Negative Emotion, Positive Experience?

Emotionally Moving Moments in Digital Games

Master Thesis

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Abstract

Interest in the potential of games to provide unique emotional player experiences is growing. Yet there has been little empirical research on what emotions beyond *fun* players experience in games, and whether players find these experiences rewarding at all. We analyzed 121 players' accounts of emotionally moving game experiences in terms of the feelings and thoughts they evoked, different player experience constructs, as well as game-related and personal factors contributing to these. We found that most players enjoyed and appreciated experiencing negatively valenced emotions, such as sadness. Emotions were evoked by a variety of interactive and non-interactive game aspects, such as in-game loss, character attachment and (lack of) agency, but also personal memories, and were often accompanied by (self-)reflection. Our findings highlight the potential of games to provide emotionally rewarding and thought-provoking experiences, as well as outline opportunities for future research and design of such experiences. They also showcase that negative affect may contribute to enjoyment, thereby extending our notion of positive player experience.

Negative Emotion, Positive Experience? Emotionally Moving Moments in Digital Games

People play games for the experience (Lazzaro, 2009), and one of the aims of player experiences (PX) research is to understand what constitutes and contributes to positive gaming experiences (Marsh & Costello, 2012). Emotions are commonly considered a key component of good PX (Birk, Iacovides, Johnson, & Mandryk, 2015; Lazzaro, 2009; Sánchez, Vela, Simarro, & Padilla-Zea, 2012). Fun and enjoyment, in particular, are some of the most frequently explored constructs in PX (Birk et al., 2015; Mekler, Bopp, Tuch, & Opwis, 2014).

Negative affective gaming experiences, however, are far less researched, because they are seemingly at odds with the focus on fun (Lazzaro, 2009), positive affect and enjoyment (Mekler et al., 2014). Unfortunately, this may suggest that all negative affective experiences cannot by definition be considered positive, and implies that it is not worthwhile to design for such experiences (Marsh & Costello, 2012), thereby restricting the spectrum of emotional experiences in games (Birk et al., 2015; Marsh & Costello, 2012). Yet other forms of media such as literature or film are often acclaimed for their ability to convey a wide spectrum of emotional experiences (Bartsch, 2012; Bartsch, Kalch, & Oliver, 2014), and it has been argued that negative affect may also contribute to engaging player experiences (Birk et al., 2015; Burnell, 2012; Montola, 2010). Moreover, recent research on serious games suggests that emotionally challenging game experiences have the potential to stimulate reflection, thereby raising awareness of real world issues (Iacovides & Cox, 2015) and facilitating prosocial behaviour (Steinemann, Mekler, & Opwis, 2015).

Nevertheless, besides frustration (e.g., Johnson, Nacke, and Wyeth, 2015; Lazzaro, 2009), empirical research on negative emotions in game play is relatively scant, and emotions evoked in experiences beyond fun remain mostly underexplored. Few publications explicitly addressed negatively valenced emotions in digital games (e.g., Brown, Gerling, Dickinson, Kirman, et al., 2015; Cole, Cairns, and Gillies, 2015) and while several studies on serious games and uncomfortable experiences imply that players might value such experiences (Brown et al., 2015; Iacovides & Cox, 2015; Steinemann et al., 2015), it remains unclear how this relates to core PX concepts, such as enjoyment or need satisfaction.

By addressing these shortcomings, this study aimed to explore what emotions were

evoked in emotionally moving game experiences, why players felt this way, what game components contributed to this, and whether players considered such experiences as rewarding. To do so, 121 players' accounts of an emotionally moving experience with a digital game were analyzed. The participants evaluated their experience regarding several psychological factors, such as enjoyment and satisfaction of the psychological needs, using psychometric scales, as well as recounted their experience by responding to open-ended questions.

Theoretical Background

Emotions are oftentimes considered a core component of several kinds of media (Bartsch, 2012). Particularly, media, such as film or literature, are often prized for their capability of evoking a wide range of emotions (Bartsch, 2012; Bartsch et al., 2014). Consequently, a sizable amount of research within media psychology has focused on the role of emotions in media entertainment, and has especially sought to understand why many people consider media experiences evoking negatively valenced emotions, such as drama, rewarding. Insofar, several psychological theories and models have been suggested and applied to disentangle the paradox of the enjoyment of negative emotions in media. For example, the mood-management theory (Zillmann, 1988) assumes that people try to maximize pleasant feelings by desiring an intermediate level of arousal. That means, over-aroused recipients may feel uncomfortable when confronted with a media experience that increases arousal, hence will prefer media stimuli that provides them with calmness. Furthermore, according to affective disposition theory (Zillmann, 1996), viewers render moral judgements about media characters during media consumption. The media recipients hope for a good ending for the beloved character, whereas a bad ending is expected for the villain. Negative affect experienced during such suspenseful episodes (e.g., fearing bad ending for beloved characters), turn into relief once the feared ending results in a happy-end. In this case, the experienced relief contributes to media enjoyment (excitation transfer; Zillmann, 1996). More recently, a new component called *appreciation* was suggested as a complementary type of media experience besides enjoyment (Oliver & Bartsch, 2010). Appreciation is an experiential

state, distinct from enjoyment, in that it is "characterized by the perception of deeper meaning, the feeling of being moved, and the motivation to elaborate on on thoughts and feelings inspired by the experience" (Oliver and Bartsch, 2010, p. 76).

