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Time for a Plot Twist: Beyond Confirmatory Approaches to Binge-Watching Research

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The advent of the digital age with its progress in digital technology has been associated in recent years with an increase in binge-watching (i.e., seeing multiple episodes of the same TV series in one session). Binge-watching has now become the new normative way to consume TV shows. Nevertheless, along with its recent massive rise has come concerns about the associated mental and physical health outcomes. Currently available results suggest the potential harmfulness and even addictive nature of binge-watching. The psychological investigation of this behavior, however, is still in its infancy, with most studies using a confirmatory approach and assuming a priori its genuine addictive nature. In contrast, the current perspective article argues the case for an exploratory approach as an initial step for conducting research on behaviors that—at first sight—look like addiction when applying a symptom-based approach. A qualitative understanding of the phenomenological characteristics of binge-watching as the foundation of an initial comprehensive discussion makes it possible to formulate hypotheses concerning its potentially addictive nature and to emphasize challenges and directions for future research. Here we propose an exploration of the dynamics of binge-watching behavior based on a model involving emotion regulation in the etiology and maintenance of problem binge-watching.

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Public Policy Relevance Statement

Binge-watching is a widespread phenomenon that remains understudied despite its potential harmfulness or presumed addictive nature. On the basis of a model involving emotion regulation, this article emphasizes challenges and possible directions for future research to examine problematic and unproblematic binge-watching behaviors from an exploratory perspective.

Keywords: binge-watching, TV series, behavioral addictions, emotion regulation, impulsivity

“The revolution was televised” (Sepinwall, 2013b). This statement, borrowed from the title of a recent book and focusing on the most important storytelling medium of our time, has never been more true. With the move into the digital age, a dramatic change has happened in the way viewers consume TV shows. Free from the constraints of linear TV scheduling and thanks to the introduction of on-demand viewing and online streaming services, viewers are now completely in control over what they want to watch, when, and where, leading to an expansion of binge-watching (i.e., seeing multiple episodes of the same TV series in one session).

Although a consensual definition has yet to be established, binge-watching is generally defined as watching between two and six episodes of the same TV show in one session (Netflix, 2013). This habit started to become more popular among TV fans in the 1990s with the use of TV recorders and DVD box sets. Long before binge-watching, TV series marathons already existed but remained relatively low key until 2013, when the introduction of systems such as Netflix completely transformed the traditional broadcast model by providing a full TV season at a time. By April 2017, this top-ranked streaming service company for video-on-demand surpassed 100 million subscribers (Gutelle, 2017). Affecting all levels of society, binge-watching has now gained tremendous popularity. Successive market research studies conducted over the past years continually emphasize how binge-watching has become a massive trend among viewers, with the ratio of self-reported binge-watchers increasing from 61% to 92% in just 3 years (Deloitte’s Digital Democracy Survey, 2017; Harris Interactive, 2013; MarketCast, 2013; TiVo, 2015). Such growth in popularity has been accompanied by an increasing social acceptance of binge-

watching (TiVo, 2015), as illustrated by recent initiatives by various channels to organize TV marathons (Snierson, 2016), confirming that binge-watching is the new normative way to consume TV shows (Skipper, 2014; TiVo, 2015; West, 2013).

Although the precise nature of this societal phenomenon still needs to be determined, binge-watching can be traced back to two main developments: (a) technological progress with unlimited user-centered access to plenty of programs and (b) unlimited high-quality content with numerous engaging TV shows. The large number of platforms, which are not only affordable but easy to use, allow consumers to watch any show of their choosing in a whenever-wherever pattern. With an overabundant library of content made permanently available, Netflix, Hulu, HBO Now, and Amazon Prime (to mention only the most popular) are offering viewers the possibility to find titles that fit their personal tastes among acclaimed and awarded shows of the so-called new golden age of TV (Carr, 2014; Correa, 2013; McGinty, 2013; Pichard, 2011; Plunkett & Deans, 2013; Sepinwall, 2013a), which started in the early 2000s. Until then, TV series were denigrated and aimed at a rather restricted and stereotyped audience (e.g., housewives, teenagers, or older people; Combes, 2013; Jost, 2011; Sepulchre, 2011); the exponential proliferation of genres and channels during a productive period of formal experimentation and tentative programming, however, led to the emergence of hyperserialized programs with highly sophisticated and complex narrative structures (Mittell, 2015). Changes occurred not only in how viewers watch, but also, from the appearance of a panel of must-see binge-worthy shows (i.e., of a high enough quality to require binge consumption), in what viewers watch in a “peak TV” era

