Personality and Individual Differences 101 (2016) 167–176

Contents lists available at ScienceDirect

Personality and Individual Differences

journal homepage: www.elsevier.com/locate/paid

On the correlates of passion for screen-based behaviors: The case of impulsivity and the problematic and non-problematic Facebook use and TV series watching

Gábor Orosz [a,b,*], Robert J. Vallerand [c,d], Beáta Bőthe [a], István Tóth-Király [a], Benedek Paskuj [e]

[a] Institute of Psychology, University of Eötvös Loránd, Budapest, Hungary
[b] MTA Research Centre for Natural Sciences, Institute of Cognitive Neuroscience and Psychology, Budapest, Hungary
[c] Laboratoire de Recherche sur le Comportement Social, Université du Québec à Montréal, Canada
[d] Institute of Positive Psychology and Education, Australian Catholic University, Australia
[e] Department of Psychology, University College London, London, UK

ARTICLE INFO

Article history:
Received 23 February 2016
Received in revised form 27 May 2016
Accepted 30 May 2016
Available online 5 June 2016

Keywords:
Facebook use
Series watching
Impulsivity
Harmonious passion
Obsessive passion

ABSTRACT

The purpose of the present research was to look at the correlates of passion toward screen-based activities. In two studies, we aimed to test the role of impulsivity as a predictor of obsessive (but not harmonious) passion for Facebook use and series watching. We also aimed to distinguish between problematic and non-problematic correlates as pertains to Facebook use and TV series watching. Based on the Dualistic Model of Passion, it was hypothesized that Harmonious passion would be positively associated with adaptive correlates and Obsessive passion to less positive and even negative ones in both types of activities. In two studies, young adults (Study 1 = 256; Study 2 = 420) completed the Passion Scale with respect to Facebook use and series watching, respectively, the UPPS Impulsivity Scale, and scales measuring problematic and non-problematic correlates associated with engaging in such activities. The results provided support for the proposed model: Impulsivity predicted obsessive (but not harmonious) passion. Obsessive passion was positively associated with negative correlates such as Facebook overuse whereas harmonious passion was positively associated with adaptive correlates such as self-development through series watching. These results suggest that it is the type of passion underlying activity engagement that determines what is experienced.

In Indonesia and in the Philippines people spend an average more than 500 min every day looking at screens. In the USA this number is 444 min that includes 147 min spent watching TV, 103 min in front of a computer, 151 min on a smartphones, and 43 min with a tablet (Quartz, 2014). Over the recent years, screen-based activities as series (or TV show) watching and Facebook use slowly became a significant part of the leisure time activities. In a recent study of the Netflix Media Center (2013), 73% of binge-watching streamers—those who watch more than one episode per occasion—have positive feelings toward this activity and 80% of them claim that they would rather watch an episode of a good series than to watch and read the social media activity of their friends. Most recently, Netflix started to broadcast in more than 200 countries, reaching viewers all around the globe (Netflix, 2016). In addition to the growing popularity of series watching, social media use is also a prevalent phenomenon. Facebook is currently the most popular social networking site, overtaking Twitter, LinkedIn, Pinterest and Google Plus (Ebizmba, 2015). As of January 2015, it had more than one billion active users with almost half of them (48%) using it every day. In light of the huge number of users and viewers, it becomes important to ask about the correlates supposedly derived from both series watching and Facebook involvement. Although there were in-depth psychological studies about the motivations underlying series watching in the 1980s and 1990s (e.g., Babrow, 1987; Livingstone, 1988; Perse & Rubin, 1988), there has been much less research in the last 15 years (e.g., Bondad-Brown, Rice, & Pearce, 2012). However, in the case of Facebook, the literature is equivocal on this issue: it would appear that some users derive negative outcomes while others experience positive benefits. The positive sides of Facebook use includes facilitated contact with friends (Ellison, Steinfield, & Lampe, 2007), reducing loneliness (Burke, Marlow, & Lento, 2010), experiencing some entertainment (Tosun, 2012), and relieving boredom (Lampe, Ellison, & Steinfield, 2008). However, the negative sides include its problematic use or overuse (Satici & Uysal, 2015), addiction (Andreassen, Torsheim, Brunborg, & Pallesen, 2012),[1] or more specifically exaggerated self-disclosure and

* Corresponding author at: Institute of Psychology, University of Eötvös Loránd, Budapest, Hungary.
E-mail address: gaborosz@gmail.com (G. Orosz).

[1] In the scientific literature, addiction and problematic use are generally used as synonyms. However, "problematic use" indicates the lack of clinical evidence of an actual addiction with the use of self-reported data, whereas "addiction" is typically based on clinical evidence (Ross, Mansson, & Daneback, 2012).

http://dx.doi.org/10.1016/j.paid.2016.05.368
0191-8869/

oversharing (Forest & Wood, 2012). Very similar positive and negative aspects of series watching were identified in previous studies. For example, among the positive ones, we can mention social interactions derived from watching series (e.g., Babrow, 1987), having either virtual or real-life companionship instead of being lonely (Bondad-Brown et al., 2012), being entertained by watching series (Perse & Rubin, 1988), or learning new languages and skills with the help of series (Alexander, 1985). On the other hand, problematic series watching—in terms of watching more series than initially intended or ignoring partner, family members, or friends—could be mentioned as a potential negative outcome (Orosz, Bőthe, & Tóth-Király, 2016). Based on these similarities, it can be hypothesized that the nature of non-problematic and problematic outcomes associated with series watching and Facebook involvement are similar and may depend on how one engages in the activity. One of the potential psychological mechanisms that can distinguish these positive and negative forms of screen-based activity involvement can be passion. We now turn to this issue and the Dualistic Model of Passion.

1. The Dualistic Model of Passion

The Dualistic Model of Passion (DMP; Vallerand, 2010, 2015; Vallerand et al., 2003) defines passion as a strong inclination toward a self-defining activity that one loves, finds important, and invests a significant amount of time and energy in it. Passion can be oriented toward an activity (e.g., dance; Rip, Fortin, & Vallerand, 2006), a person (e.g., one's romantic partner; Ratelle, Carbonneau, Vallerand, & Mageau, 2013), or an object (e.g., one's cards collection; Mageau, Carpentier, & Vallerand, 2011). The DMP further proposes the existence of two types of passion, harmonious and obsessive, which can be differentiated in terms of how the passionate activity is regulated and integrated with other life domains.

Obsessive passion refers to a strong desire to engage in the activity that eventually gets out of control. This is because obsessive passion implies an uncontrollable urge to partake in the activity that one loves. The person thus feels pressured to engage the activity that one loves. As such, individuals lose control over the activity leading to rigid activity involvement. Furthermore, with obsessive passion, the activity occupies a significant space in the person's identity that prevails over other aspects of the person's life. As a consequence, to the extent that they are predominantly obsessively-passionate, individuals will show defensiveness (Hodgins & Knee, 2002) and experience negative outcomes such as negative affect and conflict with other life activities (see Vallerand, 2010, 2015).

Conversely, harmonious passion refers to a strong desire to freely engage in the beloved activity. The person is thus expected to be in control of the activity. As such, individuals can decide when to and when not to engage in the activity. Furthermore, with harmonious passion, the activity occupies a significant but not overriding space in the person's identity. As a result, the activity is in coherence and well-integrated with other aspects of the person's life. Therefore, to the extent that they are predominantly harmoniously-passionate, individuals should show more openness while engaging in the activity (Hodgins & Knee, 2002) and experience more adaptive outcomes.

Empirical findings have been consistent with this conceptualization of passion. First, results support the existence of the two types of passion (see Curran, Hill, Appleton, Vallerand, & Standage, 2015 for a meta-analysis and for reviews Vallerand, 2010, 2015). For instance, over 20 studies provide strong support for the bi-factorial structure of the Passion Scale, including the invariance of the two types of passion over gender, language (French and English), and various types of activities (Marsh et al., 2013). Second, empirical support reveals that harmonious and obsessive passions represent forms of passion as they are both positively correlated with passion criteria of activity valuation in terms of liking (or loving) the activity, spending a lot of time on the activity, of the activity being perceived as a passion, and inclusion of the activity in the person's identity (see Marsh et al., 2013; Vallerand, 2010, 2015; Vallerand et al., 2003, Study 1). Although harmonious and obsessive passions both represent a passion, they nevertheless relate differently to various outcomes as hypothesized by the DMP. Specifically, harmonious passion is positively related, whereas obsessive passion is either unrelated or negatively related, to psychological adjustment indices (e.g., Donahue et al., 2012; Fernet, Lavigne, Vallerand, & Austin, 2014; Houlfort, Philippe, Vallerand, & Ménard, 2014; Houlfort, Vallerand, Laframboise, Fernet, & Koestner, 2015; Lafrenière, St-Louis, Vallerand, & Donahue, 2012; Lafrenière, Vallerand, & Sedikides, 2013; Philippe, Vallerand, & Lavigne, 2009; Rousseau & Vallerand, 2008; Vallerand, 2012; Vallerand et al., 2007) and positive emotions and flow during activity engagement (e.g., Carpentier, Mageau, & Vallerand, 2012; Lafrenière, Jowett, Vallerand, Donahue, & Lorimer, 2008, Study 2; Mageau & Vallerand, 2007; Vallerand, Rousseau, Grouzet, Dumais, & Grenier, 2006, Study 2).