Recently, Bartsch (2012) addressed the sad media paradox by asking participants about their feelings, if they liked these feelings, and why they liked these feelings when watching films or tv-series of different genres. This exploration identified seven reasons (i.e. emotional gratifications) why people consider media experiences as rewarding: People like the experience not only because it evokes *fun* or *thrill* but also because they value the experience of being moved to tears or being overwhelmed with emotions, particularly sadness. This gratification of *empathic sadness* seems to involve evaluative components, that means the emotions derived from the media experience (e.g., sadness) are appraised and evaluated whether they liked experiencing it or not. Further, *contemplativeness* refers to the potential of the thought-provoking and meaningful aspect the movie experience affords. Moreover, people like to feel and empathize with the characters, to be *emotionally engaged with the characters*. Next, people often value to share their emotional experiences with others, a notion subsumed under the construct *social sharing*. Finally, *vicarious release of emotions* refers to the degree to which people like to experience emotions that are difficult to experience in everyday life, for instance, because it is inappropriate to do so. Notably, some reasons, for example, character engagement and social sharing, were more strongly associated with positive affect. However, other reasons, such as empathic sadness and contemplativeness, were associated to both negative and positive affect, suggesting that different patterns of associations exist between the reasons and the emotions (Bartsch, 2012). However, the main difference between games and other media (e.g., movies or literature) is the interactivity (Elson, Breuer, Ivory, & Quandt, 2014). Interactivity is a key property unique to games that gives the players the ability to influence the game narrative and the game world (Elson et al., 2014; Klimmt, Hartmann, & Frey, 2007). As of now it remains unknown whether these media psychological findings, as well as the emotional gratifications also apply to the gaming context.

Role of Emotions in PX

Congruently to noninteractive media, emotions are also at the core of the PX (Birk et al., 2015; Lazzaro, 2009; Sánchez et al., 2012), and commonly considered a main reason for why people enjoy playing digital games (Lazzaro, 2009). Enjoyment, – another core construct in PX, – has frequently been operationalized as positive affect (Mekler et al., 2014). Lazzaro (2009) explicitly linked certain emotions with specific game aspects, which in turn lead to different kinds of fun. For example, "hard fun" is characterized by mastering challenges and overcoming obstacles and is associated with fiero (a positive emotion of personal triumph over adversity, akin to pride) and frustration. Recently, Johnson et al. (2015) explored profiles of PX for different genres of digital games. Between genres, the massive online battle arena games offered most distinct PX, namely, players experienced less positive affect and more frustration (Johnson et al., 2015).

However, due to its traditional focus on fun, enjoyment and positive affect, PX research has largely neglected the "darker" and more uncomfortable sides of game play (Birk et al., 2015; Marsh & Costello, 2012). Birk et al. (2015) stressed the importance of researching the interplay between positive and negative affect in games to gain a better understanding of the player experience. Moreover, Marsh and Costello (2012) argued that the prevalent focus on fun and enjoyment poses a shallow and cursory approach to game design, withholding the creation of profound and powerful game experiences.

Likewise, recent studies on serious games showcased the potential of emotionally affecting experiences that go beyond fun. Iacovides and Cox (2015) evaluated serious experience in games designed to promote reflection on human error and blame culture in the healthcare domain, and found that the most impactful game still lingered with players days later. That is, players kept thinking about the game and the challenges facing healthcare professionals. Similarly, Steinemann et al. (2015) explored the effects of interactivity on donating, and found that games afforded more appreciation, and in turn more donations than noninteractive media. Lastly, it has been argued that negative emotions in games may also make for engaging and memorable experiences (Birk et al., 2015; Burnell, 2012; Marsh & Costello, 2012).

Experiences and Emotions Beyond Fun in Digital Games

Based on the notion of uncomfortable interactions introduced by Benford et al. (2012), Marsh and Costello (2012) coined the term *serious experience* to denote all types of game experiences that go beyond fun. Serious experiences encompass negative, but also mixed (positive-negative), as well as thought provoking experiences. Most recently, Cole et al. (2015) analyzed professional game reviews and identified two kinds of game challenge: On the one side, functional challenge denotes the challenges of game play (e.g. overcoming obstacles through dexterity or strategy). According to Cole et al., functional challenge is characteristic of core blockbuster games, which do not leave much capacity for engaging with anything other than the frustration/fiero cycle of hard fun (c.f. Lazzaro, 2009). On the other hand, emotional challenge emerges from the game narrative, and confronts players with emotionally and cognitively effortful subjects. Cole et al. argued that avant-garde indie games oftentimes provide more emotional challenge than core games. Notably, these two types of challenge are considered as antagonistic (Cole et al., 2015). Moreover, based on the framework of Rusch (2009), Harrer (2013) discussed how in-game loss can have an impact on players. Loss of a character has been suggested to have an influence on the players' emotional state, and is manifested in the game play and control, as well as in the game narrative (Harrer, 2013). However, as of now it remains largely unclear how players themselves perceive experiences beyond fun in digital games.

So far, little research has been conducted on the role of negative affect in PX, besides frustration (e.g., Johnson et al., 2015; Lazzaro, 2009). Notable exceptions include the study of Montola (2010), who found that while players experienced extreme live action role-playing as initially unpleasant, they derived satisfaction from the insights and feelings of accomplishment that confronting the game provided them. In the domain of digital games, Burnell (2012) pointed out that emotions, in particular negative emotions, facilitate player involvement and claimed that negative affective reactions could be evoked by "breaking" the psychological needs for autonomy, competence and relatedness, themselves well established PX constructs (Ryan, Rigby, & Przybylski, 2006). Furthermore, Oliver et al. (2015) investigated the influence of psychological needs for competence, autonomy, relatedness, and

insight – which they defined as feelings associated with introspection, greater understanding of essential value, and important life lessons – in fun and meaningful player experiences, as well as the affective responses accompanying these experiences. Additionally, they explored whether game play and story are predictive for enjoyment and appreciation. Whereas competence and autonomy were associated with enjoyment, relatedness and insight were associated with appreciation in meaningful experiences. Further, although positive affect (e.g., amused) was present in such experiences, meaningful affect (e.g., inspired) and negative affect (e.g., anger) were predominant. Finally, game play was a significant predictor of enjoyment, whereas appreciation was predicted by game story.

