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Table of Contents:
1. Dedication, Acknowledgements, Introduction
2. Expanding Opportunities for the Psychologist Manager
3. Leadership and Executive Behavior
4. Strengths and Weaknesses of Psychologists in Management
5. Strategic Leadership
6. Financial Management
7. Profile in Learning the Business of Management
8. Sustainability
9. Profile in Sustainability
10. Managing for Innovation
11. Politics in Management
12. Dysfunctional Managers and Negative Charismatic Leaders
13. Organizational Versus Individual Concerns
14. The Role of Feelings in Management and Leadership
15. Practical Advice

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### Contents

**Original Articles**

<table>
<thead>
<tr>
<th>Title</th>
<th>Authors</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>It’s Right to Be Sad: The Role of Meta-Appraisals in the Sad-Film Paradox – A Multiple Mediator Model</td>
<td>Matthias Hofer and Werner Wirth</td>
<td>43</td>
</tr>
<tr>
<td>Analyzing Internet Forums: A Practical Guide</td>
<td>Peter Holtz, Nicole Kronberger, and Wolfgang Wagner</td>
<td>55</td>
</tr>
<tr>
<td>A Longitudinal Analysis of US Adults’ Pornography Exposure: Sexual Socialization, Selective Exposure, and the Moderating Role of Unhappiness</td>
<td>Paul J. Wright</td>
<td>67</td>
</tr>
<tr>
<td>Effects of Passion for Massively Multiplayer Online Role-Playing Games on Interpersonal Relationships</td>
<td>Sonja Utz, Kai J. Jonas, and Ellen Tonkens</td>
<td>77</td>
</tr>
</tbody>
</table>

**Meeting Calendar**

<table>
<thead>
<tr>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>87</td>
</tr>
</tbody>
</table>
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Effects of Passion for Massively Multiplayer Online Role-Playing Games on Interpersonal Relationships

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Abstract. Game research suffers from using a variety of concepts to predict the (often negative) effects of playing games. These concepts often overlap (e.g., addiction or pathological gaming), include negative consequences in their definition, or are very game-specific (e.g., collective play). We argue that the field would benefit from using concepts that are well-established in other domains. Extending earlier work to the interpersonal domain, we examined the effects of obsessive and harmonious passion for massively multiplayer online role-playing games (MMORPGs) on the number and quality of online and offline friendships. Obsessive passion describes an irrepressible urge to engage in an activity, whereas harmonious passion describes the voluntary engagement in an activity. In an online survey of 406 MMORPG players, we found differential relationships between obsessive and harmonious passion and the number and quality of online and offline friendships. The results confirmed the usefulness of the dualistic model of passion for consequences of online gaming.

Keywords: MMORPG, passion, interpersonal relationships, online friendships, offline friendships

Introduction

Players of massively multiplayer online role-playing games (MMORPGs) such as World of Warcraft often play more than 20 hr/week (Ng & Wiemer-Hastings, 2004) or more than 10 hr in a row (Yee, 2002). Game research has often focused on the negative outcomes of such excessive game play, such as loneliness, reduced self-esteem, or aggression (Colwell & Kato, 2003; Colwell & Payne, 2000; Ferguson, Coulson, & Barnett, 2011; Kim, Namkoong, Ku, & Kim, 2008; Lemmens, Valkenburg, & Peter, 2011b; Young, 2009). However, there are also studies that have revealed positive effects of gaming such as making friends online and building social capital (Cole & Griffiths, 2007; Trepte, Reinecke, & Juechems, 2012; Zhong, 2011). Reconciling these contrasting results is difficult because different psychological models have been used to explain the effects of spending large amounts of time gaming: addiction, pathological gaming, or excessive gaming versus flow or collective play. These models often overlap – for example, addiction and pathological gaming – or are very specific to the domain of gaming – for example, collective play. We argue that the field would benefit from using more comprehensive models, such as those that are established in other domains. One such approach is the dualistic model of passion that lends itself to an integrative and useful theoretical framework. The dualistic model of passion generally differentiates between obsessive and harmonious passion (Vallerand et al., 2003), independent of the object or behavior the passion is felt for. Obsessive passion is described as urgent and compulsive, whereas harmonious passion is described as voluntary engagement in an activity.