Moreover, harmonious passion is negatively related, whereas obsessive passion is positively related, with the experience of conflict between one's passion and other life activities (e.g., Carbonneau & Vallerand, 2013; Vallerand et al., 2003, Study 1; Vallerand, Paquet, Philippe, & Charest, 2010). Moreover, past research has shown that while both types of passion are positively related to persistence in the activity that one is passionate about (e.g., Bonneville-Roussy, Vallerand, & Bouffard, 2013), only obsessive passion is related to indicators of rigid persistence in ill-advised activities such as cycling over ice and snow in winter (Vallerand et al., 2003, Study 3) and displaying overuse of the activities as indicative of gaming addiction (Lafrenière, Vallerand, Donahue, & Lavigne, 2009; Wang & Chu, 2007), pathological gambling (Philippe & Vallerand, 2007; Ratelle, Vallerand, Mageau, Rousseau, & Provencher, 2004; Vallerand et al., 2003, Study 4), and even physical injuries (Rip et al., 2006; St-Louis, Carbonneau, & Vallerand, 2015). Finally, previous research uncovered moderately strong, positive associations (ranging from 0.22 to 0.70) between obsessive passion and problematic behaviors such as for instance, activity addiction (Stenseng, Rise, & Kraft, 2011), gambling dependence (MacKillop, Anderson, Castelda, Mattson, & Donovick, 2006; Ratelle et al., 2004), compulsive buying (Wang & Chen, 2008; Wang & Yang, 2008), exercise dependence (Paradis, Cooke, Martin, & Hall, 2013). However, the two constructs can be separated based on one's love for the activity: in the case of obsessive passion, engagement in the activity is still motivated by the love one has for that particular activity, whereas this component is missing regarding addictions (Vallerand, 2015). Furthermore, addictions are focused on aspects such as tolerance, withdrawal, mood modification, or relapse or craving (Griffiths, 2005; Kraus & Rosenberg, 2014) which are theoretically independent from passion toward the given activity. Additionally, in line with previous research (Vallerand & Verner-Filion, 2014), we hypothesize that obsessive passion could be seen as a potential precursor of problematic use.

Far less passion research has focused on Internet, video games, and online gaming. The available research however provides support for the DMP. For instance, Séguin-Lévesque, Laliberté, Pelletier, Vallerand, and Blanchard (2003) showed that obsessive passion for the Internet undermines dyadic adjustment and generates conflict between the passionate activity and individuals' romantic relationship. In contrast, harmonious passion toward the Internet was associated with greater dyadic adjustment and less conflict. Wang and Chu (2007) showed that obsessive passion was positively related to problematic gaming, while harmonious passion was not related to it. Finally, it has been shown that harmonious passion for massively multiplayer online games leads to adaptive outcomes such positive affect and vitality, whereas obsessive passion does not and even leads to negative affect, over engagement and addiction-like symptoms (Lafrenière et al., 2009; Przybylski, Weinstein, Ryan, & Rigby, 2009; Stoeber, Harvey, Ward, & Childs, 2011). In sum, while both types of passion should be associated with persistent engagement in series watching or Facebook

activities, especially if it reflects self-expression and identity, only obsessive passion should predict overuse and addictive-like symptoms toward the passionate activity.

1.1. Impulsivity (UPPS) as a predictor of passion

Because most people are passionate for a given activity (between 75 and 84%, see Philippe et al., 2009; Vallerand et al., 2003, Study 1), it would be surprising that a personality variable would determine if one is passionate or not for something. Rather, it is expected that some individual differences predict if one is more likely to display a predominant harmonious or obsessive passion. Only a handful of studies have looked at the role personality as a predictor of passion. Such research reveals that general dispositions like the Big Five only weakly predict the two types of passion (Balon, Lecoq, & Rimé, 2013; Tosun & Lajunen, 2009). However, other studies have shown that more specific dispositions such as self-oriented perfectionism predict harmonious passion while socially prescribed perfectionism predicts obsessive passion (Verner-Filion & Vallerand, 2015). Similarly, Vallerand et al. (2006) also found in two studies that an autonomous personality orientation predicts harmonious passion while a controlled personality orientation predicts obsessive passion (Guay, Mageau, & Vallerand, 2003).

One individual difference that may be of interest with respect to passion is impulsivity. Different conceptualizations of impulsivity have been presented (e.g., Patton, Stanford, & Barratt, 1995; Mischel, Shoda, & Rodriguez, 1989; see also Whiteside & Lynam, 2001). Whiteside and Lynam (2001) attempted to clarify this theoretical concept by developing a multifactor model that led to the development of the UPPS Impulsive Behavior Scale. For these authors, impulsivity refers to feeling pressured to engage in a given behavior or feeling like having to give in (Whiteside, Lynam, Miller, & Reynolds, 2005). The conceptual link with obsessive passion is clearly present. Indeed, because Obsessive Passion is subjectively experienced as this uncontrollable urge to engage in the activity that one is passionate about, one would hypothesize that being impulsive would lead one to give in and display higher levels of obsessive passion. Such should not be the case with harmonious passion as it is subjectively experienced as having the freedom to engage in the beloved activity or not. Whiteside and Lynam (2001) developed the UPPS Impulsive Behavior Scale, in which impulsivity is measured by four dimensions, two of which are of interest here, namely urgency and lack of perseverance. *Urgency* refers to the tendency to engage in impulsive behaviors in in a hasty manner, even if they can have a potentially harmful long-term effect or consequence. *Lack of perseverance*, describes a person's inability to remain focused on a difficult or boring task, so that they have difficulties in completing works or projects that require resistance to distracting stimuli.

In the case of offline problematic and addictive behaviors (e.g., binge-eating, gambling, or alcohol drinking), the lack of premeditation (i.e., lack of planning) was a significant predictor (see for example Adams, Kaiser, Lynam, Charnigo, & Milich, 2012 or Fischer & Smith, 2008). However, regarding online problematic behaviors such as problematic online gaming or cellphone dependence—where the short- and long-term effects can be less visible, lack of premeditation and sensation seeking were not significant predictors (Billieux et al., 2011; Billieux, van der Linden, D'Acremont, Ceschi, & Zermatten, 2007). It would thus appear that the urgency and lack of perseverance factors are the important ones to focus on.

Since obsessive passion refers to an uncontrollable urge to engage in the activity that one loves, impulsivity can represent a relevant personality variable underlying this type of passionate engagement. Conversely, harmonious passion lacks this uncontrollable urge: the person is in complete control of the activity and can decide the manner of engagement. In sum, it would thus be hypothesized that both the urgency and lack of perseverance components of impulsivity would positively predict obsessive passion but would be unrelated or negatively related to harmonious passion.

2. The present research

The purpose of the present research project was to assess the universal role of harmonious and obsessive passion in some of the positive and negative correlates derived from both series watching and Facebook engagement as well as the role of impulsivity as a predictor of passion in an integrated model. It was hypothesized that the two components of impulsivity, namely urgency and lack of perseverance would positively predict obsessive passion but would be either unrelated or negatively related to harmonious passion.

In the first study, with respect to hypothesized outcomes, three aspects of Facebook use were assessed: Self-expression, persistence, and overuse. Self-expression through Facebook refers to displaying one's true self and identity through Facebook use. The second factor in our study pertains to *persistence of Facebook* use. This dimension refers to remaining regularly involved in Facebook use. In light of the DMP, one would expect these two types of correlates to be predicted by harmonious and obsessive passion as both should foster persistence and the expression of one's identity through an activity that they are passionate about, namely both series watching and Facebook use. Finally, the third correlate that was investigated was *Facebook overuse*. This dimension focuses on the excessive use of Facebook and the problematic nature of everyday Facebook use that is similar to excessive gaming (e.g., Lafrenière et al., 2009), or addictive conflict items[2] (Andreassen et al., 2012). In line with past passion research it was expected that obsessive passion would be positively related, while harmonious passion would be unrelated or perhaps negatively related, to Facebook overuse.

In the second study, considering the hypothesized outcomes, we assessed three factors of series watching: problematic series watching, self-development through series watching, and offline discussions about series. *Problematic Series Watching* (Orosz et al., 2016) is based on the six-element model of Griffiths (2005) including mood modification, tolerance, withdrawal, relapse, high salience, and conflict with other activities. The other two aspects of series watching refer to its non-problematic nature. Currently, Netflix is mainly broadcasting series in English worldwide. Therefore, it can be a good platform of language learning in many non-English speaking countries. The *Self-development* factor grasps this beneficial aspect of series watching. The third measured factor refers to the inclination in talking about series in different social groups as family, friends, and acquaintances in general. This *Social Interaction* dimension also belongs to the not harmful aspects of series watching.