Aim of the Study

To summarize, PX research has begun exploring the experience beyond fun, as well as discussing the potentials the negative affect have on PX and games (e.g., Birk et al., 2015; Brown et al., 2015; Iacovides and Cox, 2015; Marsh and Costello, 2012; Steinemann et al., 2015). Nevertheless, empirical evidence is scarce and it remains largely underexplored how players themselves evaluate experiences and emotions beyond fun in games. Moreover, in media psychology, Bartsch (2012) introduced seven emotional gratifications describing why people value certain media experiences. However, as of now whether these gratifications are applicable to gaming context is unknown. Consequently, the first research question of this study is to find out whether players enjoy and/or appreciate experiences beyond fun, and the reason therefor.

RQ1: Do players evaluate emotionally moving game experiences positively, and if so, why?

Furthermore, although emotions are considered to be at the heart of PX, many studies focus largely on positive emotions (e.g., Johnson et al., 2015; Lazzaro, 2009). Consequently, research on negative emotions is scant and the role of emotions evoked in experiences beyond traditional fun experiences are underexplored. Therefore, the second research question refers to the emotions evoked in emotionally moving game experiences.

RQ2: What emotions beyond fun are derived from emotionally moving

experiences?

Insofar, some game components (e.g., game story; Oliver et al., 2015), have been

suggested to impact the emotions evoked in game experiences beyond fun. However,

empirical studies exploring such game components are scarce. This leads us to the last

research question:

RQ3: What are the "causes" of emotions in such experiences, particularly, what

game components may contribute to emotionally moving experiences?

The aim of the study was to explore what emotions beyond fun players experience in

games, as well as whether and – if so, – why they enjoy and/or appreciate such experiences.

Moreover, we wished to obtain comprehensive and detailed descriptions of emotionally

moving game experiences. In particular, we wanted to explore the causes of such experiences,

meaning, what game components may have contributed to these emotions. For these reasons,

our online survey contained psychometric measures of several PX constructs (Figure 1), as
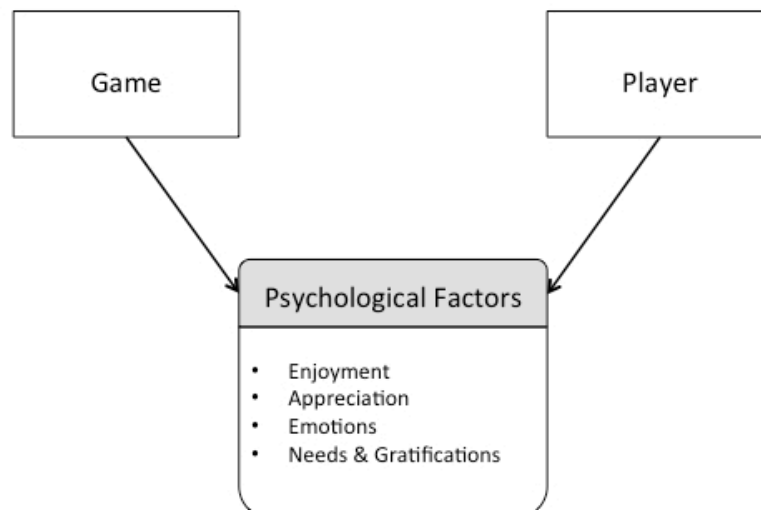
well as open-ended questions.

Figure 1. Psychological factors explored in the study, and the possible association between

psychological factors, and game and player components.

Study participants were asked to report an *emotionally moving experience*, as we were mainly interested in experiences and emotional reactions *beyond fun* (Marsh & Costello, 2012). Rather than restrict ourselves to one particular emotional reaction (e.g., sadness), we chose to focus on emotionally moving experiences, because they are typically characterized by negative or mixed affect (Bartsch et al., 2014). Hence, we believed that this would cover a sizable spectrum of the possible serious experiences Marsh and Costello (2012) outlined in their framework – that is, thought-provoking, mixed positive - negative, as well as purely unpleasant experiences.

Preliminary Interview Study

Prior to the main study, an explorative interview study was conducted to find out whether players are able to think of and recount an emotionally moving game experience (cf. Bopp, Mekler, and Opwis, 2015). Furthermore, we aimed to explore whether the emotional gratifications suggested by Bartsch (2012) apply to gaming context, especially because the emotional gratifications refer to why people value certain media experiences, and therefore seemed to be a good starting point for exploring how emotionally moving moments in games are experienced by players.

Twelve semistructured interviews were conducted. First, the interviewees were asked to describe an emotionally moving game experience in detail. Next, they were asked some questions about the emotions they experienced, whether they considered their emotional experience as rewarding and if so, why.

All participants (5 female), aged 19 to 35 (mean age 24.5 years) had been playing digital games for more than 10 years and played from 0.5 to 21 hours per week, with a wide variety of genre preferences (e.g., role-playing game [RPG], strategy, adventure, first-person shooter, etc.).

Interviews lasted 36 minutes on average (range 25 - 65 minutes) and were conducted audio-taped and thereafter, fully transcribed by the author. In order to identify what gratifications players experienced, thematic analysis following the procedure suggested by Braun and Clarke (2006) was applied to the statements regarding what they liked about the

emotions experienced.

