

Bachelor's thesis presented to the Department of Psychology of the University of Basel for the degree of Bachelor of Science in Psychology

Digital Games and Sensitive Life Experiences

Author: Luana Burckel

Immatriculation number: 17-057-555

Correspondence email: luana.burckel@stud.unibas.ch

Examiner: Prof. Dr. Klaus Opwis

Supervisor: M.Sc. Lena Aeschbach

Division, in which this work was completed: MMI

Submission 15.5.2020



**BACHELORARBEIT
REGISTRIERT
15.05.2020**

Content

Abstract	1
Introduction	2
Theoretical Background	4
Sensitive Life Experiences.....	4
Coping Strategies in Games.....	6
Connection with Others.	6
Escaping from Stress.	7
Emotional Benefits.	8
Help on the Personal Level.....	9
Wellbeing.....	10
Potential Downfalls in Games	11
Discussion	13
Games as Coping Strategies.....	13
Possible Outcomes of Games as Coping Strategies.....	15
Conclusion.....	18
References	19

Declaration of Scientific Integrity

The author hereby declares that she has read and fully adhered to the [Code for Good Practice in Research of the University of Basel](#).

Abstract

In the area of games and HCI, has recently been a shift towards understanding more complex forms of gaming experience, such as understanding the role of digital games during difficult life experiences. A promising approach being discussed in this work is therefore the question of how and why people engage with games during difficult times. In the first section, a summary of arguments of previous researchers related to the role of games during difficult life experiences will be made. In the following section, different coping strategies that people use to help them cope with their problems will be described. Additionally, a brief summary of the potential downfalls in games will be made. Then, gaming as a coping strategy and the possible outcomes of gaming as a coping strategy will be discussed as well as an outlook on future research will be given. Finally, a conclusion will be made.

Keywords

Digital Games, HCI (Human Computer Interaction), Difficult Life Experiences, Coping Strategies, Downfalls

Introduction

Most players enjoy and appreciate experiencing negatively valenced emotions, such as sadness (Bopp, Mekler & Opwis, 2016). Emotions are not only evoked by a variety of interactive and non-interactive game aspects, such as in-game loss (Harrer, 2013; Bopp et al., 2016; Gowler & Iacovides, 2019), character attachment (Bopp, Müller, Aeschbach, Opwis & Mekler, 2019) and lack of agency (Johnson, Nacke & Wyeth, 2015; Bopp et al., 2016) but also personal memories (Bopp et al., 2016) and are often accompanied by self-reflexion (Gowler & Iacovides, 2019; Bopp et al., 2016). However, findings suggest that positive and negative emotions shape the player experience (Birk, Iacovides, Johnson & Mandryk, 2015). While positive player experience has largely been equated with enjoyment (Mekler, Bopp, Tuch & Opwis, 2014), fun (Lazzaro, 2009) and positive affect (Birk et al., 2015), the study of Bopp et al., (2016) indicates that the experience of negative emotions in games must not necessarily suggest that the experience itself was negative. As Benford et al., (2012) argued, negative emotions can be entertaining. Similarly argues Juul (2013), in his book “The Art of Failure: An Essay on the Pain of Playing Video Games”. For instance, Juul (2013) suggests that players prefer games in which they fail. It is the threat of failure that gives players something to do in the first place (Juul, 2013). It is painful for humans to feel incompetent or lacking, but games hurt players and then induce an urgency to repair their self-image (Juul, 2013). Much of the positive effect of failure comes from the fact that players can learn to escape from it, feeling more competent than they did before (Juul, 2013). Additionally, Juul (2013) states that failure is integral to the enjoyment of game playing. Games are a perspective on failure and learning as enjoyment, or satisfaction (Juul, 2013).

However, within the area of digital games and HCI there has been an increasing interest into a precise understanding of the role of such technology, especially during difficult life experiences. There remains the question how these games support people in coping with sensitive life experiences (Herron, Andalibi, Haimson, Moncour & Van den Hoven, 2016), such as relationship issues (Herron, Moncour & Van den Hoven, 2017; Moncour, Gibson & Herron, 2016), job loss (Burke & Kraut, 2013), moving home (Shklovski, Kraut & Cummings, 2006), retirement (Brewer & Piper, 2016; Durrant et al., 2017), and dealing with grief (Baglione, Girard, Price, Clawson & Shih, 2018; Massimi, Dimond & Le Dantec, 2012). The findings of such work broadly highlight the positive role that technology, Information and Communication Technologies (ICTs) in particular, can have in supporting individuals with their issues through connection with others in games.

The aim of this work is to examine the role of digital games during sensitive life experiences and therefore, the question of how and why people engage with games during difficult times. In the first section, a summary of arguments of previous researchers related to the role of games during difficult life experiences will be made. In the following section, different coping strategies that people use to help them cope with their problems will be described. Additionally, a brief summary of the potential downfalls in games will be made. Then, gaming as a coping strategy and the possible outcomes of gaming as a coping strategy will be discussed as well as an outlook on future research will be made. Finally, a conclusion will be given.