(Adalian & Fernandez, 2016; Leopold, 2013; Sepinwall, 2013a). Notably, the two faces of this phenomenon are also mutually reinforcing, as companies are just capitalizing on the ongoing trend. In an unceasing effort to provide evermore engaging and addictive shows that are tailor-made to be viewed in one session (Devasagayam, 2014; Stelter, 2013), they also continuously try to innovate with new inventive technologies (Cesbron, 2017) meant to encourage more viewing beyond the features already in place such as post-play functions (which make the next episode play 15 s after the previous one has just ended) or algorithm-based recommendations. Such developments, which enable viewers to watch what they like as long as they like, have also given rise to concerns about mental and physical health outcomes associated with binge-watching.

Binge-Watching and Social Alarm

Frequently seen as a true pandemic, binge-watching remains a matter of debate to date. Although global public opinion tends to consider TV series watching as merely a mindless recreational activity, some advocates of binge-watching point out the high emotional and cognitive commitment involved in media marathoning experiences (Mikos, 2016; Perks, 2015), as well as the benefits of binge-watching. Immersive TV series watching, even more at binge levels, has been framed as a restorative experience (Kaplan, 1995) that affords viewers a sense of being rejuvenated before coming back to deal with real life (Medina, 2017; Pang, 2014). Nevertheless, as suggested by the negative connotation of the term “binge,” implying self-harming overindulgence, the debate has largely focused on the presumed deleterious impact of binge-watching at the societal and individual levels. Frequently, binge-watching is depicted as another modern problematic behavior in the form of attitudes toward instant gratification that are criticized as already being pervasive throughout today’s society with its on-demand culture (Annalect Primary Research & Insights Group, 2014; Ladue, 2013; Smith, 2014; Stone, 2014). According to public opinion, binge-watching is not that harmless (Bassist, 2013; Paskin, 2013; Pinto, 2014; Ramsay, 2013), and some argue that taking viewers through so many emotional highs and lows may

result in viewers’ emotional overtaxation, leading them to be less receptive to the emotional and intellectual benefits of the show (Smith, 2014), or to be prone to experience a kind of “comédie fatigue” (Ladue, 2013). In addition, along with long-standing concerns about excessive TV watching and physical inactivity, other potential negative outcomes associated with binge-watching include a decline in sexual activity (Matyszczyk, 2016), neglectfulness of other aspects of life (Ciamarella & Biscuiti, 2014), and sleep interference (Ruddick, 2017; TiVo, 2015), as recently underlined by a medical organization (American Academy of Sleep Medicine, 2017).

An Emerging Academic Research Area

The scientific investigation of binge-watching constitutes a burgeoning field of research; however, to date, the available evidence remains scarce. A handful of first empirical studies have been conducted on excessive TV series watching across distinct fields of research, the results coherently showing that binge-watching is commonplace and indulged in on a weekly basis (at least once or twice) with an average of three episodes seen in rapid succession (De Feijter, Khan, & Van Gisbergen, 2016; Hernández Pérez & Martínez Díaz, 2017; Walton-Pattison, Dombrowski, & Presseau, 2018). A first scholarly definition of binge-watching describes it as “watching more than two consecutive episodes of the same TV show in one session” (Walton-Pattison et al., 2018, p. 7), the move from two to three episodes being the cut-off point to start considering binge-level watching (De Feijter et al., 2016; Walton-Pattison et al., 2018).

Not surprisingly, a primary assumption of research on binge-watching concerns the notion that such practices have a creeping takeover effect on daily life. This research has, therefore, focused primarily on the potential negative impact of binge-watching, including displacement of other activities (De Feijter et al., 2016), sleep deprivation (Brookes & Ellithorpe, 2017), poor sleep quality, increased fatigue and symptoms of insomnia (Exelmans & Van den Bulck, 2017), unhealthy snacking (Brookes & Ellithorpe, 2017), negligence of academic work (De Feijter et al., 2016), and a decrease in social life (De Feijter et al., 2016; Hernández Pérez &