Interviewees had no difficulty on recounting an emotionally moving game experience. Emotionally moving experiences were typically triggered by twists in the game narrative, difficult decisions, or by player's reluctance when fighting specific in-game opponents. Further, participants' affective reactions ranged from somewhat unpleasant feelings, mixed affective responses (i.e., positive as well as negative affect evoked at the same time), to purely positive affect. Next, the reasons the participants assigned for why they value such experiences, were mostly covered by the gratifications suggested by Bartsch (2012): Several players admired to feel with and empathize with the game character, to be *emotionally engaged with characters* (hereafter referred to as *character engagement* for the sake of brevity). Next, some players valued that the experience provided them with *Contemplativeness*, such as "life lessons" or an opportunity for reflection. In line with the notion of *Vicarious release of emotions* suggested by Bartsch, some players specifically narrated how the experience triggered emotions, that may be unpleasant in real life, for instance sadness or pain. Finally, some players explicitly reported that they liked the experience of simply being overwhelmed by strong emotions. Whereas the gratification of empathic sadness by Bartsch (2012) refers to sadness and being moved to tears, participants of the preliminary study valued the feelings of being moved and being overwhelmed by emotions in general without necessarily specifying the emotional valence. Furthermore, one player explicitly mentioned to have shared the emotions and thoughts with other person, which may fit to *social sharing*. Additionally to the emotional gratifications posited by Bartsch, a few players noted to have been emotionally moved after defeating a boss or completing the game successfully, that means after having experienced *achievement*. Overcoming difficult challenges (Lazzaro, 2009) and the ensuring feeling of competence (Oliver et al., 2015; Ryan et al., 2006) have been often considered as fundamental for PX.

Method

Participants

Participants were recruited from various gaming forums (e.g., Talk Nintendo, TV Tropes), social networks (e.g., Facebook, Twitter), as well as gaming-related groups on Facebook. Of the 127 participants completing the survey in its entirety, six cases were excluded from the analysis, because they either did not recount a game experience, or referred to more than one game. The final sample comprised of 121 participants (23.1 % female). Their age ranged from 14 to 48 (mean = 26.27). On average, participants had been playing digital games for 17.47 years (ranging from 2 to 39 years) with varying preferences for game genres. The three most popular genres were RPGs and action RPGs ($n = 109$), followed by adventure and action adventure games ($n = 95$), as well as strategy and real time strategy games ($n = 71$). Popular genres for other media were, for example, science fiction, comedy, drama, fantasy, and thriller. In exchange for completing the survey, participants could enter a lottery to win one of twelve $10 (USD) Steam gift cards.

Procedure

Upon clicking the survey link, participants were introduced to the study. In the first part of the survey, participants were then asked to report one emotionally moving game experience:

> Please bring to mind an emotionally moving experience you had with a digital
> game. Try to describe this particular experience as accurately and detailed as you
> remember in at least 50 words, and try to be as concrete as possible. Please write
> about your thoughts and feelings that may have been brought up by this particular
> game experience and about how you responded emotionally to the particular
> event(s) of this game experience. You can use as many sentences as you like, so
> we can easily understand why this was such an emotionally moving experience
> for you.

Afterwards, participants were asked to "clarify your thoughts and feelings regarding this particular game experience. Specifically, where you think they came from and/or what caused

these thoughts and feelings".

After answering the two open-ended questions, participants were asked when their experience had taken place. Then, they rated their experience in terms of need fulfilment, enjoyment, appreciation and affect. Finally, they were asked to provide some information on demographics and genre preferences for games and other media (e.g., movies, TV-series, books). At the end of the survey, participants could enter their email address if they wished to participate in the prize raffle. The survey took 27.5 min to complete on average.

Measures

All measures consisted of 7-point Likert scales ranging from *strongly disagree* (1) to *strongly agree* (7). Reliability scores (Cronbach's α) and descriptive statistics are listed in Table 1.

Enjoyment and appreciation.   Enjoyment and appreciation were measured using the scales developed and validated by Oliver and Bartsch (2010). While originally intended for assessing movie experiences, these scales were also successfully applied to games (Oliver et al., 2015; Steinemann et al., 2015). Enjoyment was measured, as it is considered a core component of PX (Mekler et al., 2014). Appreciation has been suggested as a complementary type of media experience besides enjoyment (Oliver & Bartsch, 2010), and has been linked to the degree to which media is experienced as moving and thought-provoking (Bartsch et al., 2014).

Affect.   To assess the general affective quality of the experiences, three broad types of affect were measured, as operationalized by Oliver and Raney (2011): Happy affect (e.g., upbeat), sad affect (e.g., sad), and meaningful affect (e.g., introspective).

Needs and emotional gratifications.   The Player Experience Need Satisfaction scale (PENS; Ryan et al., 2006) was used to assess needs of autonomy, competence, and relatedness with three items each, as was already done in previous PX research (e.g., Johnson et al., 2015; Oliver et al., 2015; Ryan et al., 2006). However, Oliver et al. (2015) suggested that additional needs may be relevant predictors of game enjoyment and appreciation, especially for meaningful (versus fun) game experiences. We hence employed the questionnaire developed

Table 1

Reliability and descriptive statistics for all psychometric scales

Variable	Cronbach's α	Source	M (SD)
Enjoyment	.87	Oliver and Bartsch (2010)	5.95 (1.31)
Appreciation	.76	Oliver and Bartsch (2010)	5.69 (1.31)
Affect			
Happy	.85	Oliver and Raney (2011)	3.95 (1.49)
Sad	.70	Oliver and Raney (2011)	5.54 (1.52)
Meaningful	.76	Oliver and Raney (2011)	4.70 (1.52)
Needs			
Autonomy	.68	Ryan et al. (2006)	4.69 (1.46)
Character engagement	.89	Bartsch (2012)	5.38 (1.59)
Competence	.83	Ryan et al. (2006)	5.11 (1.59)
Contemplativeness	.90	Bartsch (2012)	4.66 (1.71)
Experiencing emotions	.78	Bartsch (2012)	5.56 (1.32)
Social sharing	.89	Bartsch (2012)	4.64 (1.74)
Vicarious release	.83	Bartsch (2012)	4.19 (1.60)

Note. References listed refer to the items of the varables used in the study.

by Bartsch (2012), which explicitly captures emotional gratifications in entertainment experiences.