Many studies on the effects of game addiction have looked at intrapersonal effects of game addiction, such as physical or psychological well-being. However, gaming can also impact on the relations the players have – or do not have – with other individuals. We bring these two lines of research – excessive gaming and interpersonal relationships – together in this paper by showing that the dualistic model of passion serves to explain the effects of (excessive) MMORPG use in the interpersonal domain and more specifically, within online and offline relationships.

Theoretical Background

Prior Research on the Effects of MMORPG Playing

Addiction (Kim et al., 2008; Lemmens, Valkenburg, & Peter, 2009; Ng & Wiemer-Hastings, 2004; Young, 2009)
or pathological gaming (Ferguson et al., 2011; Lemmens et al., 2011a, 2011b) are popular models when studying the effects of excessive game playing, especially the negative ones. A problem with these models is that the definitions of their central constructs already include the occurrence of negative consequences. Yee (2002) for example defines addiction as “a recurring behavior that is unhealthy or self-destructive which the individual has difficulty ending.” In a similar way, pathological gaming has been defined as “persistent and excessive involvement with computer or video games that cannot be controlled despite associated social and/or emotional problems” (Lemmens et al., 2011a, p. 144). Findings that report an association between addiction/pathological gaming and loneliness, reduced self-esteem or aggression are therefore almost tautological. The negative connotations of addiction and pathological gaming also create more negative media coverage of the phenomenon than needed (see Yee’s 2006 add-on to his 2002 online paper or Wood, 2008, and the commentaries in that same issue of the International Journal of Mental Health and Addiction). Note that we do not want to criticize the definition of addiction. However, one should bear in mind that this construct has been taken from the clinical context—definitions for alcohol and drug addiction have been transferred to the realm of gaming. Clinical psychologists and psychiatrists aim to identify people who need treatment; The existence of negative intrapersonal or interpersonal consequences is an important criterion in this context. However, such a clinical concept might be less suited as a predictor in a nonclinical context.

Another problem is the fuzzy use of the constructs. Addiction/pathological gaming are not always used in the strict clinical sense. In a more colloquial sense, the terms describe a less critical, nonpathological behavior. As a consequence, studies differ in the level of addiction reported, depending on the addiction scale used. A meta-analysis by Ferguson et al. (2011) revealed a prevalence of 3.1% for pathological gaming. Such a small prevalence further reduces the usefulness of the pathological gaming model for studying general effects of gaming— at least if clinical cutoffs for classifying players as addicted/pathological or not are used rather than continuous-scale values.

Some authors therefore use the term excessive gaming which is somewhat less negative. Grüsser, Thalemann, and Griffiths (2006) argue that excessive gaming has the potential for addiction and found only low relationships with aggression. Other authors report positive correlations of excessive gaming with flow experience (Cowley, Charles, Black, & Hickey, 2008). Interestingly, flow is negatively related to addictive inclination; addicted players report lower levels of flow than nonaddicted players (Wan & Chiu, 2006). Wan and Chiu (2006) related these findings to a two-factorial model comprising satisfaction and dissatisfaction factors. This is a first hint that dualistic conceptualizations might be more helpful than one-dimensional conceptualizations.

Other studies on the effects of gaming came up with very game-specific constructs such as involvement in clans or collective game play (Trepte et al., 2012; Zhong, 2011). Although such conceptualizations are often useful, they carry the danger that game research develops as a subdomain of media psychology that forms its own very specific measures, instead of building on models that are well-established in (media) psychology in general. Thus, we argue that the dualistic model of passion is a more useful and integrative framework.