Martínez Díaz, 2017). Moreover, binge-watching has been associated with potential long-term health issues resulting from a sedentary and unhealthy lifestyle such as heart disease and obesity (American Heart Association, 2014; Brookes & Ellithorpe, 2017; Grøntved & Hu, 2011; Reid et al., 2017; Shirakawa et al., 2016; Sung, Kang, & Wee, 2015; Veerman et al., 2012). Regarding these potentially deleterious effects, some researchers have even developed recommendation tools that aim to promote healthy viewing (De Feijter et al., 2016), whereas others stated the potential addictiveness of TV series watching by providing evidence of loss of control over watching time (De Feijter et al., 2016; Devasagayam, 2014; Sung et al., 2015). With the development of the first scale to measure problematic series watching—the Problematic Series Watching Scale—binge-watching has thus been added to the series of behavioral addiction candidates in the literature (Orosz, Böthe, & Tóth-Királi, 2016). The design of the Problematic Series Watching Scale is strictly related to the symptom-based components model of addiction (Griffiths, 2005), which includes salience, tolerance, mood modification, relapse, withdrawal, and conflict.

The converging evidence suggests that the potential harmfulness or even addictive nature of binge-watching warrants scientific consideration. Nevertheless, as little is known about its determinants, an investigation of the underlying psychological processes involved in binge-watching, and not only the resulting symptoms, is mandatory before considering it from its dark or bright side. To that end, a number of avenues for future research are proposed in the current article to examine problematic and unproblematic binge-watching behavior.

Toward an In-Depth Understanding of Binge-Watching Behavior

Such seemingly excessive behaviors call for a comprehensive approach that takes their inherent dimensions fully into account to ensure an adequate understanding of both their nature and their possible impact. Nonetheless, recent research on such conditions has taken a quasi-medical approach, trying to identify potential similarities with other forms of addiction (e.g., by using the classic diagnostic criteria without exploring their specificity and unique nature).

Moreover, this approach has sparked debate among scholars (Billieux, Schimmenti, Khazaal, Maurage, & Heeren, 2015; James & Tunney, 2017; Kardefelt-Winther et al., 2017; Mihordin, 2012; Starcevic, 2016), as the adoption of this medical perspective may result in the pathologization of aspects of everyday life, as well as ultimately bringing discredit to the behavioral addiction research field from a deleterious impact on both the theoretical understanding of these problematic-like conditions and the related clinical practice (Billieux et al., 2015; Kardefelt-Winther et al., 2017). Notably, as mentioned earlier, such a confirmatory approach, which consists of recycling substance abuse criteria to define “new” potential disorders, has already been applied to TV series watching with the development of the first assessment instrument of problematic TV series watching (Orosz et al., 2016). The present article posits that although such parallelism may be useful at a certain stage of thinking, it does not represent an end in itself. Relying too much on this type of approach may significantly limit our understanding of the phenomenon under investigation. More exploratory approaches are thus required as initial steps toward a genuine understanding of binge-watching behaviors.

In this context, a first attempt has been made with a recent qualitative pilot exploration of the phenomenological characteristics of TV series watching, involving a focus group of regular TV series watchers (Flayelle, Maurage, & Billieux, 2017).¹ The analyses identified a range of factors involved and, therefore, illustrate the heterogeneous and multifaceted nature of binge-watching (Flayelle et al., 2017). Although generally in line with previous findings (Devasagayam, 2014; Matrix, 2014; Pittman & Sheehan, 2015; TiVo, 2015), these results emphasize the interaction of motivational factors (e.g., entertainment, immersive, and social) and structural TV show characteristics (e.g., availability of the shows, type/quality of the narrative, and attachment to the characters) accounting for engagement in TV series watching as well as binge-watching. A rigorous investigation of the

¹ This pilot study constitutes the first step of a broader research program aimed at disentangling the psychological processes underlying binge-watching behaviors, on the basis of which new assessment instruments have been developed to measure TV series watching motives and binge-watching engagement and symptoms.

similarities and dissimilarities with other potentially problematic behaviors (e.g., excessive video gaming, hazardous gambling, disordered cybersex, and binge consumption of alcohol and food) conducted during a second part of the study suggested that binge-watching, although sharing characteristics with behavioral addictions (e.g., watching longer than intended; unsuccessful attempts to control, reduce, or cut down watching; and displacement of other activities), also presents unique features, which are discussed in the following sections.