Based on the results of the preliminary interview study, we included the scales for character engagement, contemplativeness, vicarious release of emotions, and social sharing (Bartsch, 2012). Furthermore, we included an adapted version of Bartsch's empathic sadness scale, modified to more clearly cover emotions in general, as we assumed that not all participants would report experiences of sadness. Following the original item "I liked to be overwhelmed with emotion", the item "I liked to feel strong emotions" was added, and the item "I liked the experience of being moved to tears" was shortened to "I liked the experience

of being moved".

Bartsch (2012) argued that social sharing and character engagement cover different aspects of relatedness. Therefore, we checked whether the PENS and emotional gratification scales formed independent factors by calculating a factor analysis using varimax rotation. As relatedness and social sharing loaded onto one factor, we decided to exclude relatedness from further analysis.

Development of the coding system.   The open-end answers were coded using qualitative content analysis, based on an expanded version of the descriptive system developed by Gabrielsson and Lindström-Wik (2003). Gabrielsson and Lindström-Wik originally developed their coding system to analyze strong experiences with music, putting special emphasis on the emotional responses people reported from their experience. Therefore, we deemed it a suitable starting point for the analysis of emotionally moving experiences in games. Based on an initial selection of 30 randomly chosen experiences, the author applied and expanded this coding system to also cover game-related aspects that emerged from the experience accounts. The final coding system contained 14 main categories, which were further divided into 42 subcategories. Descriptions, examples, and frequencies of all categories can be found in the Appendix A.

All open-end answers were coded by the author. Sentences formed the smallest unit of analysis. Note, that each open-end answer could contain multiple codes and that individual sentences within one answer could be assigned to several different categories. To assure interrater reliability, a random subset of 80 experiences were coded independently by another expert. The interrater agreement was substantial (mean κ = .787 over all codes, range = .637 - 1.000). To identify common and notable themes, experiences were grouped in terms of what caused the emotional reaction according to participants' accounts.

Results

Participants reported a variety of games of different genres. The most frequently mentioned titles were games from the *Final Fantasy* series (n = 20), the *Mass Effect* series (n = 8), the *BioShock* series and *The Last Of Us* (both n = 6). Time since the experience had taken

place ranged from less than one month (n = 10), two to six month (n = 13), seven to twelve

month (n = 13), one to two years (n = 25), more than two years (n = 35), and more than ten

years ago (n = 25). Notably, participants reporting that the experience had taken place more

than two years (including those over ten years) represented nearly half (49,6%) of the sample.

The first research question pertained whether players consider emotionally moving

experiences rewarding, and if so, why. As illustrated in Table 2, mean scores for enjoyment

and appreciation were overall high. At the same time, sadness was the most salient affective

reaction, followed by meaningful and happy affect. In terms of needs, experiencing emotions

was most salient, followed by character engagement and competence.

To further explore the relationship between needs, affect, enjoyment and appreciation,

we calculated several hierarchical multiple regressions (method: "Enter"). Preliminary

analysis was conducted to assure that the assumptions of normality, linearity, and

multicollinearity were not violated. The indicators were within acceptable limits (tolerance >

.25; *VIF* < 1.88; Tabachnick, Fidell, et al., 2001). The first set of regressions was performed,

after controlling for age and gender, with all seven needs as predictors. Separate regressions

were run for enjoyment (R =.68, R^2 adjusted=.42, $F(9, 111)$ = 10.50, $p < .001$) and

appreciation (R=.70, R^2 adjusted=.45, $F(9, 111)$ = 11.79, $p < .001$). Another set of separate

regressions was calculated with happy, sad and meaningful affect as predictors of enjoyment

(R = .60, R^2 adjusted=.33, $F(5, 115)$ = 12.68, $p < .001$) and appreciation (R=.73, R^2

adjusted=.51, $F(5, 115)$=25.56, $p < .001$). As illustrated in Table 2, competence, autonomy,

experiencing emotions, and character engagement all significantly predicted enjoyment. In

turn, experiencing emotions and contemplativeness were significant predictors of

appreciation. Note that experiencing emotions predicted both enjoyment and appreciation.

With regards to affect, happy affect significantly predicted enjoyment, whereas meaningful

affect predicted appreciation. Sad affect was a significant positive predictor of both

appreciation and enjoyment.

We also calculated partial correlations to check whether affect and needs were related.

As listed in Table 3, experiencing emotions correlated significantly with both sad and

meaningful affect. This suggests that players felt particularly overwhelmed with emotion, the

Table 2

The β weights of affect and need measures for

appreciation and enjoyment

	Appreciation	Enjoyment
Affect		
Happy	-.02	.51**
Sad	.45**	.32**
Meaningful	.40**	.02
Needs		
Autonomy	.02	.25*
Character engagement	.09	.29*
Competence	-.17	.22*
Contemplativeness	.46**	-.04
Experiencing emotions	.29*	.21*
Social sharing	.05	.02
Vicarious release	.02	-.11

*$p < .05$. **$p < .01$.

more sad and meaningful affect they experienced. Furthermore, autonomy was positively

correlated with happy affect, but negatively correlated with sad affect. This indicates that the

more autonomy players experienced, the happier they felt. Concurrently, the less autonomy

players experienced, the more sadness they reported. Lastly, meaningful affect was correlated

with contemplativeness.