Theoretical Background

In this section, a summary of arguments of previous researchers related to the role of games during difficult life experiences will be made. Then, different coping strategies that people use to help them cope with their problems will be described. Finally, a brief summary of the potential downfalls in games will be made.

Sensitive Life Experiences

HCI should address the role of technology and the fundamentals of existence, such as mortality, identity, isolation, freedom and meaning (Kaptelinin, 2018). A significant number of these issues are related to *sensitive life experiences*. Herron et al., (2016) define them as “life events and life transitions which see individuals in a vulnerable state”. Similarly, Massimi et al. (2012) refer to *life disruptions* as a form of an adverse event that is unpredictable, uncontrollable and destabilizing, which can also involve an identity crisis as a result of life transition, meaning, moving from one phase or condition in life to another (Semaan, Britton & Dosono, 2016). From the moment we move back home to the loss of a loved one, times of personal difficulty are likely to affect us all (Iacovides & Mekler, 2019).

Furthermore, according to the psychological literature (Granic et al., 2014; Pals, 2006; Park, 2010), when difficult life experiences occur, people have recourse to various coping mechanisms, i.e., “cognitive and behavioral efforts to manage specific external and/ or internal demands that are appraised as taxing the resources of the person” (Folkman & Moskowitz, 2004). Folkman and Moskowitz (2004), identify three different types of coping: the first one is *emotion-focused* (aimed at reducing negative emotions association with the problem), the second one is *problem-focused* (aimed at directly addressing the problem causing distress) and the last one is *meaning-focused* (where cognitive strategies are used to engage in meaning-making) (Pals, 2006; Park, 2010). These are emphasizing the increasing

attention given to social factors (e.g., where other people can provide instrumental or emotional support). While these distinctions can be useful, Folkman and Moskowitz (2004) note that they are relatively wide, with specific strategies being adaptive or maladaptive. In other words, they are more or less useful, depending on the circumstances.

Research in HCI and sensitive life experiences has focused on coping within a range of contexts. Massimi et al., (2012), for instance, examined the role of technology across three different instances, for example: leaving an abusive partner, homelessness and the death of a family member. The authors observe how, in each of these cases, social and technological relations are being reshaped in order to mitigate some of the consequences of these extreme disturbances, while the persons concerned are on the way to “a new normality”. As technologies are an integral part of our lives, they can influence and potentially change the ways in which people cope. Baglione et al. (2018), for instance, note how people experiencing grief are increasingly supported through digital memorializations and through expressing their grief online. In another study, Haimon et al. (2016) focus on the experience of transgender people which can not only find support from others online but also have to deal with social networking technologies that do not always support them in negotiating the challenging interplay between their past and current identities.

Other HCI fields of research have suggested that uncomfortable gameplay experiences can facilitate enlightenment, particularly when they cause empathy and increase understanding around particular issues (Belman & Flanagan, 2010; Iacovides & Cox, 2015). Similarly, extreme live action role-playing experiences have been found to involve intense negative emotions, yet still be gratifying to players. Montola (2010), for instance, describes how in games focusing on themes such as sexual assault and societal collapse, discomfort is a key part of providing players with personal insight into extreme situations. In addition, the intensity of the experience also allows players to bond with each other and form relationships that continue after the game is complete.

Coping Strategies in Games

Connection with Others. In spite of requests for more research on the role that games play in players' lives (Van Rooij et al., 2018) in the context of sensitive life experiences, this has rarely been an explicit focus (Iacovides & Mekler, 2019). Semaan et al. (2016), for instance, examined veterans' use of Information and Communication Technologies (ICTs) during the civilian re-integration. Mainly in relation to Facebook and Reddit, and also to veteran-specific spaces (Semaan et al., 2016). However, some participants referred to engaging with massive multi-player online games (MMOGs) as a form of escape from the difficulty of transition to connect with former soldiers and as a way to draw on the old structures of their military identity (Semaan et al., 2016).

In another research, Baglione et al. (2018) described playing digital games as means of distraction and self-care when dealing with complicated forms of grief. Shklovski et al. (2006) also refer to games as part of using the internet for entertainment, as a possible escapist coping strategy when dealing with moving home but they include browsing behaviors as part of the same strategy. Therefore, it is unclear to which extent their findings relate specifically to games. However, Semaan et al. (2016) appear to view using the internet for communication as a separate strategy and do not note the potential overlap with regard to games, even though, they referred to MMOGs.

For their part, Iacovides and Mekler (2019) suggest games as providing valuable opportunities to connect with others in different ways. To describe this aspect Iacovides and Mekler (2019) used "*Connection – No one should be an island*", meaning that "isolation can be a significant factor within difficult life experiences and to reflect the implicit assumption that it is beneficial to feel connected to something other than ourselves" (Iacovides & Mekler, 2019, p. 7). Connections could occur through engaging with people who shared a similar interest, gaming was able to provide a sense of satisfaction and belonging. Additionally, some participants even indicated that it was helpful to engage with others without having to discuss

their difficulties. Beyond providing opportunities to engage with other people, gaming also appeared to support different forms of connection. For instance, gameplay allowed people to feel connected to someone who had passed away. Furthermore, a form of connection was also experienced through engaging with characters within the game. Through playing RPG (Role-playing game) and adventure games with a “good story and relatable characters” (Iacovides & Mekler, 2019, p.8), the participants mentioned how games were able to offer a form of respite from the loneliness they experience as a result of their anxiety. The game itself offered opportunities to create an attachment with in-game characters.

