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The relationships between the structural video game characteristics, video game engagement and happiness among individuals who play video games



Derek A. Laffan ^{a,*}, John Greaney ^a, Hannah Barton ^a, Linda K. Kaye ^b

^a Dún Laoghaire Institute of Art, Design and Technology, Co., Dublin, Ireland

^b Edge Hill University, Lancashire, United Kingdom

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ABSTRACT

The present study investigated the relationships between the structural video game characteristics (e.g. social, presentation and punishment features), video game engagement components (e.g. flow, immersion and psychological absorption) and general happiness among an international sample of individuals who play video games. Online questionnaires were completed by 207 participants who simultaneously had their favourite or most played video game in mind while completing the questionnaires. The results indicated that flow was significantly predicted when individuals rated punishment (e.g. lose a life, restart a level) and presentation (e.g. audio and graphics) characteristics as present and important. A negative and weak relationship was found between general happiness and flow. It was concluded that the punishment and presentation features aid in the facilitation of a flow experience, as the punishment gaming aspects may contribute to the task difficulty and degree of effort required to achieve a flow state, when playing video games.

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1. Introduction

1.1. Background

The present study is an investigation into the relationships between the structural video game characteristics, video game engagement and happiness among individuals who play video games. In this study, the role of video games in relation to positive and negative outcomes are explored, and existing research on the structural video game characteristics, video game engagement and happiness is evaluated.

Video gaming is often considered a pleasurable and rewarding activity (Griffiths & Hunt, 1998; Hull, Williams, & Griffiths, 2013; Khoo & Gentile, 2007; McGonigal, 2011). Video gaming as an activity has been known to result in various positive and negative psychosocial outcomes. Previous evidence remains a mixed and arguably controversial commentary regarding potential negative psychosocial outcomes of video gaming such as pathological play

(Griffiths, 2008; 2009; Kardefelt-Winther, 2015; King & Delfabbro, 2014) and anti-social behaviour (Ferguson, 2015; Sherry, 2001). In contrast, previous evidence has supported positive psychosocial outcomes of video gaming such as reduced likelihood to experience emotional disturbances (Kutner & Olson, 2008), decreases in feelings of anger and aggression and increases in calmness (Olson, Kutner, & Warner, 2008), and also increased levels of general wellbeing (Durkin & Barber, 2002; Jones, Scholes, Johnson, Katsikitis, & Carras, 2014).

More recently, Ferguson (2015) conducted a meta-analysis assessing the results from 101 video game effects based studies involving children. It was concluded that video games have minimal influence on children's general wellbeing, and that the study supports previous calls (i.e. Granic, Lobel, & Engels, 2014) for further evaluations into the video game research field (Ferguson, 2015).

It appears to be inconclusive as to how and why video gaming can be a pleasurable and rewarding activity. On one hand, some theorists have argued that video games consist of motivational traits (Juul, 2005; McGonigal, 2011), fulfil basic psychological needs (Przybylski, Rigby, & Ryan, 2010), take up time and energy (Vallerand, 2008), or are socially satisfying (Griffiths & Hunt, 1998;

* Corresponding author.

E-mail addresses: derekajlaffan@gmail.com (D.A. Laffan), john.greaney@iadt.ie (J. Greaney), Hannah.barton@iadt.ie (H. Barton), Kayel@edgehill.ac.uk (L.K. Kaye).

Hull et al., 2013; Kaye & Bryce, 2012; Yee, 2007). Whereas on the other hand, some theorists have suggested that individuals play video games for more immediate reasons such as escapism, achievement, to experience a state of flow, and to satisfy addiction (Hilgard, Engelhardt, & Bartholow, 2013; King, Delfabbro, & Griffiths, 2010; Kneer & Glock, 2013; Ting-Jui & Chih-Chen, 2003; Yee, Ducheneaut, & Nelson, 2012). Therefore, it is reasonable to explore how video games foster engaging experiences, such as those characterised by “flow”, discussed subsequently.

1.2. Video game engagement and flow

However, video gaming can also be regarded as a highly engaging activity consisting of a variety of experiences (such as presence, immersion, flow, psychological absorption and dissociation) that may have both positive and negative outcomes depending on the context and the individual (Brockmyer et al., 2009; Jennett et al., 2008; Brown, 1991; Rigby & Ryan, 2011). This engagement perspective is evident in a study by Ting-Jui and Chih-Chen (2003), who found that individuals engaged in video gameplay in order to experience a flow state.