The second research question asked what kind of emotions are derived from emotionally

moving game experiences. In their written experience accounts, participants mentioned a wide

array of emotions, reporting to have experienced both negative and positive emotions. In

terms of negative emotional responses, sadness (incl. terms like heartbreak, grief, etc.) was

most frequently mentioned ($n = 58$), followed by emotions related to shock and fear (e.g.,

Table 3

Partial correlations between affect and needs

Needs	Affect		
	Happy	Sad	Meaningful
Autonomy	.34**	-.20*	.03
Character engagement	-.11	.24*	-.06
Competence	.13	.10	.06
Contemplativeness	.08	.07	.52**
Experiencing emotions	.06	.31*	.27*
Social sharing	.01	.04	-.11
Vicarious release	-.03	.07	.15

*$p < .05$. **$p < .01$.

shock, fear, anxiety; $n = 21$). Nineteen players stated that their experiences contained moments of frustration, reporting emotions, such as anger, frustration, or feeling upset, whereas relatively few players mentioned feelings of guilt and regret ($n = 5$). Concerning positive emotions, players described emotions related to fun (e.g., fun, joy, happiness; $n = 17$) and achievement (pride, satisfaction; $n = 9$). Eight players made reference to feelings of awe or amazement. Twenty-nine players explicitly mentioned mixed affective responses, that is, they experienced both positive and negative emotions at the same time. Specifically, these statements often listed seemingly conflicting emotions, such as "it was a mixture of happiness and sadness. Happiness of having finished the game, and sadness from the main character being sacrificed" (P89, *Final Fantasy X*). Lastly, many players ($n = 39$) emphasized how intense and powerful their emotional reaction to the game events were, without necessarily specifying the emotional valence or making reference to any particular emotions, for instance, "I was so moved, I bursted out in tears and almost couldn't see what happened next" (P99, *The Legend of Zelda - Ocarina of Time*).

Common and Notable Themes

Finally, the third research question related to the causes, particularly game components contributing to the emotions evoked. In the following paragraphs, we describe the most prominent themes that emerged from the qualitative analysis. Players listed a variety of interactive and non-interactive game components that they thought caused or contributed to their emotional reaction. Specifically, loss, character attachment, agency and responsibility, achievement, as well as atmosphere. Notably, personal factors also figured heavily in emotionally moving game experiences. Full text examples of the individual themes can be found in the Appendix B.

Loss. More than half of the participants ($n = 63$) narrated an occurrence of in-game loss, that is, a scene in which either a character had died (e.g., "the father of group member was killed by a robot" [P100, *Xenoblade Chronicles*]) or some other separation took place (e.g., "at the end of the game Tidus has to disappear as he is only a dream" [P65, *Final Fantasy X*]). Sadness was the most prominent emotion, which was also reflected in the sad affect score ($M = 6.14$, $SD = 0.91$). Nevertheless, the enjoyment ($M = 6.07$, $SD = 1.23$) and appreciation ($M = 5.97$, $SD = 1.03$) scores were quite high. In particular, character attachment played a crucial role: Players felt sadness because they cared about the lost character: "My emotional attachment to the character that died as well as the identification with the main character lead me to feel sorrow at Gremio's death" (P9, *Suikoden*). Others mentioned that they empathized with the characters left behind, "those were very sad moments, as I empathized with the remaining characters and their loss" (P83, *Brothers - A Tale of Two Sons*). Moreover, having gotten to know the character(s) further contributed to players' sadness. For instance, P114 noted that the loss "was so heartbreaking like nothing I had experienced in a game before - especially because you kind of got to know the little family a bit before the inevitable loss of his daughter" (P114, *The Last of Us*).

Notably, the experience of in-game loss inspired players to think about themselves, with some even interrupting their gaming session to reflect on the game events. Specifically, players pondered what they would have done in the same situation: "I remember how I had to stop the game for some minutes to think about that heavy situation and about what I would

have done" (P91, *The Last of Us*). Further, for some players the experience of in-game loss brought back memories of personal losses, which accentuated their emotional response. For instance, one participant stated that when one of the main characters died "I believe the feelings came from a childhood experience of an unexpected death of a family member/pet. It was a shock like losing a friend" (P67, *Final Fantasy VII*).

Occurrences of in-game loss were often described as unique, memorable and unforgettable: "Never has a video game presented the story of the hero, who sacrifices himself, this beautifully and this touching. I will never forget this moment!" (P58, *Gears of War 3*). Especially the suddenness with which many instances of character death or separation happened had a big impact on players' emotional response. One participant noted that "one of the roots of the feelings I think was that the event came quite unexpected" (P46, *Final Fantasy VII*). Moreover, music and voice acting also impacted the emotional experience: "The music at the point of his sacrifice was also deeply moving, and evokes great sadness in me even now" (P9, *Suikoden*). Others commented on how the visuals intensified their feelings:

> When I saw one of my crew members in this pod and started to hear some kind of whirring machinery beneath her, saw a splash of blood across the pod, saw her eyes widen and dart around, I panicked with her (P38, *Mass Effect 2*).

Character attachment.   Character attachment – a feeling of connection or bond with game characters, – was commonly mentioned ($n = 85$) as the source of emotional resonance, as was also reflected in the relatively high *character engagement* score ($M = 5.40$, $SD = 1.54$). Character attachment usually formed with players investing time and effort (e.g., leveling a character) into the game: "I think that it came from the connection I formed from the long hours of playing" (P2, *Dragon Age: Origins*). Players also often emphasized how they got to know the characters: "But seeing her attitude adjustment throughout the game and her true nature of wanting to do good has made her grown on me" (P21, *The Legend of Sword and Fairy*).

Interestingly, there were different nuances in how participants described their attachment to the characters. Some of the participants simply mentioned that they liked the characters, without further elaboration. For example, they simply felt "kind of connected with the guy"

(P96, *Dead Space 1*), whereas several participants commented on how they empathized with a character, sharing their feelings: "It wasn't hard for me, as a player, to feel the regret of the character" (P52, *BioShock Infinite*). In contrast, some players did not reference any emotional engagement with characters, but took up character goals as their own: "I wanted to kill him so much. It got me motivated to keep playing so I can beat him" (P46, *Final Fantasy VII*).