### The Dualistic Model of Passion

The dualistic model of passion distinguishes between obsessive and harmonious passion (Vallerand et al., 2003). Both forms of passion describe a “strong inclination toward an activity that people like, that they find important, and in which they invest time and energy” (Vallerand et al., 2003, p. 756). However, they differ in the internalization into the identity of an individual. In cases of harmonious passion, an autonomous internalization of the activity into the person’s identity occurs (Vallerand et al., 2003, p. 757). The individual has accepted the importance of the activity and chooses it freely; the activity takes a large, but not too dominant space in the life of the individual. In cases of obsessive passion, the internalization is driven by intrapersonal or interpersonal pressures, such as heightened self-esteem or social acceptance within a specific group. The activity is no longer freely chosen and leads to the neglect of other activities. Therefore, obsessive passion is related to negative emotions such as shame (Vallerand et al., 2003).

Furthermore, personality traits have been identified that differentially predict harmonious and obsessive passion. Vallerand et al. (2006) showed in three studies that an autonomous personality predicts the development of a harmonious passion for sport, whereas a controlled personality fosters the development of an obsessive passion. These personality characteristics refer to the intrinsic or external motivation and self-regulation of individuals. An autonomous personality is already formed during childhood; children or teenagers of autonomy-supporting parents are more likely to develop a harmonious passion for various activities (e.g., playing a music instrument or sport). If the parents put too much pressure on the activity, children are more likely to develop an obsessive passion. Taken together, there is evidence for the validity of two identifiable and distinct processes of passion. We are now going to review its differentiation from other concepts, and domain applications.

Harmonious and obsessive passion are related to, but not identical to, flow and addiction, respectively. Vallerand et al. (2003) report correlations of .16 to .38 for harmonious passion and the flow components of absence of self-consciousness, control, and challenge; obsessive passion was unrelated to these variables. Wang and Chu (2007) found a positive correlation with game addiction only for obsessive passion. Because excessive gaming can contain both a flow component as well as a more compulsive and sometimes even pathological component, the dualistic model might be especially useful for game research. The two forms of passion are weakly or moderately correlated, but it has been repeatedly demonstrated that the items load clearly on different factors (Mageau et al., 2009; Ratelle, Vallerand, Mageau, Rousseau, & Provencher, 2004; Seguin-Levesque, Laliberté, Pelletier, Blanchard, & Vallerand, 2003; Vallerand et al., 2003;
Vallerand et al., 2006; Wang & Chu, 2007). Thus, they do not form just two different ends of a continuum (i.e., low and high passion), but represent different psychological mechanisms. It has been shown for a wide range of activities (e.g., sport, music, dancing, gambling, and work; see for example, Mageau & Vallerand, 2007; Mageau et al., 2009; Philippe, Vallerand, & Lavigne, 2009; Ratelle et al., 2004; Seguin-Levesque et al., 2003; Vallerand, 2008, 2010; Vallerand, Paquet, Philippe, & Charest, 2010; Vallerand et al., 2006) that harmonious passion correlates with positive outcomes, whereas obsessive passion results in maladaptive consequences (including burnout symptoms or injuries).

Seguin-Levesque et al. (2003) demonstrated the value of the dualistic passion model in media psychology by examining the effects of passion for the Internet on the well-being of couples. Passion for the Internet was more important for relationship quality than time spent online. Obsessive passion for the Internet resulted also in lower dyadic adjustment, lower self-determination, and greater conflict in the relationship, whereas harmonious passion for the Internet had positive effects on the relationship. In this study, passion for “the Internet” in general was measured without differentiating between different types of Internet use.

With regard to gaming, Przybylski, Weinstein, Ryan, and Rigby (2009) found that basic need satisfaction – autonomy, competence, and relatedness, measured with the scale by La Guardia, Ryan, Couchman, and Deci (2000) – correlated positively with harmonious passion, and negatively with obsessive passion. The authors conclude that harmonious passion indicates wanting to play, whereas obsessive passion describes an urge to play. Przybylski et al. (2009) also report a positive correlation between obsessive passion and post-play tension, as well as a negative relationship of obsessive passion with mental health and physical health. Harmonious passion, on the other hand, was positively related to game enjoyment, postplay energy, and life satisfaction.