Flow is a positive state in which an activity is so engaging that all else becomes oblivious to the individual (Csikszentmihalyi, 1990; Nakamura & Csikszentmihalyi, 2002). Flow is a universally accepted aspect of engagement within the video game experience (Brockmyer et al., 2009). Sweetser and Wyeth (2005) outlined that video games provide a suitable structure, capable of optimally inducing flow states. Generally, flow is considered a positive experience (Nakamura & Csikszentmihalyi, 2002) and has been examined extensively in gaming contexts (Cowley, Charles, Black, & Hickey, 2008; Jones, 2003; Nacke, 2012; Sweetser & Wyeth, 2005). Certain elements of the flow experience may not be considered as positive, such as reported anxiety and frustration when playing video games for prolonged periods of time (Funk, Chan, Brouwer, & Curtiss, 2006) and perceived loss of time (Wood & Griffiths, 2007). These negative aspects of flow have been considered as antithetical to flow theory (Brockmyer et al., 2009), however flow is inclusive in various video game experiences.

Flow is often mentioned with other video game experiences such as enjoyment (Klimmt, Hartmann, & Frey, 2007), throughout video game research literature. Flow, along with presence, immersion, psychological absorption and dissociation, have been considered as fundamental experiences in video gaming, making up a model of video game engagement (Brockmyer et al., 2009). Immersion, presence, psychological absorption and dissociation are conceptually different experiences to flow. Immersion is considered to be a process initiating engagement, whereas presence refers to being in a normal state of consciousness while inside a virtual environment (Brockmyer et al., 2009). Psychological absorption refers to the total engagement within the present experience, whereas dissociation is described as a lack of normal integration of feelings, thoughts and experiences into the stream of consciousness and memory (Brockmyer et al., 2009).

Norman (2013) stated that negative video game outcomes literature was primarily referred to when Brockmyer et al. (2009) began developing the model of video game engagement. This may present an argument for further investigations into additional positive outcomes, such as general happiness, within an engaging video game experience. Additionally, highly engaging video games have other considerations such as structural video game characteristics (SVGCs), which are basic features that a video game may possess in order to initiate gaming behaviours (Wood et al., 2004). The SVGCs also play an important role in the engagement video game experience.

1.3. Structural video game characteristics

According to Wood, Griffiths, Chappell, and Davies (2004) and Hull et al. (2013), SVGCs consist of: social features (i.e. social utility features, leader board features etc.), manipulation and control features (i.e. user input features, save features etc.), narrative and identity features (i.e. avatar creation features, theme and genre features), reward and punishment features (i.e. meta-game reward features, pay-out interval features), and presentation features (i.e. graphic and sound features, in-game advertising features).

Existing research into SVGCs is in infancy stages predominantly fixated on problematic video gameplay (Hull et al., 2013; King et al., 2010) and less fixated on positive outcomes. In a study by Hull et al. (2013), individuals who played video games with mostly social structural features (i.e. chat rooms, support groups, in-game instant messaging etc.) were more likely to experience video game addiction, and that happiness levels were negatively related to the time distortion component of flow. This is also consistent with earlier research carried out by Funk et al. (2006) who found that long term flow states were indicative of negative physiological effects such as exhaustion among video gamers.

As flow is considered a fundamental aspect of the video game engagement (Brockmyer et al., 2009), it is therefore possible that the SVGCs relate to other video game engagement aspects (i.e. presence, immersion, psychological absorption) and other positive outcomes, such as happiness.

1.4. Happiness

Happiness can be conceptualised as a state involving the experience of frequent positive emotions, infrequent negative emotions, and high life satisfaction (Diener, 1984; Nelson & Lyubomirsky, 2012; Snyder & Lopez, 2005). It has been suggested by Seligman (2011) that happiness is also made up of engagement, relationships, meaning and accomplishment. Many factors including a genetic set point, individual circumstances, daily activity, motivation, attitude and age, all invariantly affect happiness at any point in an individual's life (Lyubomirsky, Sheldon, & Schkade, 2005).

Happiness has been known to occur during video game play (Allaire et al., 2013; McGonigal, 2011) and is often a target variable of interest in various video game positive psychology intervention (VGPI) studies (Amon & Campbell, 2008; Roepke et al., 2015). However, a problem with VGPIs is that when video games are designed with a health or education focus, the video games are not often perceived as ‘fun’ by the individuals who use them (Granic et al., 2014). The SVGCs may provide some insight into how VGPIs can be improved in order to benefit individuals who would use video games to increase their happiness.

1.5. Study aims and research question

The primary aim of the present study is to investigate the relationships between the SVGCs, video game engagement, and happiness among individuals who play video games. The secondary aims of the present study include attempting to compute which SVGCs and engagement aspects significantly predict general happiness. Additionally, the present study seeks to compliment the work of Hull et al. (2013) by employing a larger sample and acquiring further insights into the role of the SVGCs that relate to general happiness and video game engagement. The research question is stated:

1. To what extent do SVGCs predict aspects of video game engagement and happiness?

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