In view of the scarcity of empirical evidence on binge-watching or excessive TV series watching, a reasonable option might be to initially take into consideration the existing research on TV overuse. This has been the topic of little empirical study until now; however, some investigations have been conducted to examine potential connections between compulsive TV viewing and other forms of addiction. The cumulative results converge on a series of statements and explanations regarding what may constitute the potential addictiveness of TV viewing as follows:

- (1) People who watch TV in excess are likely to exhibit symptoms comparable with those of substance dependence (e.g., unsuccessful efforts to reduce use, withdrawal, and craving for viewing; Horvath, 2004; Kubey & Csikszentmihalyi, 2002) and to experience adverse consequences in the long term (e.g., interference with completion of daily life tasks and social isolation; Chory & Banfield, 2009; Horvath, 2004; Kubey & Csikszentmihalyi, 2002; McIlwraith, 1998; Sjoberg & Magneberg, 2007).
- (2) The addictive aspect of TV viewing could lie in the functions that this behavior serves. Along these lines, Kubey and Csikszentmihalyi (2002) notably proposed that the soothing effect of TV viewing would likely cause dependency just as any other drug by providing viewers with a sense of relaxation that tends to instantly dissolve with the cessation of the activity, associated with a sudden drop in the release of endorphins, which leads viewers to experiment withdrawal-like responses such as sadness and lack

of energy. Viewing would thus beget more viewing. Moreover, self-identified TV addicts were found to be more likely to use TV to distract themselves from unpleasant thoughts, regulate mood, and pass the time (Kubey, 1986; McIlwraith, 1990, 1998). Frequent recourse to TV watching has noticeably been credited as a way of coping with stress (Anderson, Collins, Schmitt, & Jacobvitz, 1996).

- (3) The structural features of TV are deemed responsible for grabbing and holding viewers' attention (Kubey & Csikszentmihalyi, 2002; McLuhan, 1978; Reeves, Thorson, & Schleuder, 1986), which would ultimately lead to excessive use (Singer, 1980). By way of explanation, Kubey and Csikszentmihalyi (2002) proposed that the TV's ability to command attention mostly works by activating one's "orienting response," an innate biological reflex to pay attention to any sudden or novel stimulus that indicates potential predatory threats. In support of these hypotheses, the authors draw on previous work, which suggests that TV with its "cuts, edits, zooms, pans, sudden noises" (Reeves, Thorson, & Schleuder, 1986, p. 274) automatically triggers this response, leading viewers to keep permanent attention on the screen. Such perspectives are considering the content as irrelevant to the impact of the TV medium on viewers (McLuhan, 1978; Reeves et al., 1986). Of note, these hypotheses remain speculative at this time, as there is no empirical evidence to support them as yet. Still, we discuss each hypothesis on the basis of our qualitative exploration of TV series watching.

At the Boundaries of Addiction

The initial qualitative data collected by Flayelle et al. (2017) also highlighted some obvious similarities, at the symptomatic level, between binge-watching and other types of non-substance-related addictive behaviors (e.g., gambling or gaming disorder and excessive consumption of cybersex), for example, excessive watching and loss of control. Yet, the same study revealed some distinctive features, mainly

the social acceptance of binge-watching, globally perceived as a positive experience, that tends to distinguish it from the basic representations of addiction. Notwithstanding, it remains true that TV series watching entails something strongly addictive in itself according to viewers (Ciaramella & Biscuiti, 2014; Devasagayam, 2014; Flayelle et al., 2017).

Taking the Motivations Into Account

It comes as no surprise that TV series watching and TV viewing functions overlap, as they may satiate comparable needs. Beyond the relaxation effect of TV series watching, previously credited as one of its main driving factors (Devasagayam, 2014; Kubey & Csikszentmihalyi, 2002; Pittman & Sheehan, 2015), the findings by Flayelle et al. (2017) also suggested a variety of TV series watching motives, some of which are known to play a role in the initiation of excessive or problematic behaviors. For example, the immersive aspect of TV series watching serves an escapism function as well. Moreover, the drive to immerse oneself in stories that may constitute a welcome refuge from one's busy daily life can be closely matched to the way one may indulge in recreational behaviors such as video gaming (Yee, 2006), cybersex (Cooper, Griffin-Shelley, Delmonico, & Mathy, 2001; Wéry & Billieux, 2016), or gambling (Binde, 2013; Devos et al., 2017; McGrath, Stewart, Klein, & Barrett, 2010; Wu, Tao, Tong, & Cheung, 2012) to stop thinking about daily life problems, to relax, or to avoid boredom. However, it is also widely recognized that such motivations may sometimes result in dysfunctional coping (e.g., problem-alleviating expectations, emotional coping, or stress reduction), thus promoting problematic versions of behaviors such as video gaming (Yee, 2006, 2007), gambling (Binde, 2013; Devos et al., 2017; Wu et al., 2012), cybersex (Cooper et al., 2001; Wéry & Billieux, 2016), alcohol consumption (Kuntsche, Knibbe, Gmel, & Engels, 2006; Kuntsche & Kuntsche, 2009; Terlecki & Buckner, 2015), and excessive eating (Markey & Vander Wal, 2007; Munsch, Meyer, Quartier, & Wilhelm, 2012; Polivy & Herman, 1993). Taken together, these findings indicate that binge-watching, or immersive TV series watching, is a functional activity in the sense that it may fulfill an immediate need, but only its

