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Flourishing and Video Games

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ABSTRACT

Studies dedicated to understanding the relationship between gaming and mental health, have traditionally focused on the effects of depression, anxiety, obsessive usage, aggression, obesity, and faltering 'real life' relationships. The complexity of game genre and personality aside, this review aims to define a space for a positive relationship between video game play and wellbeing by applying current video game research to the criteria that defines the wellbeing construct 'flourishing' [1]. Self-determination theory (SDT), and flow provide context, and areas of overlap are explored.

Categories and Subject Descriptors

K.8.0 [Personal Computing]: General – *games*.

General Terms

Design, Human Factors, Theory

Keywords

Video games, Wellbeing, Flow, Self-determination theory

1. INTRODUCTION

While video games have been widely criticised for encouraging unhealthy practices and attitudes, current research has found positive effects of commercial video game use in the form of increased engagement, visuo-motor coordination, cognitive skills; and applications for games in the fields of education, mental health support and physical therapy [2]. This paper attempts to place some of this video game focussed research in context, as well as to explore the value of research from the field of positive psychology, and to determine the usefulness of recent conceptualisations of wellbeing as they relate to video game usage research.

2. THEORIES OF WELLBEING

A key tenet of wellbeing is that the absence of mental illness does not equate to the presence of mental health and wellbeing [3].

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Current studies in this field are in the main concerned with refining the indicators of wellbeing, and expanding on our understanding of the mechanics and environmental factors that prohibit or encourage it. Influential theories and models relevant to wellbeing include flourishing, flow, and self-determination theory (SDT).

SDT posits that intrinsic motivation, integrity, growth and wellbeing spring from the ongoing pursuit of the satisfaction of three psychological needs: competence, autonomy and relatedness. SDT has informed a great deal of research on video game play and provided insight into people's experience while playing, their motivations for play and where the boundary between healthy and unhealthy engagement with video games may lie [4].

Flow overlaps with SDT in terms of describing the experience of enjoyment originating from engagement with tasks matched to individual skill (competence), and intrinsic motivation. Both flow and SDT have direct implications for the design of games that lead to optimal experiences for the player. Flow also has direct implications for the field of mental health, with its association with the building of resilience [5], meaning making, and present-centred enjoyment [6].

Huppert & So posit an operational definition of flourishing that includes ten indicators of wellbeing split across a mix of positive affect and positive functioning; originally designed to mirror the DSM-IV and ICD-10's lists of symptoms for depression and anxiety [1]. The indicators are as follows: positive characteristics (emotional stability, vitality, optimism, resilience, positive emotion, self-esteem), and positive functioning (engagement, competence, meaning, positive relationships). In this paper we will be looking at these ten indicators of flourishing and assessing the extent to which there is evidence that video games do (or potentially can) facilitate wellbeing in each form.

3. FLOURISHING AND VIDEO GAMES

3.1 Positive Characteristics

3.1.1 Emotional stability

Studies exploring the differences between young video game players grouped into high use, low use, and no use categories, note that the low use groups experienced the greatest emotional benefits, while the no use group experienced the least [7]; and low use groups indulged in less risky behaviours, and substance use [8]. In fact the no use group in this last study found no advantages over the other two groups. These studies suggest that more enduring emotional stability as a result of video game play may be related to the interplay of personality and psychological needs being met outside of the gaming environment [9]. Further, research has shown a relationship between neuroticism (or

emotional stability) and preference for first person shooters, such that those preferring shooters showed greater emotional stability than people with a preference for other genres [10]

3.1.2 Vitality

According to SDT vitality is maintained or enhanced by volitional activity, and enhanced when these activities also result in the satisfaction of psychological needs [11]. A series of studies applying SDT to play revealed mixed effects for vitality, qualified by need satisfaction: people who experienced competence satisfactions also experienced increased vitality [12]. More pertinently, a study seeking to determine the wellbeing outcomes of either wanting to or having to play games [9] found that post-play energy decreased with obsessive play, and increased with harmonious play. Interestingly, hours of play were not found to have a link with post-play energy. Rather it was the quality of the play experience, defined as either a compulsion or a choice, which determined the wellbeing effects, such that a player with harmonious passion could play for long hours and experience higher levels of post-play energy.

3.1.3 Optimism

Optimism, can be seen as an adaptive problem-solving trait that perseveres in the face of adversity [13], and is directly predicted by daily emotional support and resilience self-efficacy expectations [14]. It seems reasonable to posit that individuals with strong social supports who find their need for competence gratified in video game play are also strong in optimism, however research has not yet explored this possibility.