Escaping from Stress. In another avenue of HCI research, Banks and Cole (2016) investigated the use of games in the context of military personnel and veterans. Even though, their work does not explicitly focus on sensitive life experience, part of their research involved asking participants about whether they ever used games to work through the challenges they had experienced as a result of their military service. Their findings suggested that games were able to provide an escape from stress, a way to manage physical or psychological challenges, an opportunity to experience support from other military personnel and a way to enjoy connections with civilians. While some of these issues are specific to a military context, social support is clearly important for addressing challenges and exploring the applicability of their findings in different contexts.

However, Banks and Cole (2016) are not the only ones to have found that games can provide an escape from stress. In fact, Iacovides and Mekler (2019) also suggest that games are able to offer necessary respite from the stress and trauma that participants were experiencing in their daily lives. Essentially, gaming provided an activity for participants to focus on something which was not related to the difficulties they were going through in real life. For some who were dealing with mental health issues, this focus helped to disrupt negative thought processes. Additionally, through providing an engaging experience,

gameplay was described as distracting from physical as well as emotional pain. Participants also described games as being more effective than other pastimes. Finally, due to dealing with negative issues beyond their control, games were able to offer further respite through providing players with opportunities to experience competence and agency, which may have been lacking in other areas of their lives (Iacovides & Mekler, 2019).

Emotional Benefits. A related field of research has also emerged around the potential emotional benefits of games (Granic, Lobel & Engels, 2014), where studies have looked more largely at gaming as a way to deal with general stress. Reinecke et al. (2012), for instance, indicate that games were more likely to provide relief from frustration than non-interactive media due to being more cognitively demanding. Based on Reinecke et al. (2012) findings, Collins and Cox (2014) found further evidence that gameplay can aid post-work recovery. In fact, they found that a variety of genres could promote recovery experiences, but that this was most pronounced for actions and first-person shooters. These effects were further transmitted through online social support, which suggests that games at least partially promote recovery by providing opportunities for social contact. In their work, Vella et al. (2016), investigated male gamers and indicate that online gaming can lead to positive emotions such as competence as well as companionship.

Furthermore, they suggest that the activity provides players with a way to access social support. In particular, they note how voice chat can help develop trust between players, creating opportunities to bond over gaming experiences and to discuss emotional issues. In their study Iacovides and Mekler (2019), describe gaming as a helpful way for players to work through their feelings about their current situation. Also, the authors mentioned that some participants appeared to deliberately engage in uncomfortable experiences in an effort to come to terms with their emotions and deal with how they felt about the situation they were in. Furthermore, players occasionally appeared to experience gaming both as respite and a

way to process their emotions, even if that was not the original aim (Iacovides & Mekler, 2019).

Help on the Personal Level. In their study, Iacovides and Mekler (2019) examined how games could help participants to change and grow on a personal level. For instance, participants mentioned that gaming gave them motivation to go back into exercising and eat healthier again. Similarly, through providing opportunities to develop competence, the confidence and motivation developed in game can transfer to other areas of an individual's life. Additionally, other community members could also influence personal changes. For instance, players of the *World of Warcraft* supported and helped other players into breaking them free of an abusive relationship. Furthermore, Bopp, Mekler and Opwis (2016), found similar results. In fact, the authors suggest that games have the potential to provoke thoughts about the player's personal growth and ideals. A few players stated that the emotionally moving game experience prompted them to think about who they want to be, where they currently stand in life or how to move on in the future. Sometimes this even resulted in changes in attitude or behavior, as players aspire to become a better self.

In their study, Iacovides and Mekler (2019), also examined how gaming provided a lifeline during periods of existential doubts. A few participants indicated they would have been worse without video games, where, for example, gaming was described as preventing from more destructive behaviors. The authors even mentioned, that in some cases the possibility of self-harm was implied (e.g., "Games helped distract me from extremely negative thoughts that may have led me to do something reckless" (Iacovides & Mekler, 2019, p. 8)). Games appeared to provide players with a sense of purpose at a time in their lives when they were struggling (Iacovides & Mekler, 2019). For some participants, the lifeline was found in the connection provided with others in the game. Similarly, some participants mentioned the challenges they were going through in their daily life and how a

specific the game was able to provide them with more achievable goals both within and outside the game. Additionally, the authors mentioned an overlap with personal growth. For instance, some participants were not looking after themselves, but the game was able to provide them with more manageable challenges related to looking after their character in the game.