excessive manifestation might contribute to a behavioral problem rather than being inherently problematic. Nonetheless, the qualitative results by Flayelle et al. (2017) suggested that it is the entertainment and enjoyment derived from TV series that takes the leading role in the overall watching experience, resulting in enhanced well-being and positive emotions. This constitutes the most prevalent facet of the desired experience of TV series watching. Improving knowledge on the specific affect-based functions that binge-watching may serve would undoubtedly set the stage for a better understanding of how it may contribute to excessive involvement and problematic binge-watching.

The Force of Structural Characteristics

Whereas the primary role of viewing maintenance is generally assumed to relate more to the formal features of TV than to its content (Kubey & Csikszentmihalyi, 2002; McLuhan, 1978; Reeves et al., 1986; Singer, 1980), the opposite may be true in the case of TV series watching. According to the answers gathered in the focus group, Flayelle et al. (2017) identified specific TV series' structural characteristics as being particularly appealing to viewers regarding both environmental factors (e.g., availability of the shows, convenient devices, and abundance of programs) and intrinsic properties (e.g., type and quality of the narrative, originality and attractiveness of the story, and endearing fictional characters). Overall, the type and quality of the narrative appeared to be the most influential among the whole characteristics having been credited as being more conducive to binge-watching. More precisely, the analysis showed that story-driven shows (i.e., with a common storyline across episodes) with complex narratives engage viewers at a higher level. In other words, TV series are not equal in terms of their addictive nature, some shows promoting immediate watching and others not, which was previously noted in a media company survey (Harris Interactive, 2013). In light of these results, we argue that the focus of interest should be on the content of TV series that directly affects viewing maintenance, beyond the automatization aspects, and how it may relate to problematic watching behavior.

Focusing on such inherent elements automatically directs attention to the plot of the TV

series. “Based on an exact science of audience reactions” (Douchet, 1985, p. 150), a plot is tailored as an elaborate system of control over the audience’s involvement in the story. A closer investigation of what makes TV series so attractive from a purely narrative perspective may provide a much better understanding of binge-watching behavior. For example, the effectiveness of techniques aimed at rising tension to keep viewers engaged is already well established in screenwriting handbooks (Field, 2005; Iglesias, 2005; Lavandier, 2011; McKee, 2010; Russin & Missouri, 2012). The most famous of these is the use of cliffhangers, which, operating by opening a loop with unresolved tensions that demand resolution (Alter, 2017), is considered as a magic ingredient to enthrall an audience.

On a side note, it is worth noting that first scientific evidence regarding narrative impact comes from the emerging research field of “neurocinematics” (i.e., the neurobiological study of how films and TV interact with the brain). In a groundbreaking study on the development of a quantitative neuroscientific measure of viewers’ engagement, Hasson et al. (2008) provided a primary insight into how the storytelling craft may trigger increased viewer engagement. Using functional magnetic resonance imaging technology, they examined intersubject correlation as an objective indicator of how much distinct types of content (different styles of filmmaking craft) capture the attention of viewers. The results showed that the more structured the narrative, the more attentive and more engaged the audience. Along these lines, we argue that the cognitive neurosciences may contribute to a better understanding of the processes involved in binge-watching, as long as such investigations go beyond the investigation of the potential impact on the reward system and executive control.

Nevertheless, a good story plot is a prerequisite for binge-watching to occur, as it has to captivate the viewer. An effective plot is built with advanced dramatic techniques that aim to attract, engage, and fascinate viewers by arousing specific feelings (Iglesias, 2005). The viewers’ emotional connection with the story, therefore, seems to be a crucial factor in understanding binge-watching behavior. A careful examination of the relationship between the viewer’s compulsive watching behavior and the presence of emo-

tions induced by the story is thus required to further advance our understanding of binge-watching behavior.