Lafrenière et al. (2009) found positive relationships between harmonious passion for gaming and positive affect, life satisfaction, and self-realization. Obsessive passion was positively related to negative affect, problematic behaviors (e.g., getting irritable), and physical symptoms (e.g., sleep disorders).

Taken together, there is evidence that the dualistic model of passion can explain effects of passion for an activity on interpersonal relationships. Moreover, it has also been successfully applied to examine the intrapersonal effects of gaming. In this manuscript, we extend this prior research by investigating the interpersonal effects of passion for MMORPGs.

Effects of Internet and MMORPG Use on Interpersonal Relationships

The benefits people derive from their social networks are also called their social capital (Putnam, 2000). Social capital comprises bonding and bridging social capital. Bonding capital arises from the strong ties people have with their close friends and family members, whereas bridging capital arises from weaker ties with acquaintances. Bonding capital provides people with emotional support; emotional support has an important function as a buffer for stress, and contributes to mental and physical well-being (Abbey, Abrams, & Caplan, 1985; Tanis, 2008). Weak ties, on the other hand, provide people with nonredundant information and are therefore more useful in specific situations such as when looking for a job or a house (Granovetter, 1973).

Since the earliest days of the Internet, there have been speculations about the interpersonal consequences of this (then new) technology. Advocates of the Internet stressed its possibilities for making new friends from all over the world (Rheingold, 1993), whereas skeptics considered virtual communities as pseudocommunities (Beniger, 1987), and worried the Internet might make people lonely and decrease their social capital (Nie & Erbring, 2002; Putnam, 2000). There have indeed been studies that found that Internet use increases loneliness (Kraut et al., 1998), but these have been criticized as too undifferentiated because they did not distinguish between different types of Internet use.

With regard to the interpersonal effects of playing MMORPGs, previous studies have yielded mixed results. On the one hand, it has been argued that MMORPGs are inherently social because many quests afford collaboration and players are organized into clans and guilds. In line with this argumentation, early studies on text-based multiplayer dungeons have found that people become friends with other players (Parks & Roberts, 1998; Utz, 2000). Many MMORPG players make friends inside the game (Cole & Griffiths, 2007), and Zhong (2011) showed that especially collective game play, that is, engagement in guilds and collaborative tasks, results in heightened online bonding and bridging capital. Trepte et al. (2012) also found that engagement in clans as a specific gaming behavior builds social capital within the clan, which can be transformed into offline social support.

On the other hand, it has also been argued that the time spent gaming displaces the time spent with offline friends; supporters of this displacement hypothesis found that Internet addiction or pathological gaming correlated with loneliness offline (Lemmens et al., 2009; Morahan-Martin & Schumacher, 2003). Gamers also indicated that playing games fulfills needs of companionship (Colwell & Payne, 2000) that would otherwise be satisfied offline. A recent longitudinal study aimed to test the causal relationship between gaming and loneliness using autoregressive structural equation models (Lemmens et al., 2011a). Lemmens et al. (2011a) found evidence for a reciprocal process: Loneliness leads to pathological game playing, which in turn increases loneliness. In a longitudinal study on gamers, Williams (2006a) detected a decline in face-to-face interactions and reduced closeness to some offline friends. Zhong (2011) found no relationship between collective play and offline bonding and bridging capital; however, in line with the displacement hypothesis, time spent gaming at time 1 correlated negatively with offline bonding and bridging capital measured at time 2.

To sum up, prior research found positive as well as negative effects of (excessive) gaming on interpersonal relationships. Gamers frequently form online relationships with other players, but excessive gaming often has a negative impact on offline relationships.
Present Research

The present research brought together research on harmonious and obsessive passion and research on the interpersonal effects of playing MMORPGs. We investigated gaming effects on close friendships. Friendships are defined as “primary relationships by two individuals not related by kinship” (Booth & Hess, 1974, p. 38) and are characterized by mutual understanding and trust, intimacy, and offering each other emotional support. We focus on the social bonding capital derived from these friendships because social bonding capital not only contributes to an individual’s well-being (Abbey et al., 1985; Tanis, 2008) but also benefits society by increasing trust and civic engagement.