3. Study 1

3.1. Materials and methods

3.1.1. Participants

A total of 257 Hungarian participants were recruited for this study (184 females, 73 males), aged between 18 and 65 years (M_{age} = 24.04 years; SD_{age} = 6.45 years). Only one participant did not have a Facebook account, the final number of participants was 256. On average, the respondents spent 231.58 min per day (SD = 235.87 min) on Facebook passively—when the Facebook is open on the browser but the user does not use it. However, they spent 80.00 min per day (SD = 135.94 min) actively—using it directly—on this social networking site.

[2] Addictive conflicts can appear between the given addiction and other parts of life, such as health, family, personal relationships, or work.

3.1.2. Measures

3.1.2.1. The Passion Scale. The Passion Scale (Marsh et al., 2013; Vallerand et al., 2003) consists of six harmonious passion items (e.g., "My activity is in harmony with the other activities in my life"; $\alpha = 0.57$) and six obsessive passion items (e.g., "I have almost an obsessive feeling for my activity"; $\alpha = 0.85$). The scale has shown high levels of validity and reliability (see Marsh et al., 2013; Vallerand, 2015) as well as invariance as a function of gender, language (French and English), and types of activities (Marsh et al., 2013). In this case, the Passion Scale focused directly on "Facebook use". The measure was translated in Hungarian using the protocol of Beaton, Bombardier, Guillemin, and Ferraz (2000). Respondents had to indicate their level of agreement with the items using a 7-point scale.

3.1.2.2. The UPPS Impulsive Behavior Scale. The UPPS Impulsive Behavior Scale (Whiteside & Lynam, 2001) is a 45-item scale that measures the impulsivity of the respondent in four separate dimensions. This scale has shown high levels of validity and reliability. The measure was translated by following the protocol of Beaton et al. (2000). Two subscales of UPPS were used in this study, namely Urgency (12 items, e.g., "Sometimes I do impulsive things that I later regret"; $\alpha = 0.87$) and (lack of) Perseverance (10 items, e.g., "I tend to give up easily"; $\alpha = 0.86$). Each item on the UPPS Scale is rated on a 4-point scale.

3.1.2.3. Multidimensional Facebook Intensity Scale. Hypothesized Facebook outcomes were assessed with the Multidimensional Facebook Intensity Scale (Orosz, Tóth-Király, & Bőthe, 2015). In the present study, we only used three relevant subscales: Facebook *Persistence* (4 items, e.g., "I feel bad if I don't check my Facebook daily"; $\alpha = 0.75$), Facebook *Self-Expression* (3 items, e.g., "I like refining my Facebook profile"; $\alpha = 0.70$), and Facebook *Overuse* (3 items; e.g., "It happens that I use Facebook instead of sleeping"; $\alpha = 0.75$). Items are rated on a 5-point Likert scale.

3.1.3. Procedures

The research was conducted with an online questionnaire. Completing the questionnaire took approximately 15 min. The data collection occurred in October 2014. The respondents were recruited using online methods (Facebook, email) and they did not receive any compensation for their participation. Participants were informed about the aim of the research and the content of the questionnaire. They were assured about their anonymity. The study was conducted in accordance with the Declaration of Helsinki and was approved by the ethical board of the related university. The first section of the questionnaire contained questions regarding demographic data, such as age and gender. Also in the first section, they were asked to estimate how much time they spend using the internet on an average weekday and weekend day. In the second section, similar questions were asked regarding their Facebook use (how much time they spend on Facebook during an average weekday and weekend). This second section was followed by the Facebook Intensity Scale, the Multidimensional Facebook Intensity Scale, the UPPS Scale, and finally, the Passion Scale with respect to Facebook use.

3.1.4. Statistical analysis

The data analyses were performed with SPSS 22 and Mplus 7.3 with robust maximum-likelihood estimator (MLR) (Muthén & Muthén, 1998–2012). Structural equation modeling (SEM) was used to explore the relationship pattern between the impulsivity, Facebook passion and different dimensions related to Facebook use. Several goodness of fit indices were observed (Brown, 2015) when assessing the model: the Comparative Fit Index (CFI), the Tucker-Lewis Index (TLI), the root-mean-square error of approximation (RMSEA) and its 90% confidence interval (90% CI), the test of close fit (CFit), and the standardized root mean square residual (SRMR). The model was considered good or accepted if the values reached the following criteria (Bentler, 1990; Brown, 2015; Browne & Cudeck, 1993; Hu & Bentler, 1999; Schermelleh-Engel, Moosbrugger, & Müller, 2003): CFI (≥0.95 for good, ≥0.90 for acceptable), TLI (≥0.95 for good, ≥0.90 for acceptable), RMSEA (≤0.06 for good, ≤0.08 for acceptable), CFit (≥0.10 for good, ≥0.05 for acceptable), and SRMR (≤0.05 for good, ≤0.10 for acceptable).

Because the latent variables contained too many items relative to the number of participants, parcels were used as indicators of the two factors of impulsivity as well as passion. These parcels are aggregated items that we used in the SEM model as measured variables instead of the numerous items. The usage of parcels can be justifiable if the scales are theoretically unidimensional (Bandalos & Finney, 2001; Little, Cunningham, Shahar, & Widaman, 2002; Matsunaga, 2008). Parcel use could also minimize the issues related to non-normally distributed data and could result in better fitting solutions for unidimensional constructs (Bandalos, 2002; Matsunaga, 2008). In line with Rogers and Schmitt (2004) exploratory factor analysis was used to derive the parcels for the Impulsivity and Passion Scales. Three parcels were used for each of the Impulsivity subscales and two each for harmonious and obsessive passion (see also Carbonneau, Vallerand, Fernet, & Guay, 2008; Lafrenière et al., 2009 for the use of two parcels for each of the harmonious and obsessive passion subscales). Previous studies applied this method when there were several latent variables relative to the number of participants (Carbonneau et al., 2008).

3.2. Results

The means, standard deviations, and correlations among the model variables are presented in Table 1. As can be seen, the pattern of correlations is in line with the hypothesized model with significant relationships between the two forms of Impulsivity and obsessive passion, but not with harmonious passion. In turn, correlations between the two types of passion are as expected with obsessive passion being positively related to all three types of correlates and harmonious passion with only the adaptive forms of Facebook correlates. (See Table 1.)

Results provided support for the model [CFI = 0.97, TLI = 0.96, RMSEA = 0.04, 90% CI 0.03–0.05, CFit = 0.86; SRMR = 0.06] (see Fig. 1). Specifically, Urgency ($\beta = 0.23$, $p < 0.01$) and Lack of

Table 1
Descriptive statistics of the included questionnaires and correlations between factors (Study 1).

Scales	Range	Mean	*SD*	1	2	3	4	5	6
1. Facebook Overuse	1–5	2.72	1.09	–					
2. Facebook Persistence	1–5	2.44	1.01	0.48**	–				
3. Facebook Self-expression	1–5	2.15	0.89	0.35**	0.51**	–			
4. UPPS Urgency	1–4	2.38	0.64	0.33**	0.24**	0.22**	–		
5. UPPS Lack of perseverance	1–4	1.92	0.60	0.35**	0.26**	0.18**	0.41**	–	
6. Harmonious Facebook passion	1–7	3.90	0.95	−0.08	0.31**	0.33**	−0.04	−0.10	–
7. Obsessive Facebook passion	1–7	1.82	0.94	0.51**	0.52**	0.47**	0.28**	0.33**	0.23**

Note. SD = standard deviation.
** $p < 0.01$.