Wellbeing. Another avenue of research highlights how games may be able to influence general wellbeing through providing an escape, influencing mood and supporting social interaction. In fact, it has been suggested that interacting with others online may be a form of coping with personal issues, where negative life situations can give a rise to a motivation to go online to soothe negative emotions (Kardefelt-Winther, 2014). The effects are not always clear. However, different research has indicated that online gaming can both positively and negatively influence wellbeing (Snodgrass et al., 2018). In their work, Snodgrass et al. (2018) suggested that the outcomes depend on the way in which an individual engages online and intensive online play can improve wellbeing in lonely players by creating opportunities to bond with others and exacerbate their feelings of loneliness.

However, for their part Iacovides and Mekler (2019), found gaming as being detrimental to wellbeing. Despite the vast majority of their participants suggesting they got something positive out of gaming, many also referred to negative effects of playing games (e.g., in terms of how excessive play affected school, work or led to decreased physical activity and fewer opportunities for socializing in other contexts). Some participants suggested that their involvement in gaming prevented them from dealing with problems head on, where as it “pulled them away from social interaction and seeking support” (Iacovides & Mekler, 2019, p. 9). While previous aspects indicate that games being less effortful as positive since other pastimes required more energy than individuals may have been able to give. Here, the concern was that gaming would displace other, presumably more worthwhile activities.

Potential Downfalls in Games

As described above, people engage with games to help them cope with their real-life issues. However, the possibility for players to experience downfalls in games during sensitive life experiences is not excluded. There is a risk of gaming being abused as a means to run away from the feelings and thoughts players did not want to deal with. Similarly, in their study, Iacovides and Mekler (2019) mentioned occasional references to addiction but only one example that referenced a potential diagnosis. Despite the World Health Organization (WHO) recently included gaming disorder in the International Classification of Diseases (ICD-11), it has been suggested that escapist online gaming may actually be a response to particular life problems, rather than a mental disorder to impulse-control issues (Kardefelt-Winther, 2014; Van Rooji et al., 2018; Vella, Johnson & Mitchell, 2016).

Furthermore, while digital games can help cope with mental health issues, such as anxiety and depression (Dekler & Williams, 2017; Beatty & Taylor, 2018), other studies have shown that they might cause or exacerbate these conditions instead (Boendermaker et al., 2017; Hoge et al., 2017; Lau et al., 2017). Tortolero et al. (2014), for instance, found that fifth graders who play video games two or more hours a day are more likely to have symptoms of depression than those who played less.

For their part Cham et al. (2019), found a wide range of negative life experiences associated with an abuse of digital games, including emotional problems that affect the psychological wellbeing of users. Various factors are involved, such as *interaction activities* where some contacts could elevate depression especially for those with low self-esteem, *irritability*, where players feel annoyed or impatient when they are unable to engage in an online interaction, and also *inadequacy*, where players feel incompetent and inferior to other players (Cham et al., 2019).

Additionally, it could also lead to family breakdowns and partnerships and/ or relationship problems (Cham et al., 2019). For instance, when one chooses to spend more time online and neglect their partners or family members which may lead to relationship/ family conflict, separation and divorce in some cases (Beutel et al., 2011). Social problems may appear as well, such as the neglect of peers, colleagues and friends in the physical world (Cham et al., 2019).

However, the urge for students or employees to be excessively online for non-academic or non-work-related purposes could impair their academic and work performances (Muller et al., 2014). Other factors could be invasion of privacy of others for instance, when private informations can be assessed and used by others in a negative way such as the cyber-stalking (Kuss & Griffiths, 2011). In addition, another potentially negative issue could be harm. It may be of a personal or financial nature, e.g. excessive gambling and neglect of health and hygiene (Cham et al., 2019). Finally, nutritional problems are also a factor. For example, hours of gambling and forgetting to eat or drink and/or the tendency to eat fast food (Cham et al., 2019).

To summarize, digital games are able to help individuals cope with their personal issues by being connected with others, escaping from stress, helping them emotionally and on a personal level, and also improve their wellbeing. Nevertheless, players may experience downfalls during the gameplay. These downfalls are related to excessive use of technology, such as digital games. This excessive use in turn can lead to detrimental effects on both mental and physical health.

Discussion

In this work, the question of how and why people engage in games in difficult times was examined. This discussion is divided into four sections. First, it is discussed how gaming is used as a coping strategy. Secondly, the possible outcomes of gaming as a coping strategy are examined. Third, an outlook on possible future research is given. Fourth, a conclusion is made.

Research in the area of sensitive life experiences has shown that technology can offer people an additional way of coping in times of disruption and transition (Herron et al., 2016; Massimi, Dimond & Le Dantec, 2012) when it is necessary to understand how people use technology to deal with existential concerns (Kaptelinin, 2018). Despite assumptions that games can provide support by offering an escape from life, opportunities for social contact or mood changes (Park, 2010; Reinecke et al., 2012; Bryan et al., 2016; Shklovski et al., 2006), the role of gaming during sensitive life experiences has so far rarely been explicitly addressed. However, more recent work offered further insight into gaming as a specific technology to which people turn in difficult times and the effects it can have (Iacovides & Mekler, 2019; Cham et al., 2019).