We first tested a basic model which examines the effects of time spent gaming on online and offline friendships. Based on the displacement hypothesis, we expected that time spent gaming would correlate negatively with the number and quality of offline friendships.

**Hypothesis 1:** Time spent gaming correlates negatively with (a) the number and (b) the quality of offline friendships.

Moreover, because MMORPGs and other multiuser games also have a strong social component (Cole & Griffiths, 2007; Utz, 2000), we expected that time spent gaming would be positively related to making friends online.

**Hypothesis 2:** Time spent gaming correlates positively with (a) the number and (b) the quality of online friendships.

More importantly, we propose that harmonious and obsessive passion explain additional variance. Harmonious passion is in general related to positive effects. Moreover, people with a harmonious passion for an activity are still able to combine this activity with other things in their life. Seguin-Levesque et al. (2003) have shown that harmonious passion for the Internet does not have negative effects on romantic relationships. In a similar vein, we expect that harmonious passion for MMORPGs does not harm offline friendships. Because this would be a null hypothesis, we do not formulate a hypothesis on this pattern. However, we predicted that harmonious passion would be positively related to the number and quality of online friendships because players also experience more positive emotions (Przybylski et al., 2009). According to the broaden-and-build theory by Fredrickson (2001), positive emotions such as joy broaden peoples’ thought-action repertoires and increase their personal and social resources. Fredrickson (2004) used play as an example to explain how positive emotions experienced during play, especially during social play, create long-lasting social bonds. In the context of a passion for basketball, it has been shown that harmonious passion has positive effects on interpersonal relationships and that these effects are mediated by positive emotions (Philippe, Vallerand, Houlfort, Lavigne, & Donahue, 2010). We expected similar effects for MMORPGs.

**Hypothesis 3:** Harmonious passion for MMORPGs is positively related to (a) the number and (b) the quality of online friendships.

Players scoring high on obsessive passion also spend a lot of time in the game, but we did not expect them to form strong online relationships. First, people with an obsessive passion for an activity also show problematic behaviors such as irritability that might hamper the development of new friendships (Lafreniere et al., 2009). Second, they experience less positive emotion during play, and thus do not strengthen their social resources (Fredrickson, 2004). Moreover, players with an obsessive passion experience more postplay tension (Przybylski et al., 2009). According to the broaden-and-build theory of positive emotions, negative emotions reduce the personal and social resources of people and decrease their ability to maintain relationships. In line with this argument, Philippe et al. (2010) reported a negative relationship between obsessive passion and the quality of interpersonal relationships, which was mediated by negative emotions. Therefore, we assume that the effects on the displacement hypothesis are mainly driven by obsessive passion for MMORPGs.

**Hypothesis 4:** Obsessive passion for MMORPGs is negatively related to (a) the number and (b) the quality of offline friendships.

Method

Participants

Participants were 406 MMORPG players (344 males and 62 females, mean age 23 years, SD = 8.13). The majority were from The Netherlands (36%) or the United States (33%). Only 7% of the respondents played games for 5 hr/week or less, 16% played 6–10 hr, 20% 11–15 hr, 15% 16–20 hr, 15% 21–25 hr, 9% 26–30 hr, and 17% played 31 hr or more per week. The most popular games were World of Warcraft, Mabinogi, and Eve Online. Time spent online was even higher, with 49% indicating that they spent 31 hr or more per week online. Not surprisingly, time spent gaming and total time spent online were correlated at ρ(406) = .56, p < .001.