Some players commented on how they "came to view them [the characters] as almost people" (P27, *Dragon Age: Inquisition*) and noted how they grew close to characters, comparing or referring to them as friends. For instance, "when I came to accept his death I was near tears and said my farewells like I would see off an old friend" (P935, *Final Fantasy VII Crisis Core*).

Finally, some players noted that they felt emotionally involved, because they identified themselves with a character. One player noted that "you become the character" (P27, *Dragon Age: Inquisition*), while another participant described a character as "kind of my digital alter ego" (P95, *Final Fantasy IX*). Identification often was accompanied by reflections on the self, with the player drawing parallels between themselves and a particular character:

> While playing the game, I experienced some changes in my life. Therefore I saw her cutting her hair as a metaphor for getting rid of old baggage, giving in to her feelings and becoming an independent woman – not caring what others think about her (P95, *Final Fantasy IX*).

Agency and responsibility. Agency or the lack thereof was another frequent theme. Many players reported that the game allowed them to act as they wanted, suggesting that they felt in control of their own actions. Player agency typically applied to optional game content, such as seeing all the dialogue a particular character has to offer, engaging in side quests, or simply exploring the game world at their own leisure: "As I was playing, I decided to find the parts to build myself a Seamoth [a little submarine] to go explore further" (P59, *Subnautica*). This was also reflected in their relatively high autonomy ratings ($M = 5.06$, $SD = 1.41$). Further supporting the positive relation between enjoyment, happy affect and autonomy, players mostly mentioned positive emotions, such as feeling happy or "enjoying the openness of the land and in a way it did make me feel like there was a sense of freedom and control"

(P22, *SOCOM II: U.S. Navy SEALs*). However, agency was sometimes also associated with negative emotions, such as sadness, worry and anger, as players pondered the consequences of their previous or future actions: "I already felt uneasy on the menu screen. I didn't want to lose my beloved crew, but I had to take a decision. Sure enough one of my crew members died, which made me very sad, even furious" (P101, *Mass Effect 2*).

A special case of agency – which we termed *responsibility*, – was when players had to make decisions in-game. Independently of whether players were forced by the game to take a decision or not, decisions were associated with higher autonomy scores ($M = 5.58$, $SD = 0.97$) compared to overall mean autonomy ($M = 4.69$, $SD = 1.46$). While decisions themselves evoked positive emotions, feelings of guilt were especially characteristic, as players took responsibility for the consequences of their actions: "The second time around I killed my friends, and I felt somewhat guilty for doing so, and immoral" (P55, *Far Cry 3*). In fact, players often pondered the consequences of their actions, as "every decision resulted in a character close to me dying" (P54, *The Last of Us*). Indeed, accounts of in-game decisions were often about the death of a character, as a result of the player's decisions. However, players provided with decisions usually evaluated the game narrative positively: "To see that story unfold, to actually help it unfold and to see the decisions made by each of the characters. It made it a very emotionally charged story for someone who was properly invested in it" (P39, *The Last of Us*). Moreover, players valued the attachment to characters. Character attachment and the risk of loss, made players "evaluate every decision extremely cautious" (P1, *Mass Effect 2*).

Concurrently, lack of agency was a source of negative emotion. A few participants explicitly stated that they felt forced to perform a certain action in-game, which was typically associated with negative emotions. For instance, P107 explained that they unwillingly "had to torture that guy. I really hated it and did not want to do it but the game didn't leave the choice to me. (...) It was really disturbing" (P107, *Grand Theft Auto V*). Other players wished that they could have been able to take action, but were presented to do so by the game narrative: "I did not want to say goodbye, but I couldn't do anything" (P93, *The Legend of Zelda: Skyward Sword*). Lack of agency often evoked anger in players "due to the fact that I couldn't do

anything to prevent it" (P60, *Star Wars: Knights of the Old Republic*) and "caused some sort of helplessness" (P46, *Final Fantasy VII*).

 Achievement. Achievement, be it by beating a boss or managing to play the game to the end was also experienced as emotionally moving. However, positively valenced emotions were predominant in this theme, ranging from happiness, pride, amazement, to satisfaction and excitement. Many players described their experiences in purely positive terms, for instance by simply stating that "I was extremely happy" (P112, *Monster Hunter 3 Ultimate*). Likewise, achievement scored lowest on sad affect ($M = 3.64$, $SD = 1.59$) of all themes. However, some players reported conflicted feelings, when they defeated a formerly friendly character or a boss with whom they empathized: "I felt kind of sad that I had to fight my friend, but at the same time he looked so badass that I really enjoyed fighting him" (P92, *Bloodborne*).

 Atmosphere. Twenty-nine players reported that they were emotionally moved solely by the game's atmosphere. "I was playing journey, when the astonishing landscapes just felt like seeing a painting coming to life" (P81, *Journey*). These accounts emphasized how graphics, music and sound came together to form a moving experience: "You're riding towards the sunset to Mexico, all the while hearing this grandiose music" (P85, *Red Dead Redemption*), or

> It put a big smile on my face when I looked around and saw living creatures, only because I've always wanted to go diving. I turned off the music so I could listen to the actual sounds, and that's when the game really grabbed me. I could hear what sounded like whale sounds, far far away. Then, there would be closer, brittle noises. I felt like I was really in the ocean, hearing all the noises ring throughout, and that was what really made me attached to the game, it was that experience (P59, *Subnautica*).

Such experiences were in terms of awe and amazement (e.g., "I was truly amazed by it" [P59, *Subnautica*]). Some players also recounted experiences of threat and fear in games, such as when hiding from an enemy or exploring a deserted place: "The low light atmosphere, slight disorientation and the constant pulse of the tracker made for a fearful experience at times" (P31, *Xenomorph*).