Games as Coping Strategies

The findings of Iacovides and Mekler (2019) support the assumption that gaming can be used as a form of coping (Banks & Cole, 2016; Kardefelt-Winther, 2014) for a range of sensitive life experiences. By providing an interactive but low-intensity activity with manageable challenges, games appear to offer a level of distraction in a way that is not too overwhelming that other media may not provide (Reinecke et al., 2012). However, the study by Iacovides and Mekler (2019) shows that playing is not just about escaping into another reality (Shklovski et al., 2006) or trying to experience a more positive mood (Reinecke et al., 2012). Perhaps somewhat similar to the concept of recovery (Collins & Cox, 2014), games

seem to be able to provide a necessary respite from emotional stress and negative thought processes. Periods of personal difficulty are stressful, during which the ability to pause for a time through mental distancing (Lazarus, 1993) could serve as an important self-preservation strategy.

As with research into sensitive life experiences that focuses on ICTs (Baglione et al., 2018; Massimi et al., 2012; Bryan et al., 2016), gaming seems to primarily be a form of *emotion-based* coping (Folkman & Moskowitz, 2004) due to the social connections it can provide. While there were some examples of players engaging in specific support groups (e.g., focused on gamers and mental health), the connection that players experienced was also seen to manifest in a range of different ways. For some socializing was a form of respite, whereas for others gaming facilitated relationships in a way that helped them deal with their feelings. There were also additional forms of connection, whether to game characters or to people that had passed away, echoing findings on emotionally moving game experiences (Bopp et al., 2016). In general, playing games and engaging in gaming related activities helped people feel less alone and provided them with a sense of belonging at a time when they may have felt quite isolated.

While previous research has considered concepts related to respite and connection, other findings also suggest that games could be used in a more instrumental way. On occasion, this relates to social support, when for example, a player was encouraged to leave an abusive relationship, but there were also players who were willing to confront their emotions by choosing games that resonated with them. Though relating to emotions, these examples were closer to *meaning-focused* coping strategies (Folkman & Moskowitz, 2004; Park, 2010), as they involved interpretation of personal experience. Coping with emotions was not as prominent as recovery or connection, but the fact that it occurs at all suggests that there is need for the development of games aimed at supporting people who are going through

certain types of dictatorship, perhaps by promoting the creation of meaning. That said, designers would need to be careful about presenting particular issues in a conscientious and sensitive way. Additionally, work examining extreme role-playing games highlights the significance of aftercare when dealing with intense and difficult topics (Montola, 2010). It may be that further social support could be built into such games to ensure that players can discuss their experiences and any issues that occur as a result.

Possible Outcomes of Games as Coping Strategies

Gaming appears to be one of several strategies people engage in as part of coping with life difficulties. While the activity is unlikely to solve a particular problem being faced, findings suggest that gaming can result in both positive and negative outcomes (Iacovides & Mekler, 2019). With games helping on a personal level, the perceived results were positive, as the games were able to give the players a sense of purpose in a way that was not the case with other activities. As with Snodgrass et al. (2018), we saw explicit references to how gaming helped people through a range of difficult life experiences, including thoughts of suicide. Many of the participants in Iacovides and Mekler's study (2019) felt that they would have been worse off without playing, whether through games with achievable goals and breathing space or through some form of connection. These findings link to Kaptelinin's (2018) work on existential concerns in HCI, suggesting that games not only offer people a way to overcome isolation but also the sense of meaninglessness that results from difficult life experiences that are beyond our control (Park, 2010). However, the level of purpose provided may be somewhat different to what Kaptelinin (2018) had in mind. Nevertheless, Iacovides and Mekler (2019) observed some cases in which participants used games to create meaningful experiences (Pals, 2006; Park, 2010). In the study by Iacovides & Mekler (2019), for example, when playing *The Cat Lady*, some participants became aware that their struggle

with depression gives them a lot of empathy, which in turn gives even more credibility to the potential of games to stimulate self-reflection (Bopp et al., 2016; Mekler et al., 2018).

Similarly, the findings of Iacovides and Mekler (2019) indicate that gaming could lead to a personal change and growth, where there was potential for the activity to increase confidence in other contexts, and to encourage people to engage in wider activities. In addition, the social connections established through play could sometimes provide support for making changes in other areas, potentially as a more *problem-based* form of coping (Folkman & Moskowitz, 2004). The examples of personal growth relate to previous work, where gaming is seen to contribute to learning on a personal level such as influencing emotional development and career choices (Iacovides et al., 2014). There is also some overlap with the concept of *transformational reflection* (i.e., conceptual or behavioral change) (Fleck & Fitzpatrick, 2010). While transformational reflection is rare both in general (Fleck & Fitzpatrick, 2010) and in the context of games (Mekler, Iacovides & Bopp, 2018), Iacovides and Mekler's (2019) findings provide further evidence that gaming can lead to positive changes. Although by Iacovides and Mekler (2019), reflection is likely to be a key aspect in supporting transformation, however there is room for further work to explore this relationship in the context of developing games that support personal growth and change.