Procedure

The online survey was conducted in English. The invitation was posted on mailing lists, newsgroups, and social network...
Table 1. Intercorrelations of the measures

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<tbody>
<tr>
<td>1 Time spent gaming</td>
<td>4.12</td>
<td>1.88</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>2 Harmonious passion (scale 1–7)</td>
<td>4.63</td>
<td>1.01</td>
<td>.19**</td>
<td></td>
<td>.15**</td>
<td></td>
<td>.11*</td>
<td>.20**</td>
</tr>
<tr>
<td>3 Obsessive passion (scale 1–7)</td>
<td>2.44</td>
<td>1.32</td>
<td>.26**</td>
<td>.11*</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 Number of online friends</td>
<td>2.48</td>
<td>1.43</td>
<td>.16**</td>
<td>.17**</td>
<td>.19**</td>
<td></td>
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<tr>
<td>5 Quality of online friendships (scale 1–5)</td>
<td>2.47</td>
<td>0.92</td>
<td>.20**</td>
<td>.27**</td>
<td>.12*</td>
<td>.48**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6 Number of offline friends</td>
<td>2.77</td>
<td>1.37</td>
<td>-.12*</td>
<td>-.02</td>
<td>-.17**</td>
<td>.29**</td>
<td>.01</td>
<td></td>
</tr>
<tr>
<td>7 Quality of offline friendships (scale 1–5)</td>
<td>4.11</td>
<td>0.87</td>
<td>-.05</td>
<td>-.05</td>
<td>-.21**</td>
<td>-.11*</td>
<td>-.11</td>
<td>.20*</td>
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Note. *p < .05, **p < .01.

Forums related to MMORPGs. Participation was voluntarily, and participants were not paid for their participation.

Results

In Table 1, the means and standard deviations as well as the intercorrelations of the measures are displayed. Harmonious and obsessive passion correlated only weakly (.15). In general, respondents scored higher on harmonious than on obsessive passion. The majority, 78.6%, scored 4 or higher on the harmonious passion subscale (1–7), whereas only 15.3% scored 4 or higher on obsessive passion.

The hypotheses were tested by a series of hierarchical regression analyses. Time gaming as well as the control variables age, sex, and time online were entered in the first block; the two passion scales were entered in the second block. This allowed us to detect whether passion explains variance over and above the other variables. We first analyzed the effects of passion on offline friendships, before we turned to online friendships.

When number of offline friends was used as dependent variable, the first block of the regression explained 2% of the variance. In line with H1a, time spent gaming was negatively related to number of offline friends, $\beta = -.15$, $p < .05$ (see Table 2). Adding the two passion scales doubled $R^2_{adj}$ significantly. As expected, harmonious passion was unrelated to number of offline friends, $\beta = .01$, ns. In line with H4a, obsessive passion was negatively related to number of offline friends, $\beta = -.16$, $p < .01$. The effect of time gaming was no longer significant, $\beta = -.11$, ns, indicating that the displacement effect was driven by obsessive passion.

Regarding the quality of offline friendships, in block 1, only age had a positive relationship with quality of offline friendships, $\beta = .23$, $p < .01$ (see Table 2). Although the relationship between time gaming and quality of offline friendships was negative, H1b had to be rejected. Again, passion explained a significant portion of additional variance, final $R^2_{adj} = .08$, $p < .05$. As expected, the quality of offline relationships was negatively influenced by obsessive passion, $\beta = -.18$, $p < .01$ (H4b), but not related to harmonious passion, $\beta = .01$, ns. Age still correlated positively with quality of offline friendships, $\beta = .21$, $p < .01$. Taken together, these results confirmed our hypothesis on the negative effects of obsessive passion on offline friendships.

With regard to online friendships, we expected positive effects of time spent gaming and harmonious passion. When number of online friends was used as dependent variable,
time gaming had a significant effect in the first block, $\beta = .20, p < .01$ (see Table 3). H2a was thereby supported. Age also had a significant effect, $\beta = -.18, p < .01$: The younger the players, the more online friendships they reported. Adding passion increased $R^2_{adj}$ significantly. Number of online friendships was predicted by both types of passion, both $\beta_s = .12, p < .05$. The effect of harmonious passion confirmed H3a, whereas the effect of obsessive passion was unpredicted. Time spent gaming, $\beta = .16, p < .01$, and age, $\beta = -.15, p < .01$, were still related to the number of online friends.