Avenues for Further Research: Binge-Watching as an Emotion Regulation Strategy

In view of the strong emotional experiences derived from TV series watching, as well as its apparent propensity to engender lack of control, the urgency component of impulsivity (i.e., the tendency to act rashly while faced with intense emotional contexts; Billieux, 2018; Cyders & Smith, 2008) may be the right candidate as a starting point to better understand problematic binge-watching behavior. As the strongest predictor of psychopathology among the various impulsivity dimensions (Berg, Litzman, Bliwise, & Lilienfeld, 2015), urgency has been related to poor executive control of actions, including reduced inhibitory control and impaired decision-making (Billieux, Gay, Rochat, & Van der Linden, 2010; Gay, Rochat, Billieux, d’Acremont, & Van der Linden, 2008), as well as a wide range of problematic behaviors such as alcohol and drug abuse, disordered gambling, excessive video gaming, and cybersex (Billieux et al., 2010; Cyders & Smith, 2008).

It has been argued, however, that urgency-related behaviors are performed with the aim of regulating emotional experiences (Nock, Wedig, Holmberg, & Hooley, 2008; Selby, Anestis, & Joiner, 2008) and more precisely indicate an individual’s proneness to engage in a variety of maladaptive behaviors to regulate or relieve an aversive emotional experience (Cyders & Smith, 2008). In line with others who proposed that viewers may watch TV series as a distraction when they are feeling low (Sung et al., 2015), we argue that the role of emotional coping must be taken into account as one of a range of reasons underlying problematic binge-watching. Nevertheless, urgency-related behaviors have been shown to occur not only in contexts of intense negative emotions but also in those of intense positive emotions (Cyders & Smith, 2008). Moreover, the tendency to act rashly in response to positive emotional contexts predicts a variety of problematic behaviors such as disordered gambling, excessive drinking, and risky sexual practices (Cyders & Smith, 2007; Cyders et al., 2007; Zapolski, Cyders, &

Smith, 2009). This tendency has been proposed as a risk factor for problematic behaviors by maintaining or enhancing positive emotions (Cyders & Smith, 2008). Notably, such “savoring” regulation strategies (Bryant, 2003; Quoidbach, Berry, Hansenne, & Mikolajczak, 2010; Wood, Heimpel, & Michela, 2003), which aim to increase positive affect, are in line with qualitative results, suggesting the importance of the emotional enhancement facet of TV series watching. Arguably, binge-watching seems to have everything to do with maximizing pleasure. Promising a better viewing experience (Riccio, 2013; Smith, 2014), binge-watching provides more enjoyment than traditional appointment viewing. This premise matches the findings of market studies, with the vast majority of TV series viewers (more than 70%) reporting that binge-watching makes the show even more enjoyable (Ciaramella & Biscuiti, 2014; Harris Interactive, 2013). This is in line with recent evidence of stronger perceived positive outcomes of media entertainment (e.g., enjoyment, immersion, and character involvement) for binge-watching than for traditional viewing (Brookes & Ellithorpe, 2017). Future research should explore binge-watching as an urgency-related behavior that occurs in response to intense positive emotions elicited by the show, all the more so because the exploration of the role of positive emotions in impulsive and excessive behaviors remains poorly understood. This leads to the following questions: Do viewers binge-watch for emotional regulation purposes? Is problematic binge-watching a maladaptive behavior mostly based on dysfunctional emotional regulation strategies or impaired executive control? Do problem binge-watchers engage in binge-watching to reduce or avoid negative emotions (i.e., negative reinforcement), or to increase positive emotions (i.e., positive reinforcement), or both? Are there contextual or interindividual predictors of binge-watching as a negative or positive reinforcement strategy?

Future research should explore the dynamics of binge-watching behavior on the basis of current models of emotional self-regulation and their role in the etiology and maintenance of problem binge-watching. Figure 1 outlines the proposed research agenda.