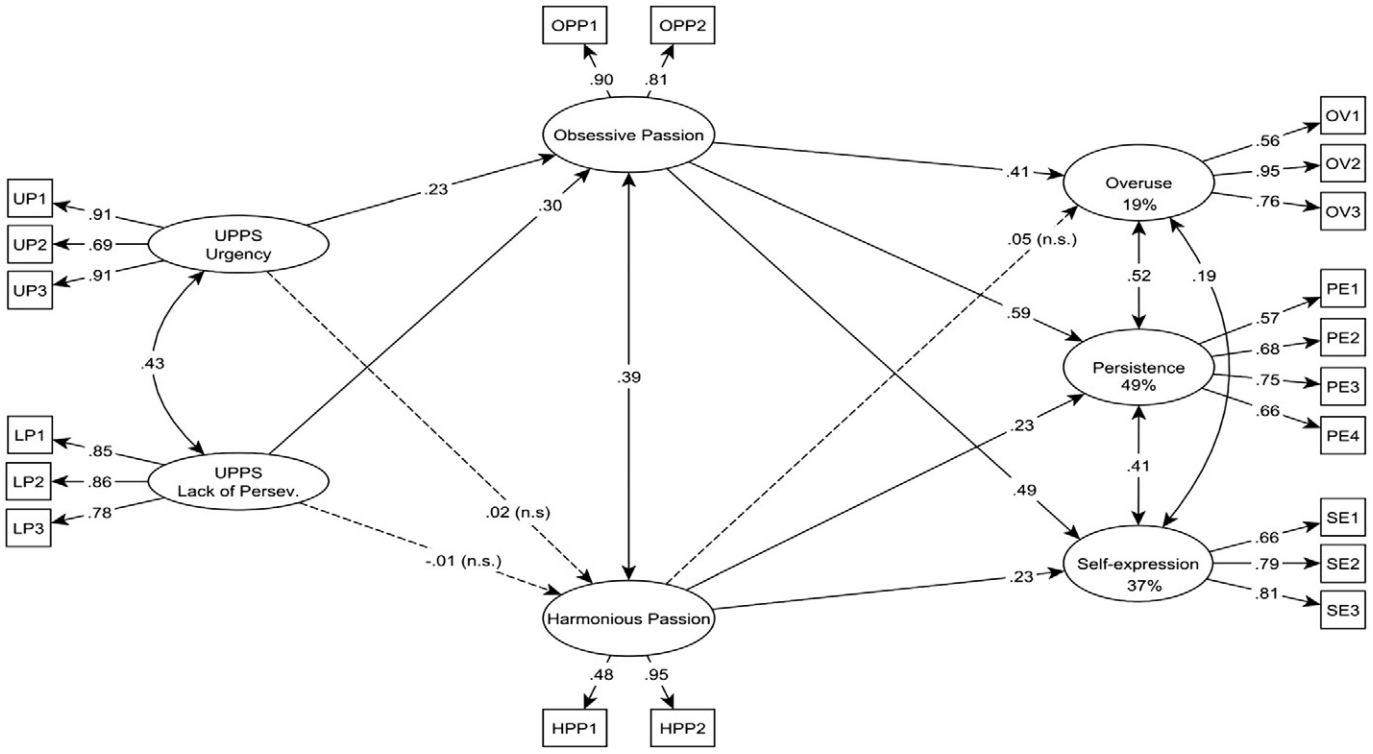

Fig. 1. Structural equation model of impulsivity, Facebook passion and Facebook use (Study 1). Notes. UP 1–3 = UPPS urgency parcels; LP 1–3 = UPPS lack of perseverance parcels; OPP 1–2 = obsessive passion parcels; HPP 1–2 = harmonious passion parcels; OV 1–3 = Multidimensional Facebook Intensity Scale overuse factor items; PE 1–4 = Multidimensional Facebook Intensity Scale persistence factor items; SE 1–3 = Multidimensional Facebook Intensity Scale self-expression factor items; percentages indicate the explained variance.

perseverance ($\beta = 0.30$, $p < 0.001$) both positively predicted obsessive passion. There were no significant relationships with harmonious passion and Lack of perseverance. In turn, Obsessive passion was positively related to Facebook Self-Expression ($\beta = 0.49$, $p < 0.001$), Persistence ($\beta = 0.59$, $p < 0.001$), and Overuse ($\beta = 0.41$, $p < 0.001$), whereas harmonious passion was only positively related to the non-problematic correlates of Facebook Persistence ($\beta = 0.23$, $p < 0.01$) and Self-Expression ($\beta = 0.23$, $p < 0.05$) and not to Overuse. These results will be discussed in the General discussion.

4. Study 2

4.1. Materials and methods

4.1.1. Participants

A total of 420 Hungarian participants (females = 206, 49%) took part in the research. Participants were aged between 18 and 69 years ($M_{age} = 28.55$, $SD_{age} = 9.98$). All participants were watching series at the time of the study except for four respondents who watched series regularly more than six months ago. One hundred and twenty of them (28.6%) live in the capital, 76 (18.1%) in county towns, 156 (37.1%) in towns, and 68 (16.2%) in villages. Concerning their level of education, 50 (11.9%) had primary school degree, 210 (50.0%) had a high school degree, and 160 (38.1%) of them had a degree in higher education (college or university, including BA, BSc, MA, MSc, and PhD). Regarding their relationship status, 245 individuals (58.3%) were single, 126 (30.0%) were in a relationship, and 46 (11.7%) were married.

4.1.2. Measures

4.1.2.1. Series Watching Passion Scale. The Passion Scale (Marsh et al., 2013; Vallerand et al., 2003) measures the individual's level of passion for an activity based on two dimensions: obsessive passion (6 items, e.g. "Series watching is the only thing that really turns me on"; $\alpha = 0.88$) and harmonious passion (6 items, e.g. "Series watching is well integrated in my life" ; $\alpha = 0.77$). In the present study, the Passion Scale aimed to measure passion toward "series watching". Respondents had to indicate their level of agreement using a 7-point scale (1 = Not Agree at All; 7 = Very Strongly Agree).

4.1.2.2. Problematic Series Watching Scale. This scale (Orosz et al., 2016) contained six items and used the theoretical framework of Griffiths (2005) that includes the core elements of problematic use, namely salience (series watching predominates the thinking of the individual), tolerance (compared to initial watching experience, increased amounts of series watching is necessary to achieve similar effects), mood modification (watching series to modify one's mood), relapse (instead of control or abstinence, one reverts back to earlier patterns of series watching), withdrawal (presence of unpleasant feeling when one cannot consume series), and conflict (watching series negatively effects relationships, work or other aspects of life). All items were summed together ($\alpha = 0.81$). Respondents had to answer using a 5-point scale (1 = Never; 5 = Always).

4.1.2.3. Non-problematic Series Watching Measure. This measure includes two factors: (a) self-development though language learning and (b) talking about series in offline settings. The Self-development series watching factor referred to the motivation to learn English language (the respondents were Hungarians) through watching series (3 items, e.g. "Series watching motivates me to learn languages"; $\alpha = 0.78$). The second factor referred to frequency of series as discussion topic appears in the everyday discourses of the respondents (3 items, e.g. "I talk about the current events of the series I watch with my acquaintances"; $\alpha = 0.71$). In both cases, respondents answered using a 7-point scale (1 = Not true to me at all; 7 = Completely true to me).

4.1.2.4. UPPS Impulsivity Scale. This measure was the same as in Study 1 using two dimensions: Urgency ($\alpha = 0.85$) and (lack of) Perseverance subscale ($\alpha = 0.85$).

4.1.3. Procedure

The research was conducted using an online questionnaire system and completing the questionnaire took approximately between 10 and 15 min. The data collection occurred in May 2015. First, participants were informed about the aims and the content of the study. They were assured about their anonymity and the confidentiality of their answers. If they agreed and wished to participate, they had to check a box to continue. The first part contained Problematic and Non-problematic Series Watching Scale. It was followed by the UPPS Impulsivity Scale, and the Series Passion Scale. In the last part, demographic questions were asked (gender, age, level of education, relationship status). The research was done in accordance with the declaration of Helsinki and was approved by the Institutional Review Board of the related university.

4.1.4. Statistical analysis

In this study, we used the same statistical analyses with the same cut-off values as in Study 1. Similarly to the previous study, parceling was conducted in the case of the UPPS and Passion dimensions with slightly different results compared to Study 1. In the case of urgency, parcel 1 consisted of items 18, 3, 20, and 9; parcel 2 consisted of items 12, 5, 14, and 7; parcel 3 consisted of items 22, 16, 1, and 21. In the case of Lack of perseverance, parcel 1 consisted of items 11, 19, 2, and 13; parcel 2 consisted of items 8, 17, and 10; parcel 3 consisted of items 15, 6, and 4. In the case of harmonious passion, parcel 1 consisted of items 3, 10, and 5; parcel 2 consisted of items 6, 1, and 8. In the case of obsessive passion, parcel 1 consisted of items 4, 12, and 2; parcel 2 consisted of items 11, 9, and 7.

4.2. Results

Descriptive data and correlations between the variables can be seen in Table 2. Structural equation modeling was used to investigate the relationship pattern between impulsivity, series passion and series watching dimensions. Results of the hypothesized model are presented in Fig. 2 with the standardized estimates [CFI = 0.95, TLI = 0.94, RMSEA = 0.05, 90% CI 0.04–0.05, CFit = 0.76; SRMR = 0.05]. The model fit was good, except for TLI value which was acceptable. As hypothesized, both urgency ($\beta = 0.32$, $p < 0.001$) and lack of perseverance ($\beta = 0.12$, $p < 0.05$) positively predicted obsessive passion, but not harmonious passion. Furthermore, harmonious passion positively predicted the non-problematic aspects of series watching, namely self-development ($\beta = 0.65$, $p < 0.001$) and offline discussion ($\beta = 0.39$, $p < 0.001$), while it did not predict problematic series watching. Conversely, obsessive passion positively predicted problematic series watching ($\beta = 0.89$, $p < 0.001$), but not the non-problematic dimensions. (See Fig. 2.)

5. General discussion

All screen-based activities have dark and bright sides. How can one's engagement in these activities be related to such diametrically opposed correlates? The major purpose of this study was to resolve this paradox by using the DMP that posits that both Facebook engagement and series watching—due to one type of passion (harmonious)—is associated with adaptive outcomes, whereas another type of passion (obsessive) is associated with both adaptive and maladaptive consequences. A secondary purpose of this research was to assess the role of impulsivity as a hypothesized predictor of obsessive (but not harmonious) passion. The results of both studies provided support for the differential roles of harmonious and obsessive passion in outcomes and that of impulsivity as a predictor of obsessive passion. These findings lead to a number of implications.