When quality of online friendships was the dependent variable, time spent gaming had a positive effect as predicted by H2b, $\beta = .21, p < .05$ (see Table 3). Age, $\beta = -.16, p < .05$; and sex, $\beta = -.17, p < .05$, also predicted the quality of online friendships. Younger participants and women reported a higher quality of online friendships. Adding passion increased the amount of explained variance significantly from .09 to .13. In line with H3b, the quality of online friendships was predicted by harmonious passion, $\beta = .21, p < .05$, but not by obsessive passion, $\beta = .03, ns$. Time spent gaming, $\beta = .17, p < .05$, age, $\beta = -.13, p < .05$, and sex, $\beta = -.17, p < .05$, remained significant predictors. In general, these results supported our hypothesis that harmonious passion positively influences number and quality of online friendships.

### Discussion

We showed that the dual conceptualization of passion (Vallerand et al., 2003) is a useful framework for examining the effects of gaming on friendships. We extended earlier research in the intrapersonal domain, to the interpersonal domain by studying the consequences of playing MMORPGs for online and offline friendships. In line with the displacement hypothesis, we found that the time invested in gaming correlated positively with number and quality of online friendships, but negatively with the number of offline friendships.
friendships. Harmonious passion was positively related to number and quality of online friendships, but unrelated to number and quality of offline friendships. Although obsessive passion was positively related to number of online friendships, it was unrelated to quality of online friendships. More important, it was negatively related to number and quality of offline friendships.

Value of the Dualistic Conceptualization of Passion

We aimed to further contribute to the growing evidence (Lafrenière et al., 2009; Przybylski et al., 2009) that the dualistic model of passion is fruitful for game research. As in studies on addiction and pathological gaming, we found only a small percentage of players who scored on or above the midpoint of the obsessive passion scale. At the same time, the vast majority of players showed signs of harmonious passion. Thus, the harmonious passion scale covers quite adequately how the majority of gamers feel; they like to engage in playing MMORPGs and spend a large amount of game timing, but are still able to combine this activity with other activities in their life.

More important, the two forms of passion differ in predictive value, although they are both positively related to time spent gaming. Moreover, the passion scales did explain additional variance over and above time spent gaming and the demographic variables. In contrast to the addiction/pathological gaming model, the dualistic model of passion provides an alternative and less tautological explanation of gaming effects, by referring to the way gaming is incorporated into the identity of the players and the emotions experienced during and after playing.

Theoretical Implications

Beyond demonstrating the usefulness of the dualistic conceptualization of passion, our results also shed more light on the displacement hypothesis. We found that time spent gaming correlated negatively with number of offline friends, but positively with number and quality of online friends. Adding the two passion scales revealed that the displacement effect was driven by obsessive passion. Time spent gaming no longer had a significant effect on number of offline friends, but obsessive passion did. Our results show that excessive gaming affects online friendships negatively only if it is caused by an uncontrollable urge to play. The effect of time gaming remained significant on the number and quality of online friendships, but harmonious passion exerted also a strong influence. This confirms earlier findings that it takes time to build online friendships (Utz, 2000; Walther, 1992), but shows also that intimate friendships are more likely to be built if the players are able to integrate playing MMORPGs in an autonomous way into their identity.

There was also an unpredicted positive effect of obsessive passion for gaming on number of online friendships. However, obsessive passion had no effect on quality of online friendships. Thus, obsessive players call more players “friends,” but when it comes to emotional support, these “friendships” turn out to be relatively superficial. Although we did not measure emotions during and after play in the current study, other work has shown that people with obsessive passion experience less positive emotion during the activity and more negative emotions after the activity (Vallerand et al., 2003; see also Przybylski et al., 2009, for game enjoyment and postgame tension). Our findings could thus be explained by the broaden-and-build theory of positive emotions (Fredrickson, 2001, 2004). They show that people high in obsessive passion do not only report fewer and fewer satisfying offline friendships, but they also seem not to build intimate friendships within the virtual world that could compensate for the loss of offline friendships.