Finally, within the theme of "games as an obstacle to living well" (Iacovides & Mekler, 2019, p. 9), the outcomes were primarily negative, with concerns being expressed about how gaming was displacing other forms of activity that were considered more beneficial (e.g., socializing with others instead outside of playing games, engaging in physical activity etc.). Participants did report using additional strategies for coping but rarely expressed concern about these (Iacovides & Mekler, 2019). Iacovides and Mekler (2019) did see evidence that gaming could become a maladaptive coping strategy (e.g., negatively effecting relationships and school/work activities) when the activity was less about offering a short-term respite and more about longer-term avoidance. This is potentially similar to the

distinction Folkman and Moskowitz (2004) make in relation to distancing and escape-avoidance strategies.

However, while we have no doubts that gaming behavior can become **problematic**, we also noted a tension between the compatibility of the benefits reported by the participants of Iacovides and Mekler's (2019) and their question whether gaming is less productive than other activities. As suggested by work on parents' perception of children's game play (Mavoa, Carter & Gibbs, 2017), it appears that discourses around moral panics concerning gaming addiction (Markey & Ferguson, 2017) and the value of play (Mavoa, Carter & Gibbs, 2017) likely shape how players perceive and report on the influence of games. These issues potentially make it harder to discuss the utility of games within the context of sensitive life experiences and to reveal the impact of gaming activities more generally. In addition, they could be a concern for those seeking to design games for supporting mental health and wellbeing since they may influence how players are biased to such approaches (Cham et al., 2019).

In future research it could be interesting to investigate the gender-specific use of digital games during sensitive life experiences. In addition, researchers could investigate other potential breakdowns specific to sensitive life experiences, as the current literature is relatively scarce. As Cham et al. (2019), researchers could further investigate the use of games as a prevention tool.

Conclusion

Although, attention within HCI is given to the use of technology and sensitive life experiences, very little work has explicitly focused on games. Recent work suggests that gameplay offers a manageable activity that can provide players with much-needed respite from the difficulties they encounter. The social aspect of games, whether through playing with others, participating in game-related activities, or interacting with the characters in the game, offers players the opportunity to feel more connected during potentially isolating phases. In some cases, games can also help players deal with their feelings by allowing them to work through their emotions and engage in related experiences.

As a result of gaming, players can experience personal change and personal growth, indicating the transformative nature of the game and the possibility that the game can affect other areas of life. In times of distress, games can be a lifeline for players by giving them a sense of purpose at a time when their lives have no meaning and helping them avoid self-destructive behaviour. Although gambling can become problematic when used as a mere avoidance tactic, there is a tension between the potential benefits that gambling can provide and the perceived value of the activity, which was reflected in reports on how games can be an obstacle to wellbeing.

References

- Baglione, A. A., Girard, M. M., Price M., Clawson, J., & Shih, P. C. (2018). Modern Bereavement: A Model for Complicated Grief in the Digital Age. *In Proceedings of the 2018 CHI Conference on Human Factors in Computing Systems (CHI'18)*. ACM, New York, NY, USA, Article 416, 12 pages. <https://doi.org/10.1145/3173574.3173990>
- Banks J., & Cole, J. G. (2016). Diversion Drives and Superlative Soldiers: Gaming as Coping Proactive Among Military Personnel and Veterans. *Game Studies*, 16, 2
- Benford, S., Greenhalgh, C., Giannachi, G., Walker, B., Marshall, J., & Rodden, T. (2012). Uncomfortable Interactions. *In Proceedings of the SIGCHI Conference on Human Factors in Computing Systems*. ACM, 2005-2004.
- Brewer, R., & Piper, A. M. (2016). “Tell It Like It Really Is”: A Case of Online Content Creation and Sharing Among Older Adult Bloggers. *In Proceedings of the 2016 CHI Conference on Human Factors in Computing Systems (CHI'16)*. ACM, New York, NY, USA, 5529-5542. <https://doi.org/10.1145/2858036.2858379>
- Birk, M. V., Iacovides, I., Johnson, D., & Mandryk, R., (2015). The False Dichotomy Between Positive and Negative Affect in Game Play. *In CHI PLAY'15*. ACM, 799-804.
- Bopp, J. A., Mekler, E. D., & Opwis, K. (2016). Negative Emotion, Positive Experience?: Emotionally Moving Moments in Digital Games. *Proceedings of the 2016 CHI Conference on Human Factors in Computing Systems*, 2996–3006. <https://doi.org/10.1145/2858036.2858227>
- Bopp, J. A., Müller, L. J., Aeschbach, L. F., Opwis, K., & Mekler, E. D. (2019). Exploring Emotional Attachment to Game Characters. *Proceedings of the Annual Symposium on*

Computer-Human Interaction in Play, 313–324.

<https://doi.org/10.1145/3311350.3347169>

Burke, M., & Kraut, R. (2013). Using Facebook After Losing a Job: Differential Benefits of Strong and Weak Ties. *In Proceedings of the 2013 Conference on Computer Supported Cooperative Work (CSCW'13)*. ACM, New York, NY, USA, 1419-1430.