5.1. Correlates of passion and screen-based activities

A first implication of the present findings is that passion matters with respect to the kind of correlates experienced as a function of one's engagement in Facebook and series watching. Passion was found to predict that one's engagement in Facebook activities pertaining to one's self-expression, diligent maintenance of one's own Facebook site, as well as overuse of Facebook. In the case of series watching, we found consistent results considering Self-development, Social Interactions, and Problematic Series watching as outcome variables. Of major importance, however, is the fact that such correlates were predicted differently by the two types of passion. Specifically, harmonious passion only was associated with the adaptive engagement as self-expression and persistence (Facebook), as well as self-development and social interactions (series watching). While obsessive passion predicted both these adaptive outcomes of Facebook use as well as the less adaptive consequence of overuse. However, in the case of series watching, obsessive passion was associated only with the less adaptive forms of engagement. These findings help resolve the previous paradox as to why engaging in Facebook may be associated with adaptive and maladaptive forms of involvement in screen-based behaviors. Furthermore, the solution of this paradox is not uniquely related to Facebook use, but also to another pertinent screen-based activity: series watching. The answer to the riddle is that it depends on the type of passion one has for the screen-based activities. Harmonious passion is related to more adaptive, while obsessive passion is related to less adaptive self-reported behavioral outcomes. So, engaging in screen-based activities may be very positive or less so depending on one's predominant type of passion.

The above findings are in line with much research that reveals that negative outcomes originate from obsessive passion and the positive ones from harmonious passion (see Vallerand, 2010, 2015 for reviews). However, a closer look at the Facebook-related findings leads to a more nuanced conclusion. Whereas harmonious passion is indeed associated with positive outcomes, obsessive passion is related to *both* adaptive and maladaptive outcomes. Thus, although it is true that obsessive

Table 2
Descriptive statistics of the included questionnaires and correlation between factors (Study 2).

Scales	Range	Mean	*SD*	1	2	3	4	5	6
1. Problematic Series Watching	1–6	2.22	0.82	–					
2. Series Self-development	1–7	4.86	1.55	0.26**	–				
3. Series Social Interaction	1–7	4.02	1.47	0.25**	0.33**	–			
4. UPPS Urgency	1–4	2.25	0.59	0.25**	−0.06	0.11*	–		
5. UPPS Lack of perseverance	1–4	2.08	0.59	0.24**	−0.02	−0.02	0.33**	–	
6. Harmonious series passion	1–7	4.82	1.11	0.46**	0.52**	0.42**	−0.04	−0.05	–
7. Obsessive series passion	1–7	2.71	1.39	0.76**	0.31**	0.28**	0.29**	0.20**	0.50**

Note. SD = standard deviation.
* $p < 0.05$.
** $p < 0.01$.

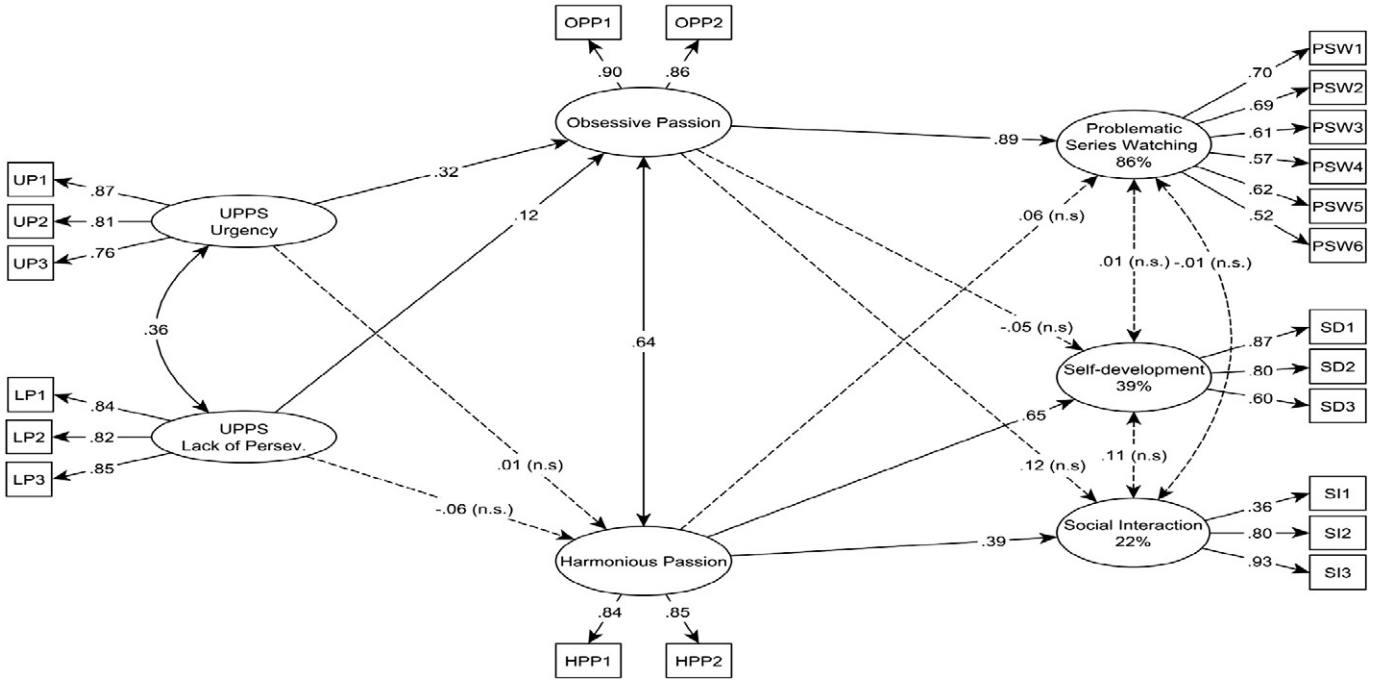

Fig. 2. Structural equation model of impulsivity, series watching passion and problematic and non-problematic series watching outcomes (Study 2). Notes. UP 1–3 = UPPS urgency parcels; LP 1–3 = UPPS lack of perseverance parcels; OPP 1–2 = obsessive passion parcels; HPP 1–2 = harmonious passion parcels; SD 1–3 = Non-problematic Series Watching Self-Development factor items; PSW 1–7 = Problematic Series Watching items; SI 1–3 = Non-problematic Series Watching Social Interaction factor items; percentages indicate the explained variance.

passion is related to some negative Facebook outcomes (in this case Facebook overuse), it also correlated to some positive ones (Facebook self-expression and persistence). These findings are important and underscore the fact that as pertains to some activities such as Facebook, obsessive passion should not be considered unequivocally bad as at times it can related to some positive outcomes as well. Similar findings of mixed outcomes with obsessive passion were obtained in some studies on passion for online gaming (e.g., Lafrenière et al., 2009; Przybylski et al., 2009). However, this relationship pattern was not replicated in the case of series watching as the effects of passion were much more clearly differentiated. Thus, future research is needed in order to determine when and on which types of activities obsessive passion leads only to negative effects and when it leads to a more mixed picture of positive and negative outcomes.

5.2. Impulsivity as a predictor of obsessive passion

Another implication of the present findings is that a new precursor of passion has been uncovered, namely impulsivity. Although several definitions of impulsivity exist (see Evenden, 1999), it is generally defined as giving in to an impulse rather than to engage in reflective behavior. As such, one would thus expect a positive correlation with obsessive passion and the absence of relationship with harmonious passion because the latter involves reason and choice. These hypotheses were supported in the present research. The present findings thus provide important novel findings about the role of personality variables in determining the type of passion that is experienced toward screen-based activities such as Facebook use or series watching. Past research had indicated that impulsivity represents a risk factor for a variety of problems, including addiction such as compulsive buying (Billieux, Rochat, Rebetez, & Van der Linden, 2008), binge eating (Fischer & Smith, 2008; Peterson & Fischer, 2012) and online addictions (Mottram & Fleming, 2009). The present research suggests that one reason why this may be the case is that impulsivity triggers obsessive passion that subsequently leads the person to emit the problematic behavior. Of additional importance is that impulsivity may also lead someone to rigidly engage in a behavior that is not necessarily problematic per se. However, engaging in screen-related behaviors such as Facebook repeatedly at ill-advised times may create conflict with other aspects of one's life thereby leading to important personal (e.g., neglecting one's studies) or interpersonal (e.g., neglecting one's romantic partner) problems.