3.1.4 Resilience

Resilience is commonly understood as the ability to recover from traumatic events, or learn from difficult situations [3]. As resilience is a trait developed cumulatively via the regulation of everyday life stresses [15], video game play can be seen to encourage resilience both through its effects on self-efficacy, and its promotion of metacognition. Video games encourage persistence despite adversity, require the mastering of sets of skills in order to advance, promote strategic thinking, and mistakes are an accepted part of the learning process [16]. Social skills requiring great persistence and mental flexibility such as conflict mediation, group motivation and persuasion, and leadership skills, are developed and required within certain genres of video games [17]. The stress relief that video games offer [7], may also be considered a signifier of renewal, brought about by the consolidation of small victories over stressful micro-events into a stronger, more resilient personality.

3.1.5 Positive emotion

Wang, et al.'s [18] investigation of motivation in digital gaming discovered revealed that harmonious play (HP) had higher associations with positive affect than obsessive play. Using a randomized controlled trial including a series of casual games, Russoniello, O'Brien & Parks [19] were able to show a direct causal relationship between game play and improved positive affect across a range of measures. Additionally, various researchers have shown improvements in affect and mood associated with video game play [7, 12]. A key issue for future research however, will be exploring when and for whom these positive impacts on mood and emotion occur [7, 12, 19].

3.1.6 Self-esteem

Self-esteem has been found to be boosted in young people who play video games [8], negatively related to predicting future

problematic gaming [20], and having mixed effects across a series of studies applying SDT to computer game play and wellbeing [12]. In this last work, self-esteem was found to be contingent upon the experience of competence and autonomy during game play. In sum, there is clear evidence that video game play can lead to improvements in self-esteem, however the factors that may moderate this relationship are still being determined.

3.2 Positive Functioning

3.2.1 Engagement

Video games are broadly understood to be successful at generating engagement. By matching skill to task and thereby giving rise to experiences of flow [6, 21] video games enhance individual levels of intrinsic motivation. Thus video games have been used to motivate learning in schools and universities, increase cultural awareness, and encourage physical play [22]. The term gamification describes the leveraging of the motivational power of games for applications including advertising, environmental campaigns, and other forms of marketing [23]. Commercial video games' ability to motivate play also spills over into players' active engagement in forums, player-made modifications to games and fan-created artwork.

3.2.2 Competence

Gameplay that facilitates competence through game mechanics such as task generation, progress feedback, intuitive controls and optimal challenges fosters intrinsic motivation, and ultimately wellbeing [24]. Ryan, Rigby & Przybylski's [12] work applying SDT to video game play, showed that the experience of competence predicted positive game experience and subsequent motivation to play, confirming that game play can promote short-term shifts in players' wellbeing. A study on flow and competence confirmed that the right balance of skills and task requirements led to satisfying experiences for the player [21], with individuals characterised by strong habitual action-orientation being the most likely to experience flow under these conditions. Johnson and Gardner's [10] study on personality, motivation and video games found that competence was more likely to be reported by individuals high in agreeableness, again highlighting the role personality plays in generating wellbeing outcomes via game play.

3.2.3 Meaning

Meaning is perhaps the most difficult criteria from Huppert & So's indicators to link to existing video game research. It seems likely that players experience video game play as being worthwhile and valuable, based on anecdotal evidence. Moreover feelings of competence [12], the experience of flow [21], social relationships built through and around games [17] and the completion of in game tasks seem likely to result in play being experienced as meaningful. However, this is an area in which further research is particularly needed.

3.2.4 Positive relationships

Yee's [17] study indicates that players derive meaningful relationships within the game world. Players formed both strong friendships and supportive social networks, frequently playing with romantic partners and family members. Cole and Griffiths' [25] study reinforced this, finding a significant majority of MMORPG players made good friends within the game, and many players had met their online friends in real-life situations, and found themselves attracted to another player. Finally a recent study of e-sports gaming clans [26], demonstrated that physical and social proximity, and familiarity, positively effected online

bonding social capital and from there, offline social support. The authors' recommendation for in-game mechanisms that encourage proximity and familiarity could have wellbeing benefits in stimulating offline friendships.

4. DISCUSSION

This paper represents a brief, initial exploration of the state of play when it comes to video games and wellbeing. Huppert & So's wellbeing criteria for flourishing appear to provide an excellent starting point for the exploration of this relationship. Some themes that have arisen include the refining of criteria by which to judge problematic and healthy usage, and the potential for a broad range of positive ongoing wellbeing effects brought about by video game play. Much of the preceding discussion is theoretical or involves suppositions regarding connections between previous studies. It will be essential that future research is directed towards exploring the manner in which video games promote wellbeing as defined across the individual wellbeing criteria. In particular, work is needed to explore which video games or game genres provide particular benefits to players of varying personality types or demographic characteristics.

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