Pursuing two nested generic objectives (i.e., to explore the role of emotional dysregulation in binge-watching and to improve our understand-

ing of this behavior), two main lines of investigation should traverse three broad sections of exploration: the TV series viewers and the “addictive” TV show characteristics (Sections 1 and 2), and where they overlap, focusing the examination on the interaction between the structural features of addictive TV shows and the experience of binge-watching by combining experimental and longitudinal designs (Section 3). The two research axes should investigate the following concomitantly:

- (1) *TV series viewers’ characteristics to identify those who are binge-watchers and their main psychological features.* For this purpose, analysis of the relationships between the various motives of and the engagement in TV series watching is a primary exploration to undertake. However, to do so, reliable assessment methods, based on the phenomenological study of TV series watching, are required. From such tools and analysis, an investigation should be undertaken into whether certain motivations are more highly associated with binge-watching behavior, considering the valence of the desired effect (i.e., to avoid a negative incentive or obtain a positive incentive). An examination of the links between motivations, engagement, behavioral outcomes, and sociodemographic characteristics will then clarify whether certain kinds of viewers are more susceptible to problematic binge-watching. Such types of investigations are likely to be able to go beyond self-reported measures by directly using data from streaming platforms. Moreover, binge-watchers’ personality traits and psychopathological symptoms must be explored, identifying potential risk factors, to provide clearer indications as to whether problematic binge-watching could be better explained by an underlying mental disorder (e.g., depressive disorder or impulse-control disorder). Furthermore, elucidating the associations that may exist between the different viewing patterns and the type of show (e.g., narrative-driven or stand-alone episodes) would permit *the establishment of a taxonomy of the different types of binge-watchers*. Such subclassi-

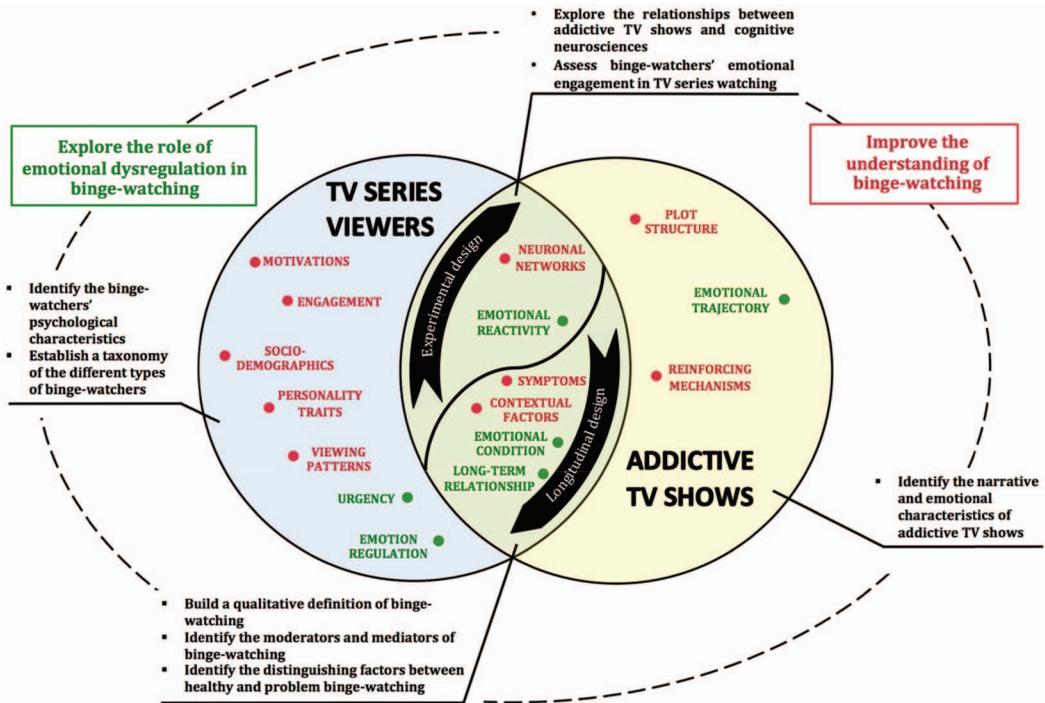


Figure 1. Proposed research axes for future investigation of binge-watching. See the online article for the color version of this figure.

fication might be relevant for capturing the diversity of problematic and non-problematic binge-watchers. Finally, further studies should be initiated on the urgency facet of impulsivity (linked to positive as well as to negative affect) and emotion regulation (linked to maladaptive emotion regulation strategies or increased emotion reactivity) and their role in the development of problematic binge-watching behavior.

