumstantial evidence suggesting that passion should be positively related to craving for gaming, and that craving for gaming may play a role in affect when gaming. First, a large online survey (Wang & Chu, 2007) found that both harmonious and obsessive passion for online gaming showed positive correlations with online game addiction. Because craving—the experience of an overwhelming, often irresistible, desire for a substance or activity—plays an important role in any form of addiction, it can be expected that harmonious and obsessive passion for online gaming would also show positive correlations with craving for online gaming. Second, Young and Wohl (2009), investigating gambling, found that craving was associated with positive and negative affect. In particular, craving was associated with positive and negative affect when gambling, but only with negative affect when prevented from gambling. Consequently, it can be expected that craving for gaming would also be associated with positive and negative affect when gaming, and with negative affect when prevented from gaming, which would make craving an important variable to control for when investigating the unique relationships between passion and affect in online gaming.

To examine the relationships of passion, craving, and affect in online gaming, we investigated gamers involved in playing MMOs. There are three reasons why playing MMOs is an ideal activity to investigate passion, craving, and affect in online gaming. First, MMOs are different from single-player online games as they require gamers to engage in social interactions and cooperative play and to build social networks in cyberspace. This makes these virtual worlds "sticky" and enables game worlds to retain players long-term (Bartle, 2004). Second, MMOs require a substantial investment of time. In World of Warcraft, for example, it can take the equivalent of over 15 days of logged playtime to achieve the maximum level for a character, which is a pre-requisite for inclusion in a range of social activities (Ducheneaut, Yee, Nickell, & Moore, 2006). Finally, in MMOs there is often no quantifiable end to the game. In principle, one can play "forever" which can make MMO players excessively immersed in their game. Consequently, playing MMOs represents an activity in which harmonious and obsessive passion can be expected to show different relationships with affect when engaging—and when prevented from engaging—in the activity.

5. Method

5.1. Participants

Our initial sample comprised 168 participants (133 male, 35 female) involved in playing MMOs. The mean age of participants was 25.4 years (SD = 9.0 years). On average, participants played their

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[1] All correlations reported in Wang et al. (2008, Table 2) should be positive, not negative as they appear in the printed article (C. K. J. Wang, personal communication, August 26th, 2010).