Research reveals that impulsivity is best thought of as a multidimensional construct with a number of related but nevertheless different components (see Evenden, 1999). In the present study, we only assessed two aspects of impulsivity, namely urgency and lack of perseverance. The urgency dimension can be relevant regarding obsessive screen-based passion, because this way, one can easily alleviate negative feelings passively, without much effort (e.g., Billieux et al., 2007; Fischer & Smith, 2008). On the other hand, lack of perseverance deals with behaviors such as not finishing or giving up on important and uninteresting tasks or being easily distracted. If one has problems with concentration and being persistent, then screen-based behaviors can be very stimulating and appealing. Future research should empirically determine if other dimensions of impulsivity predict both obsessive and harmonious passion. For instance, functional impulsivity (Dickman, 1990) often predicts positive outcomes. It may be hypothesized that people with a predominant harmonious passion may have the flexibility to intuitively choose to give in to an impulse when it is advantageous to do so. Thus, although in such cases functional impulsivity would predict both harmonious and obsessive passion, the link between the two types of passion and behavior might be best explained by different processes, in this case rigidly vs. flexibly engaging in the advantageous functional behavior.

Some limitations of the present research need to be discussed. Women were over-represented in the sample of Study 1. Future studies should aim to balance the gender ratio as it would allow the proper investigation of gender differences in Facebook passion and use. Second, most of the respondents of this research were university students. A more balanced representation of members of the general population

should take place in future studies. Third, all measures were completed on self-report scales. Further measures are needed in future studies that could directly measure the respondent's screen-based behaviors while respecting the person's privacy. Fourth, the Cronbach value of the harmonious passion subscale was somewhat low in Study 1. It is possible that this lower internal consistency reduced the links between harmonious passion and model variables. However, the Cronbach value of this subscale (and all others) was acceptable in Study 2 and the model results were replicated therefore providing additional support for the validity of our model. Nevertheless, future research should attempt to replicate these basic findings. The model fit of the series watching model (Study 2) regarding the TLI value was not perfect. Fifth, a correlational design was used in the present research. Thus, we cannot infer causality from the present findings. Future research should employ experimental designs in order to determine the *causal* role of passion in screen-based behavioral outcomes. Sixth, passion is basically a medium-level variable with a similar role as we identified in the present SEM models. Nevertheless, it is possible that over time a bi-directional relationship exists between impulsivity and obsessive passion. Future research should address this hypothesis. Finally, it should be kept in mind that the correlates studied in the present research only pertained to the immediate Facebook and series watching activity. Future research is needed in order to determine if problematic and non-problematic Facebook use and series watching can differentially affect other life outcomes (e.g., time spent with friends or the romantic partner offline, involvement in other types of activities and hobbies) as a function of the type of passion. From the perspective of impulsivity, further research may use a more recently developed measure which includes positive urgency (Cyders et al., 2007).

In sum, the present findings suggest that both Facebook use and series watching as screen-based activities are not inherently good or bad. The experience derived from such engagement depends on one's passion, with harmonious passion leading to more adaptive correlates than obsessive passion. Further, impulsivity was found to represent an important predictor of obsessive passion. Future research on the role of passion for screen-based activities should go beyond the activity itself to include how it affects other aspects of the person's life and preferably through the use of experimental and longitudinal protocols.

Acknowledgements

The first author (GO) was supported by the Hungarian Research Fund (NKFI PD 106027, 116686) and Momentum (0183-13 502).

References

Adams, Z. W., Kaiser, A. J., Lynam, D. R., Charnigo, R. J., & Milich, R. (2012). Drinking motives as mediators of the impulsivity-substance use relation: Pathways for negative urgency, lack of premeditation, and sensation seeking. *Addictive Behaviors*, *37*(7), 848–855. http://dx.doi.org/10.1016/j.addbeh.2012.03.016.

Alexander, A. (1985). Adolescents' soap opera viewing and relational perceptions. *Journal of Broadcasting & Electronic Media*, *29*(3), 295–308. http://dx.doi.org/10.1080/08838158509386586.

Andreassen, C. S., Torsheim, T., Brunborg, G. S., & Pallesen, S. (2012). Development of a Facebook Addiction Scale. *Psychological Reports*, *110*(2), 501–517. http://dx.doi.org/10.2466/02.09.18.PR0.110.2.501-517.

Babrow, A. S. (1987). Student motives for watching soap operas. *Journal of Broadcasting & Electronic Media*, *31*(3), 309–321. http://dx.doi.org/10.1080/08838158709386666.

Balon, S., Lecoq, J., & Rimé, B. (2013). Passion and personality: Is passionate behavior a function of personality? *European Review of Applied Psychology/Revue Européenne de Psychologie Appliquée*, *63*(1), 59–65. http://dx.doi.org/10.1016/j.erap.2012.06.001.

Bandalos, D. L. (2002). The effects of item parceling on goodness-of-fit and parameter estimate bias in structural equation modeling. *Structural Equation Modeling*, *9*(1), 78–102. http://dx.doi.org/10.1207/S15328007SEM0901_5.

Bandalos, D. L., & Finney, S. J. (2001). Item parceling issues in structural equation modeling. In G. A. Marcoulides, & R. E. Schumacker (Eds.), *New developments and techniques in structural equation modeling* (pp. 269–296). London, UK: Lawrence Erlbaum.

Beaton, D. E., Bombardier, C., Guillemin, F., & Ferraz, M. B. (2000). Guidelines for the process of cross-cultural adaptation of self-report measures. *Spine*, *25*(24), 3186–3191.

Bentler, P. M. (1990). Comparative fit indexes in structural models. *Psychological Bulletin*, *107*(2), 238–246. http://dx.doi.org/10.1037/0033-2909.107.2.238.

Billieux, J., Van der Linden, M., d'Acremont, M., Ceschi, G., & Zermatten, A. (2007). Does impulsivity relate to perceived dependence on and actual use of the mobile phone? *Applied Cognitive Psychology*, *21*(4), 527–537. http://dx.doi.org/10.1002/acp.1289.

Billieux, J., Rochat, L., Rebetez, M. M. L., & Van der Linden, M. (2008). Are all facets of impulsivity related to self-reported compulsive buying behavior? *Personality and Individual Differences*, *44*(6), 1432–1442. http://dx.doi.org/10.1016/j.paid.2007.12.011.

Billieux, J., Chanal, J., Khazaal, Y., Rochat, L., Gay, P., Zullino, D., & Van der Linden, M. (2011). Psychological predictors of problematic involvement in massively multiplayer online role-playing games: Illustration in a sample of male cybercafé players. *Psychopathology*, *44*(3), 165–171. http://dx.doi.org/10.1159/000322525.

Bondad-Brown, B. A., Rice, R. E., & Pearce, K. E. (2012). Influences on TV viewing and online user-shared video use: Demographics, generations, contextual age, media use, motivations, and audience activity. *Journal of Broadcasting & Electronic Media*, *56*(4), 471–493. http://dx.doi.org/10.1080/08838151.2012.732139.

Bonneville-Roussy, A., Vallerand, R. J., & Bouffard, T. (2013). The role of autonomy support and harmonious and obsessive passions in educational persistence. *Learning and Individual Differences*, *24*, 22–31. http://dx.doi.org/10.1016/j.lindif.2012.12.015.

Brown, T. A. (2015). *Confirmatory factor analysis for applied research* (2nd ed.). New York, NY: Guilford Press.

Browne, M. V., & Cudeck, R. (1993). Alternative ways of assessing model fit. In K. A. Bollen, & J. S. Long (Eds.), *Testing structural equation models* (pp. 136–162). Newbury Park, CA: Sage.

Burke, M., Marlow, C., & Lento, T. (2010). Social network activity and social well-being. *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems* (pp. 1909–1912). New York, NY: ACM. http://dx.doi.org/10.1145/1753326.1753613.

Carbonneau, N., & Vallerand, R. J. (2013). On the role of harmonious and obsessive passion in conflict behavior. *Motivation and Emotion*, *37*(4), 743–757. http://dx.doi.org/10.1007/s11031-013-9354-5.

Carbonneau, N., Vallerand, R. J., Fernet, C., & Guay, F. (2008). The role of passion for teaching in intrapersonal and interpersonal outcomes. *Journal of Educational Psychology*, *100*(4), 977–987. http://dx.doi.org/10.1037/a0012545.

Carpentier, J., Mageau, G. A., & Vallerand, R. J. (2012). Ruminations and flow: Why do people with a more harmonious passion experience higher well-being? *Journal of Happiness Studies*, *13*(3), 501–518. http://dx.doi.org/10.1007/s10902-011-9276-4.

Curran, T., Hill, A. P., Appleton, P. R., Vallerand, R. J., & Standage, M. (2015). The psychology of passion: A meta-analytical review of a decade of research on intrapersonal outcomes. *Motivation and Emotion*, *39*, 631–655.

Cyders, M. A., Smith, G. T., Spillane, N. S., Fischer, S., Annus, A. M., & Peterson, C. (2007). Integration of impulsivity and positive mood to predict risky behavior: Development and validation of a measure of positive urgency. *Psychological Assessment*, *19*(1), 107–118. http://dx.doi.org/10.1037/1040-3590.19.1.107.