<https://doi.org/10.1145/2441776.2441936>

Collins, E., & Cox, A. L. (2014). Switch on to Games: Can Digital Games Aid Post-Work Recovery? *International Journal of Human-Computer Studies*, 72, 8-9, 654 – 662.

<https://doi.org/10.1016/j.ijhcs.2013.12.006>

Durrant, A., Kirk, D., Pisanty, D. T., Moncour, W., Orzech, K., Schoield, T., Elsdén, C., Chatting, D., & Monk, A. (2017). Transitions in Digital Personhood: Online Activity in Early Retirement. *In Proceedings of the 2017 CHI Conference on Human Factors in Computing Systems (CHI'17)*. ACM, New York, NY, USA, 6398-6411.

<https://doi.org/10.1145/3025453.3025913>

Folkman, S., & Moskowitz J. T. (2004). Coping: Pitfalls and Promise. *Annual Review Psychological*, 55, 745 – 774.

<https://doi.org/10.1146/annurev.psych.55.090902.141456>

Granic, I., Lobel, A., & Engels, R. C. (2004). The Benefits of Playing Video Games. *American Psychologist*, 69, 1, 66 – 78. <https://doi.org/10.1037/a0034857>

Gowler, C. P. R., & Iacovides, I. (2019). ‘Horror, guilt and shame’—Uncomfortable Experiences in Digital Games. *Proceedings of the Annual Symposium on Computer-Human Interaction in Play*, 325–337. <https://doi.org/10.1145/3311350.3347179>

Haimson, O. L., Brubaker, J. R., Dombrowski, L., & Hayes, G. R. (2015). Disclosure, Stress, and Support During Gender Transition on Facebook. *In Proceedings of the 18th ACM*

- Conference on Computer Supported Cooperative Work: Social Computing (CSCW'15)*. ACM, New York, NY, USA, 1176-1190. <https://doi.org/10.1145/2675133.2675152>
- Haimson, O. L., Brubaker J. R., Dombrowski, L., & Hayes, G. R. (2016). Digital Footprints and Changing Networks During Online Identity Transitions. *In Proceedings of the 2016 CHI Conference on Human Factors in Computing Systems (CHI'16)*. ACM, New York, NY, USA, 2895-2907. <https://doi.org/10.1145/2858036.2858136>
- Harrer, S. (2013). From Losing to Loss: Exploring the Expressive Capacities of Videogames Beyond Death as Failure. *Culture Unbound: Journal of Current Cultural Research* 5, 4, 607-620.
- Herron, D., Andalibi, N., Haimson O., Moncour W., & Van den Hoven, E. (2016). HCI and Sensitive Life Experiences. *In Proceedings of the 9th Nordic Conference on Human-Computer Interaction (NordiCHI'16)*. ACM, New York, NY, USA, Article 134, 3 pages. <https://doi.org/10.1145/2971485.2987673>
- Herron, D., Moncour, W., & Van den Hoven, E. (2017). Digital Decoupling and Disentangling Towards Design for Romantic Break Up. *In Proceedings of the 2017 Conference on Designing Interactive Systems (DIS'17)*. ACM, New York, NY, USA, 1175-1185. <https://doi.org/10.1145/3064663.3064765>
- Iacovides, I., & Mekler, E. D. (2019). The Role of Gaming During Difficult Life Experiences. *Proceedings of the 2019 CHI Conference on Human Factors in Computing Systems - CHI '19*, 1–12. <https://doi.org/10.1145/3290605.3300453>
- Iacovides, I., McAndrew, P., Scanlon, E., & Aczel, J. (2014). The Gaming Involvement and Informal Learning Framework. *Simulation and Gaming*, 45, 4-5, 611- 626. <https://doi.org/10.1177/1046878114554191>
<http://dx.doi.org/10.1177/1046878114554191>

- Johnson, D., Nacke, L., & Wyeth, P., (2015). All About the Base: Differing Player Experiences in Video Game Genres and the Unique Case of MOBA Games. *In CHI'15*. ACM, 2265 – 2274.
- Juul, J. (2013). *The Art of Failure: An Essay on the Pain of Playing Video Games*. Cambridge, Massachusetts: The MIT Press.
- Kaptelinin, V. (2018). Technology and the Givens of Existence: Toward an Existential Inquiry Framework in HCI Research. *In Proceedings of the 2018 CHI Conference on Human Factors in Computing Systems (CHI'18)*. ACM. New York, NY, USA, Article 270, 14 pages. <https://doi.org/10.1145/3173574.3173844>
- Lazarus, R. S. (1993). From Psychological Stress to the Emotions: A history of Changing Outlooks. *Annual review of psychology*, 44, 1, 1-22
- Lazzaro, N. (2009). Why we Play: Affect and the Fun of Games. *Human-Computer Interaction: Designing for Diverse Users and Domains*, 155-176.
- Massimi, M., Dimond, J. P., & Le Dantec, C. A. (2012). Finding a New Normal : The Role of Technology in Life Disruptions. *In Proceedings of the ACM 2012 Conference on Computer Supported Cooperative Work (CSCW'12)*. ACM, New York, NY, USA. . <https://doi.org/10.1145/2145204.2145314>
- Markey, P. M. & Ferguson, C. J. (2017). Internet Gaming Addiction: Disorder or Moral Panic? *American Journal of Psychiatry*, 174, 3, 195-196. <https://doi.org/10.1145/3025453.3025913>
- Mavoja, J., Carter, M., & Gibbs, M. (2017). Beyond Addiction: Positive and Negative Parent Perceptions of Minecraft Play. *In Proceedings of the Annual Symposium on Computer-Human Interaction in Play (CHI PLAY'17)*. ACM, New York, USA, 171-181. <https://doi.org/10.1145/3116595.3116638>