- (2) *The features of TV shows that make them addictive.* One approach may be an in-depth storytelling examination, to be conducted at two levels of analysis, to identify the addictive TV shows' narrative and emotional characteristics. From a narrative perspective, an investigation of the plot structure of the most addictive TV shows, as identified by viewers themselves (e.g., large sample survey), should be conducted, paying particular attention to the key moment in the plot line that generates binge-watching behavior. By

doing this, narrative commonalities across the panel of shows should emerge, revealing the core attractive mechanisms of the craft, as well as the emotional responses of the audience. Such an approach would serve to highlight the specific emotional appeal of addictive TV shows. Nevertheless, because the emotional experience of TV series watching may be characterized not only by increasing enjoyment or decreasing negative affect but also by the rapid oscillation of emotions (tension, anxiety, hope, relief, anticipation, surprise, satisfaction, etc.), exploring the emotional trajectory of the story through which a viewer is taken (e.g., using script analyses) would allow for the identification of the specific emotions that render viewers more vulnerable to engaging in binge-watching behavior. Furthermore, such a perspective would also provide insights into the emotional states that binge-watchers may want to sustain or recapture.

Finally, it would be especially interesting to explore how these addictive storylines are intrinsically satisfying and rewarding to emphasize the inherent mechanisms that potentially allow a reinforcement loop to develop.

- (3) *The interaction of these two dimensions by using more behavioral assessments over time.* Viewers' engagement could, for example, be experimentally manipulated by exposing them to more or less addictive TV shows. This approach would enable the empirical assessment of the addictive features of the most gripping type of storytelling in a TV series. Further promising options may relate to the neurosciences research field with the *exploration of how storytelling might affect particular neuronal networks* by investigating viewers' neural responses during the viewing of TV shows commonly recognized as being the most addictive. Finally, exploring emotional reactivity in binge-watchers when faced with key emotionally arousing scenes, including physiological measures such as electrodermal responses, cardiovascular measures, or electroencephalography, which have already been found to reflect the emotional impact of movies (Kreibig, Wilhelm, Roth, & Gross, 2007; Money & Agius, 2009; Soleymani, Chanel, Kierkels, & Pun, 2008), would allow for the systematic investigation of the assumptions outlined in the current article. In addition to these experimental investigations, examining how binge-watching behavior evolves over time would permit the identification of the underlying factors and processes involved in its onset and maintenance. Longitudinal studies are necessary to monitor the viewing behavior itself, its different manifestations, and its unique symptoms, while paying particular attention to whether consequences are of short-term, mid-term, or long-term duration, according to the affected sphere of life. Linking all these elements with the psychological aspects of binge-watching would

allow for a *qualitative definition of the concept*. Future studies should focus on the contextual factors (e.g., circumstances and significant life events) in relation to the development of binge-watching behavior, its escalation, and its continuation, which would help with the understanding of how binge-watching differs from traditional TV series watching. In addition, the viewers' emotional condition should receive closer attention. In this regard, it would be particularly important to identify, by using diary research methods as previously done with other binge behaviors (e.g., binge-eating; Wegner et al., 2002), emotional states before and after binge-watching sessions to investigate whether primarily negative or positive feelings account differentially for the initiation of binge-watching and how binge-watching affects viewers' mood. The long-term relationship between emotion regulation, impulsivity, addictive TV shows, and binge-watching behavior may be assessed by using mediation and moderation analysis (Little, Card, Bovaird, Preacher, & Crandall, 2007). Such investigations would ultimately contribute to *identifying the distinguishing factors between healthy engagement and problematic binge-watching*.

Conclusion

At a time when addictive experiences that develop in the wake of technological growth and sophisticated product design are flourishing (Alter, 2017), binge-watching remains an understudied phenomenon, despite its widespread manifestation in today's society. Therefore, this perspective article aimed to outline initial considerations on binge-watching to emphasize the challenges and possible directions of related research. To this end, and to avoid the trap of the confirmatory approach inherent in today's behavioral addiction research, this article also recommends investigation of the binge-watching phenomenon with an exploratory perspective committed to understanding its unique nature and underlying working mechanisms. This

could be achieved through the psychological investigation of the relationship between TV series viewers and the experience of binge-watching, based on a model involving emotion regulation in the etiology and maintenance of problem binge-watching, focusing on the dynamic interplay between the structural features of addictive TV shows and binge-watchers' psychological characteristics from both experimental and longitudinal perspectives.

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