Dickman, S. J. (1990). Functional and dysfunctional impulsivity: Personality and cognitive correlates. *Journal of Personality and Social Psychology*, *58*(1), 95–102. http://dx.doi.org/10.1037/0022-3514.58.1.95.

Donahue, E. G., Forest, J., Vallerand, R. J., Lemyre, P. N., Crevier-Braud, L., & Bergeron, É. (2012). Passion for work and emotional exhaustion: The mediating role of rumination and recovery. *Applied Psychology: Health and Well-Being*, *4*(3), 341–368. http://dx.doi.org/10.1111/j.1758-0854.2012.01078.x.

Ebizmba (2015). Top 15 most popular social networking sites. http://www.ebizmba.com/articles/social-networking-websites (retrieved on April 3, 2015)

Ellison, N. B., Steinfield, C., & Lampe, C. (2007). The benefits of Facebook "friends:" Social capital and college students' use of online social network sites. *Journal of Computer-Mediated Communication*, *12*(4), 1143–1168. http://dx.doi.org/10.1111/j.1083-6101.2007.00367.x.

Evenden, J. L. (1999). Varieties of impulsivity. *Psychopharmacology*, *146*(4), 348–361. http://dx.doi.org/10.1007/PL00005481.

Fernet, C., Lavigne, G., Vallerand, R. J., & Austin, S. (2014). Fired up with passion: Investigating how job autonomy and passion predict burnout at career start in teachers. *Work and Stress*, *28*(3), 270–288. http://dx.doi.org/10.1080/02678373.2014.935524.

Fischer, S., & Smith, G. T. (2008). Binge eating, problem drinking, and pathological gambling: Linking behavior to shared traits and social learning. *Personality and Individual Differences*, *44*(4), 789–800. http://dx.doi.org/10.1016/j.paid.2007.10.008.

Forest, A. L., & Wood, J. V. (2012). When social networking is not working individuals with low self-esteem recognize but do not reap the benefits of self-disclosure on Facebook. *Psychological Science*, *23*(3), 295–302. http://dx.doi.org/10.1177/0956797611429709.

Griffiths, M. (2005). A 'components' model of addiction within a biopsychosocial framework. *Journal of Substance Use*, *10*(4), 191–197. http://dx.doi.org/10.1080/14659890500114359.

Guay, F., Mageau, G., & Vallerand, R. J. (2003). On the hierarchical structure of self-determined motivation: A test of top-down and bottom-up effects. *Personality and Social Psychology Bulletin*, *29*, 992–1004. http://dx.doi.org/10.1177/0146167203253297.

Hodgins, H. S., & Knee, C. R. (2002). The integrating self and conscious experience. In E. L. Deci, & R. M. Ryan (Eds.), *Handbook of self-determination research* (pp. 87–100). Rochester, UK: The University of Rochester Press.

Houlfort, N., Philippe, F., Vallerand, R. J., & Ménard, J. (2014). On passion as heavy work investment: Personal and organizational outcomes. *Journal of Managerial Psychology*, *29*, 25–45. http://dx.doi.org/10.1108/JMP-06-2013-0155.

Houlfort, N., Vallerand, R. J., Laframboise, A., Fernet, C., & Koestner, R. (2015). The role of passion for work and need satisfaction in post-retirement psychological adjustment. *Journal of Vocational Behavior*, *88*, 84–94. http://dx.doi.org/10.1016/j.jvb.2015.02.005.

Hu, L., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation*

Modeling: A Multidisciplinary Journal, *6*(1), 1–55. http://dx.doi.org/10.1080/10705519909540118.

Kraus, S., & Rosenberg, H. (2014). The pornography craving questionnaire: Psychometric properties. *Archives of Sexual Behavior*, *43*(3), 451–462. http://dx.doi.org/10.1007/s10508-013-0229-3.

Lafrenière, M. -A., Jowett, S., Vallerand, R. J., Donahue, E. G., & Lorimer, R. (2008). Passion in sport: On the quality of the coach-player relationship. *Journal of Sport & Exercise Psychology*, *30*, 541–560.

Lafrenière, M. -A. K., Vallerand, R. J., Donahue, R., & Lavigne, G. L. (2009). On the costs and benefits of gaming: The role of passion. *CyberPsychology and Behavior*, *12*, 285–290. http://dx.doi.org/10.1089/cpb.2008.0234.

Lafrenière, M. -A. K., St-Louis, A. C., Vallerand, R. J., & Donahue, E. G. (2012). On the relation between performance and life satisfaction: The moderating role of passion. *Self and Identity*, *11*, 516–530. http://dx.doi.org/10.1080/15298868.2011.616000.

Lafrenière, M. -A. K., Vallerand, R. J., & Sedikides, C. (2013). On the relation between self-enhancement and life satisfaction: The moderating role of passion. *Self and Identity*, *12*, 516–530. http://dx.doi.org/10.1080/15298868.2012.713558.

Lampe, C., Ellison, N. B., & Steinfield, C. (2008). Changes in use and perception of Facebook. In B. Begole, & D. W. McDonald (Eds.), *The ACM 2008 conference* (pp. 721–730). http://dx.doi.org/10.1145/1460563.1460675.

Little, T. D., Cunningham, W. A., Shahar, G., & Widaman, K. F. (2002). To parcel or not to parcel: Exploring the question, weighing the merits. *Structural Equation Modeling*, *9*(2), 151–173. http://dx.doi.org/10.1207/S15328007SEM0902_1.

Livingstone, S. M. (1988). Why people watch soap opera: An analysis of the explanations of British viewers. *European Journal of Communication*, *3*(1), 55–80. http://dx.doi.org/10.1177/0267323188003001004.

MacKillop, J., Anderson, E. J., Castelda, B. A., Mattson, R. E., & Donovick, P. J. (2006). Convergent validity of measures of cognitive distortions, impulsivity, and time perspective with pathological gambling. *Psychology of Addictive Behaviors*, *20*(1), 75. http://dx.doi.org/10.1037/0893-164X.20.1.75.

Mageau, G. A., & Vallerand, R. J. (2007). The moderating effect of passion on the relation between activity engagement and positive affect. *Motivation and Emotion*, *31*, 312–321. http://dx.doi.org/10.1007/s11031-007-9071-z.

Mageau, G. A., Carpentier, J., & Vallerand, R. J. (2011). The role of self-esteem contingencies in the distinction between obsessive and harmonious passion. *European Journal of Social Psychology*, *41*(6), 720–729. http://dx.doi.org/10.1002/ejsp.798.

Marsh, H. W., Vallerand, R. J., Lafreniere, M. A. K., Parker, P., Morin, A. J. S., Carbonneau, N., & Paquet, Y. (2013). Passion: Does one scale fit all? Construct validity of two-factor passion scale and psychometric invariance over different activities and languages. *Psychological Assessment*, *25*, 796–809. http://dx.doi.org/10.1037/a0032573.

Matsunaga, M. (2008). Item parceling in structural equation modeling: A primer. *Communication Methods and Measures*, *2*(4), 260–293. http://dx.doi.org/10.1080/19312450802458935.

Mischel, W., Shoda, Y., & Rodriguez, M. I. (1989). Delay of gratification in children. *Science*, *244*(4907), 933–938. http://dx.doi.org/10.1126/science.2658056.

Mottram, A. J., & Fleming, M. J. (2009). Extraversion, impulsivity, and online group membership as predictors of problematic internet use. *Cyberpsychology & Behavior*, *12*(3), 319–321. http://dx.doi.org/10.1089/cpb.2007.0170.

Muthén, L. K., & Muthén, B. O. (1998-2012). *Mplus user's guide* (7th ed.). Los Angeles, CA: Muthén & Muthén.

ce:label>Netflix Media Center, 2013Netflix Media Center (2013). Netflix declares binge watching is the new normal. https://pr.netflix.com/WebClient/getNewsSummary.do?newsId=496 (retrieved on June 25 2015)

Netflix Media Center (2016). Netflix is now available around the world. https://media.netflix.com/en/press-releases/netflix-is-now-available-around-the-world (retrieved on January 24, 2016)

Orosz, G., Tóth-Király, I., & Bőthe, B. (2015). Four facets of Facebook intensity—The development of the Multidimensional Facebook Intensity Scale. *Personality and Individual Differences*. http://dx.doi.org/10.1016/j.paid.2015.11.038.

Orosz, G., Bőthe, B., & Tóth-Király, I. (2016). The development of the Problematic Series Watching Scale (PSWS). *Journal of Behavioral Addictions*, *5*(1), 144–150. http://dx.doi.org/10.1556/2006.5.2016.011.

Paradis, K. F., Cooke, L. M., Martin, L. J., & Hall, C. R. (2013). Too much of a good thing? Examining the relationship between passion for exercise and exercise dependence. *Psychology of Sport and Exercise*, *14*(4), 493–500. http://dx.doi.org/10.1016/j.psychsport.2013.02.003.

Patton, J. H., Stanford, M. S., & Barratt, E. S. (1995). Factor structure of the Barratt impulsiveness scale. *Journal of Clinical Psychology*, *51*(6), 768–774.