- Mekler, E. D., Bopp, J. A., Tuch, A. N., & Opwis, K. (2014). A Systematic Review of Quantitative Studies on the Enjoyment of Digital Entertainment Games. *In Proceedings of the 32nd annual ACM conference on Human factors in computing systems*. ACM, 927-936.
- Montola, M. (2010). The Positive Negative Experience in Extreme Role-Playing. *In Proceedings of Nordic Larp*, 153-167.
- Munteanu, C., Molyneaux, H., Moncur, W., Romero, M., O'Donnell, S., & Vines, J. (2015). Situational Ethics : Re-thinking Approaches to Formal Ethics Requirements for Human-Computer Interaction. *In Proceedings of the 33rd Annual ACM Conference on Human Factors in Computing Systems (CHI'15)*. ACM, New York, NY, USA, 105-114. <https://doi.org/10.1145/2702123.2702481>
- Pals, J. L. (2006). Narrative Identity Processing of Difficult Life Experiences: Pathways of Personality Development and Positive Self-Transformation in Adulthood. *Journal Personality*, 74, 4, 1079 – 1110. <https://doi.org/10.1111/j.1467-6494.2006.00403.x>
- Park, C. L. (2010). Making Sense of the Meaning Literature: An Integrative Review of Meaning Making and its Effects on Adjustment to Stressful Life Events. *Psychological Bulletin*, 136, 2, 257. <https://doi.org/10.1037/a0018301>
- Reinecke, L., Tamborini, R., Grizzard, M., Lewis, R., Eden, A., & Bowman, N. D. (2012). Characterizing Mood Management as Need Satisfaction: The Effects of Intrinsic Needs on Selective Exposure and Mood Repair. *Journal of Communication*, 62, 3, 437–453. <https://doi.org/10.1111/j.1460-2466.2012.01649.x>
- Semaan, B. C., Britton, L. M., & Dosono B. (2016). Transition Resilience with ICTs: Identity Awareness in Veteran Re-Integration. *In Proceeding of the 2016 CHI Conference on Human Factors in Computing Systems (CHI'16)*. ACM, New York, NY, USA. <https://doi.org/10.1145/2858036.2858109>

- Shlovski, I., Kraut, R., & Cummings, J. (2006). Routine Patterns of Internet Use & Psychological Well-being: Coping with a Residential Move. *In Proceedings of the SIGCHI Conference on Human Factors in Computing Systems (CHI'16)*. ACM, New York, NY, USA 969 – 978. <https://doi.org/10.1145/1124772.1124917>
- Snodgrass, J. G., Bagwell, A., Patry, J. M., Dengah II, HJ. F., Smarr-Foster, C., Van Oostenburg, M., & Lacy, G. M. (2018). The Partial Truths of Compensatory and Poor-get-poorer Internet Use Theories: More Highly Involved Video Games Players Experience Greater Psychological Benefits. *Computers in Human Behavior*, 78, 10-25. <https://doi.org/10.1016/j.chb.2017.09.020>
- Van Rooji, A. J., Ferguson C. J., Carras M. C., Kardefelt-Winther, D., Shi, J., Aarseth, E., Bean, A. M., Helmersson Bergmark, K., Brus, A., Coulson, M., et al. (2018). A Weak Scientific Basis for Gaming Disorder: Let us err on the side of caution. *Journal of Behavioral Addictions*, 7, 1, 1 – 9. <https://doi.org/10.1556/2006.7.2018.19>
- Vella, K., Johnson, D., & Mitchell, J. (2016). Playing Support: Social Connectedness Amongst Male Video Game Players. *In Proceedings of the 2016 Annual Symposium on Computer-Human Interaction in Play Companion Extended Abstracts (CHI PLAY Companion '16)*. ACM, New York, NY, USA, 343-350. <https://doi.org/10.1145/2968120.2987734>
- Waycott, W., Davis, H., Thieme, A., Branham, S., Vines, J., & Munteanu, C. (2015). Ethical Encounters in HCI: Research in Sensitive Settings. *In Proceedings of the 33rd Annual ACM Conference Extended Abstracts on Human Factors in Computing Systems (CHI EA '15)*. ACM, New York, NY, USA. <https://doi.org/10.1145/2369±2372.2702613.2702655>