As predicted, harmonious passion was only related to online friendships, and not at all to offline friendships. The latter is in line with earlier findings that people with a harmonious passion for an activity can manage several domains of their life successfully. However, the present results show that these individuals are at the same time successful in making friends within the game. Harmonious passion for an activity results in positive emotions (Przybylski et al., 2009; Vallerand et al., 2003), and positive emotions during gaming foster, according to the broaden-and-build theory, social bonds with other players (Fredrickson, 2001, 2004). The finding that players with a harmonious passion for MMORPGs, especially, form intimate online friendships shows similarities also with the rich-get-richer hypothesis, which states that extraverted individuals benefit from online interactions by making even more friends (Kraut et al., 2002). Indeed, there is some evidence that harmonious passion is correlated with extraversion (Tosun & Lajunen, 2009). Future research could have a closer look at this relationship and the processes underlying the formation of online friendships.

We did not look at the influence of playing style and other game-specific variables in this study. Recent studies have found that collective play or engaging in guilds fosters the development of social capital (Trepte et al., 2012; Zhong, 2011). These findings should be stronger for players with a harmonious passion for MMORPGs. It might even be useful to assess more specific types of passion for MMORPGs, such as passion for engaging in guilds versus passion for killing monsters / competitive play. Another question is whether there are personality characteristics or disorders that foster both the development of an obsessive passion as well as poor interpersonal relationships. There is initial evidence that a controlled personality (Vallerand et al., 2006) or psychotcism (Tosun & Lajunen, 2009) are related to obsessive passion. In the context of passion for sports, playing music, or dancing, parents have an influential role (Mageau et al., 2009), but it is unlikely that parents push their children to playing games. Looking at the role of peers might be an important next step in studying the development of passion for gaming.

With regard to the control variables, we found that women reported a higher quality of friendships with other gamers. Similar sex differences have also been reported by Yee (2006). Women are on average more social than...
men and might therefore also be more interested in the social aspects of MMORPGs. Younger players participating in our study also made more friends. It is not unlikely that younger players have grown up with Internet technologies. Therefore, they might be better in making friends online. Future research should address this question, too.

The present study only focused on bonding social capital. It might be interesting to look also at the effects on bridging social capital. Bonding capital is more important for emotional social support and is therefore more closely related to well-being, but bridging capital delivers informational support (Putnam, 2000). Ellison, Steinfield, and Lampe (2007) showed that social network site uses increases bridging social capital, especially for low self-esteem individuals. The dualistic model of passion could also help to explain effects in this domain.

Practical Implications

Our results also have practical implications. Parents and teachers are worried about the health especially of young gamers; therefore, it is important to identify people who run the risk of experiencing negative consequences offline. Time spent gaming is obviously not the best indicator, instead more important is the way in which gaming is incorporated in one’s identity. Our results suggest that the obsessive passion scale could be a more useful screening tool. Trainings and interventions could then focus on the development and strengthening of an autonomous personality.

Limitations

Before closing, we would like to note some limitations of the present study. Due to the cross-sectional nature of the study, the question of directionality remains unanswered. Longitudinal studies would be needed to test the causal direction of the effects. Another limitation is that the sample was self-selected and that more males than females participated. However, with regard to sex distribution and mean age, our sample resembles closely the one obtained by Lafrenière et al. (2009). We were interested in the correlates of harmonious and obsessive passion; therefore, it is not a problem if “heavy” players are slightly overrepresented. Another limitation is that we used self-reports. However, it is difficult to obtain more objective measures of passion as well as of number and quality of friendships while staying within the ethical and practical boundaries of an online survey. Our effect sizes are in general lower than the ones of studies of addiction or pathological gaming, but this is not surprising considering the overlap between the definitions of these concepts and the dependent variables. We also did not explicitly test the proposed underlying processes; future research should therefore assess positive and negative emotions during and after playing.

Despite these limitations, the study showed for the first time that the dualistic conceptualization of passion is a useful framework for studying the effects of gaming on interpersonal relationships. Gaming does not have negative impacts on existing offline friendships per se; only players with an obsessive passion – a minority in our study – run the danger of losing offline friendships without building intimate online friendships.

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