Perse, E. M., & Rubin, A. M. (1988). Audience activity and satisfaction with favorite television soap opera. *Journalism Quarterly*, *65*(2), 368–375. http://dx.doi.org/10.1177/107769908806500221.

Peterson, C. M., & Fischer, S. (2012). A prospective study of the influence of the UPPS model of impulsivity on the co-occurrence of bulimic symptoms and non-suicidal self-injury. *Eating Behaviors*, *13*(4), 335–341. http://dx.doi.org/10.1016/j.eatbeh.2012.05.007.

Philippe, F., & Vallerand, R. J. (2007). Prevalence rates of gambling problems in Montreal, Canada: A look at old adults and the role of passion. *Journal of Gambling Studies*, *23*, 275–283. http://dx.doi.org/10.1007/s10899-006-9038-0.

Philippe, F. L., Vallerand, R. J., & Lavigne, G. L. (2009). Passion does make a difference in people's lives: A look at well-being in passionate and non-passionate individuals. *Applied Psychology: Health and Well-Being*, *1*(1), 3–22. http://dx.doi.org/10.1111/j.1758-0854.2008.01003.x.

Przybylski, A. K., Weinstein, N., Ryan, R. M., & Rigby, C. S. (2009). Having to versus wanting to play: Background and consequences of harmonious versus obsessive engagement in video games. *Cyberpsychology & Behavior*, *12*(5), 485–492. http://dx.doi.org/10.1089/cpb.2009.0083.

Quartz (2014). Mary Meeker's 2014 internet trends report: All the slides plus highlights. http://qz.com/214307/mary-meeker-2014-internet-trends-report-all-the-slides/ (retrieved on February 12 2016)

Ratelle, C., Vallerand, R. J., Mageau, G., Rousseau, F. L., & Provencher, P. J. (2004). When passion leads to problematic outcomes: A look at gambling. *Journal of Gambling Studies*, *20*, 105–119. http://dx.doi.org/10.1023/B:JOGS.0000022304.96042.e6.

Ratelle, C. F., Carbonneau, N., Vallerand, R. J., & Mageau, G. (2013). Passion in the romantic sphere: A look at relational outcomes. *Motivation and Emotion*, *37*(1), 106–120. http://dx.doi.org/10.1007/s11031-012-9286-5.

Rip, B., Fortin, S., & Vallerand, R. J. (2006). The relationship between passion and injury in dance students. *Journal of Dance Medicine & Science*, *10*(1–2), 14–20.

Rogers, W. M., & Schmitt, N. (2004). Parameter recovery and model fit using multidimensional composites: A comparison of four empirical parceling algorithms. *Multivariate Behavioral Research*, *39*(3), 379–412. http://dx.doi.org/10.1207/S15327906MBR3903_1.

Ross, M. W., Mansson, S. A., & Daneback, K. (2012). Prevalence, severity, and correlates of problematic sexual Internet use in Swedish men and women. *Archives of Sexual Behavior*, *41*(2), 459–466. http://dx.doi.org/10.1007/s10508-011-9762-0.

Rousseau, F. L., & Vallerand, R. J. (2008). An examination of the relationship between passion and subjective well-being in older adults. *International Journal of Aging and Human Development*, *66*, 195–211. http://dx.doi.org/10.2190/AG.66.3.b.

Satici, S. A., & Uysal, R. (2015). Well-being and problematic Facebook use. *Computers in Human Behavior*, *49*, 185–190. http://dx.doi.org/10.1016/j.chb.2015.03.005.

Schermelleh-Engel, K., Moosbrugger, H., & Müller, H. (2003). Evaluating the fit of structural equation models: Tests of significance and descriptive goodness-of-fit measures. *Methods of Psychological Research Online*, *8*(2), 23–74.

Séguin-Lévesque, C., Laliberté, M. L., Pelletier, L. G., Vallerand, R. J., & Blanchard, C. (2003). Harmonious and obsessive passions for the Internet: Their associations with couples' relationships. *Journal of Applied Social Psychology*, *33*, 197–221. http://dx.doi.org/10.1111/j.1559-1816.2003.tb02079.x.

Stenseng, F., Rise, J., & Kraft, P. (2011). The dark side of leisure: Obsessive passion and its covariates and outcomes. *Leisure Studies*, *30*(1), 49–62. http://dx.doi.org/10.1080/02614361003716982.

St-Louis, A. C., Carbonneau, N., & Vallerand, R. J. (2015). Passion for a cause: How it affects health and well-being. *Journal of Personality*, *84*(3), 263–276. http://dx.doi.org/10.1111/jopy.12157.

Stoeber, J., Harvey, M., Ward, J. A., & Childs, J. H. (2011). Passion, craving, and affect in online gaming: Predicting how gamers feel when playing and when prevented from playing. *Personality and Individual Differences*, *51*(8), 991–995. http://dx.doi.org/10.1016/j.paid.2011.08.006.

Tosun, L. P. (2012). Motives for Facebook use and expressing "true self" on the Internet. *Computers in Human Behavior*, *28*(4), 1510–1517. http://dx.doi.org/10.1016/j.chb.2012.03.018.

Tosun, L. P., & Lajunen, T. (2009). Why do young adults develop a passion for internet activities? The associations among personality, revealing "true self" on the internet, and passion for the internet. *Cyberpsychology & Behavior*, *12*(4), 401–406. http://dx.doi.org/10.1089/cpb.2009.0006.

Vallerand, R. J. (2010). On passion for life activities: The Dualistic Model of Passion. In M. P. Zanna (Ed.), *Advances in experimental social psychology* (pp. 97–193). New York, NY: Academic Press.

Vallerand, R. J. (2012). The role of passion in sustainable psychological well-being. *Psychological Well-Being: Theory, Research, and Practice*, *2*, 1–21. http://dx.doi.org/10.1186/2211-1522-2-1.

Vallerand, R. J. (2015). *The psychology of passion: A dualistic model*. New York, NY: Oxford University Press.

Vallerand, R. J., & Verner-Filion, J. (2014). Passion et Addiction: Théorie et Recherche. [Passion and addiction: Theory and research]. In N. Battaglia, & F. Gierski (Eds.), *Psychologie des conduites addictives chez l'enfant et l'adolescent: Regards croisés* (pp. 205–223). Paris: De Boeck–Sola.

Vallerand, R. J., Blanchard, C., Mageau, G. A., Koestner, R., Ratelle, C., Léonard, M., ... Marsolais, J. (2003). Les passions de l'âme: On obsessive and harmonious passion. *Journal of Personality and Social Psychology*, *85*(4), 756–767. http://dx.doi.org/10.1037/0022-3514.85.4.756.

Vallerand, R. J., Rousseau, F. L., Grouzet, F. M. E., Dumais, A., & Grenier, S. (2006). Passion in sport: A look at determinants and affective experiences. *Journal of Sport & Exercise Psychology*, *28*, 454–478.

Vallerand, R. J., Salvy, S. J., Mageau, G. A., Elliot, A. J., Denis, P., Grouzet, F. M. E., & Blanchard, C. B. (2007). On the role of passion in performance. *Journal of Personality*, *75*, 505–534. http://dx.doi.org/10.1111/j.1467-6494.2007.00447.x.

Vallerand, R. J., Paquet, Y., Philippe, F. L., & Charest, J. (2010). On the role of passion for work in burnout: A process model. *Journal of Personality*, *78*(1), 289–312. http://dx.doi.org/10.1111/j.1467-6494.2009.00616.x.

Verner-Filion, J., & Vallerand, R. J. (2015). When striving for perfection: The role of perfectionism as a determinant of passion. (Manuscript submitted for publication).

Wang, C. C., & Chen, Y. T. (2008, Decemberr). The influence of passion and compulsive buying on online auction addiction. *Asia-Pacific Services Computing Conference, 2008. APSCC'08. IEEE* (pp. 1187–1192). http://dx.doi.org/10.1109/APSCC.2008.157.

Wang, C. C., & Chu, Y. S. (2007). Harmonious passion and obsessive passion in playing online games. *Social Behavior and Personality*, *35*, 997–1006. http://dx.doi.org/10.2224/sbp.2007.35.7.997.

Wang, C. C., & Yang, H. W. (2008). Passion for online shopping: The influence of personality and compulsive buying. *Social Behavior and Personality: An International Journal*, *36*(5), 693–706. http://dx.doi.org/10.2224/sbp.2008.36.5.693.

Whiteside, S. P., & Lynam, D. R. (2001). The Five Factor Model and impulsivity: Using a structural model of personality to understand impulsivity. *Personality and Individual Differences*, *30*(4), 669–689. http://dx.doi.org/10.1016/S0191-8869(00)00064-7.

Whiteside, S. P., Lynam, D. R., Miller, J. D., & Reynolds, S. K. (2005). Validation of the UPPS impulsive behaviour scale: A four-factor model of impulsivity. *European Journal of Personality*, *19*(7), 559–574. http://dx.doi.org/10.1002/per.556.