Personal memories and self-perception.   To our surprise, players not only listed game-related aspects as the cause of their emotional experience, but also often made reference to personal events. When players were faced with the loss of a character, they associated it with past life events or were reminded of loved ones: "I assume that this situation subconsciously reminded me of my brother, who died when I was a kid" (P51, *Thief 1*). Several players were particularly affected by the death of a character, as it felt very real to them:

> It reminded me of myself, as my brother died almost a year ago and it felt exactly
> the same. There was this deep pain in my heart as if someone was ripping it apart
> and I was speechless, not really able to process what just happened (P44, *Brothers
> - A Tale of Two Sons*).

Furthermore, memories sometimes triggered emotions restrained in the everyday life, enabling the emotions to leave blanc. A player explained that

> most of my social contacts can't handle the weight of this experience [loss of a
> beloved person] and don't know how to handle me, so I have to be strong all day
> long and when I played this game and saw this scene, it triggered all the feelings
> kept away and made me feel like my brother died yesterday (P44, *Brothers - A
> Tale of Two Sons*).

Many players also stated that the emotional game experience inspired them to think about their life and how they perceived themselves: "Am I being too selfish?" (P24, *Journey*) or

> As someone who plays quite a lot of video games, in place of normal
> entertainment like television and movies, this really made me look at myself and
> see that I needed to focus on the bigger picture in my own life for a change. To
> find out where I am going with my life and if my current lifestyle is one that I
> genuinely enjoy. It was a very personal moment brought on by only a couple of
> hours of playing a game that had a thoughtful story and message (P74, *Little
> Inferno*).

Game characters often prompted self-reflection, when they were seen as role models:

> It would be an understatement to say that Phoenix Wright is one of very few
> people/characters that I aspire to be like. It's very, very difficult to see something
> so destructive happen to someone you care about, whether they're real or not. It's
> a moment that affected me on a deeply personal level, and I believe that's why it
> was such an emotional experience to me (P63, *Professor Layton Vs. Phoenix
> Wright: Ace Attorney*).

In some cases, emotionally moving game experiences even triggered behaviour change: "Now I try to be more helpful to others" (P54, *The Last of Us*).

Discussion

So far, PX research has mainly focused on fun experiences, emphasizing positive emotions, such as pride, or excitement (e.g., Lazzaro, 2009). Consequently, emotions beyond fun, – with the exception of frustration (Johnson et al., 2015; Lazzaro, 2009), – remained largely unexplored. Our study expanded upon current research on emotion in games, by exploring emotionally moving game experiences from the players' perspective. We found that players reported a wide spectrum of emotions, with sadness being the most frequently mentioned emotion. As a matter of fact, most players found such experiences rewarding, as reflected in the high ratings on appreciation and enjoyment. This suggests that negatively valenced emotions, such as sadness, may coexist with both high appreciation and enjoyment. In particular, players seemed to appreciate and enjoy the experience of strong emotions in itself, even negatively valenced emotions. Yet autonomy, competence, and character engagement also contributed to enjoyment, whereas contemplativeness was associated with increased appreciation only. As illustrated in Figure 2, emotions and thoughts were evoked by several interactive and noninteractive game aspects, such as character attachment, character loss, achievement, agency and responsibility, as well as the game's atmosphere. But personal memories and reflectiveness also figured prominently in emotionally moving game experiences, and sometimes even made a deep personal impact on players. In the following, we discuss the theoretical and practical implications of these results.
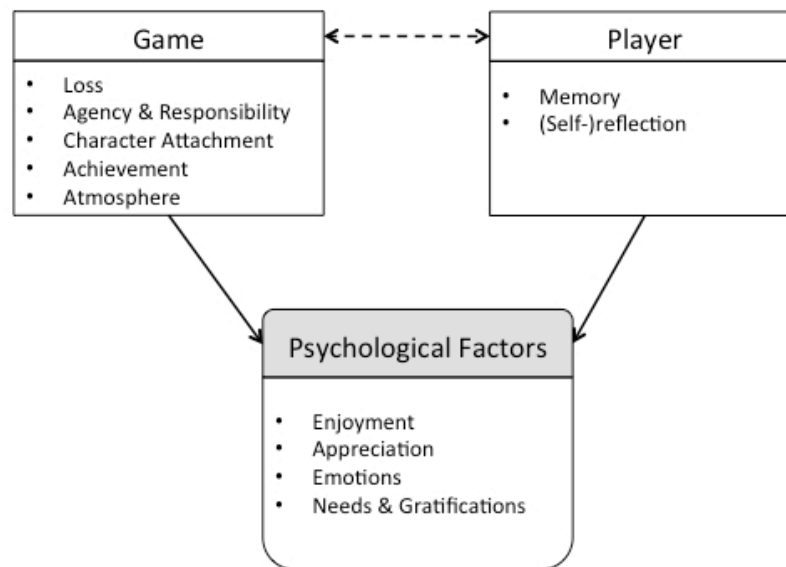
Figure 2. Game and personal components considered to have contributed to the psychological factors by the participants. The bilateral arrow between game and player is dashed since no causation can be stated, however the linkage was reported by the players.

Implications for PX Research

A variety of typically negatively valenced emotions were reported in our study, with sadness as the most frequently mentioned emotion. Nevertheless, players rated emotionally moving game experiences high on enjoyment and appreciation. Moreover, not only did negatively valenced emotions and high enjoyment ratings coexist, but experiencing emotions, as well as sad affect significantly predicted enjoyment and appreciation. Taken together, this indicates that players did value their experience *not in spite* of negative emotions, but actually *thanks* to the game inspiring strong emotional reactions, including sadness. It seems that not only positive emotions are fun (Lazzaro, 2009), but negative affect may also contribute to a positive player experience.

Besides experiencing emotion, competence, autonomy, and character engagement were linked to enjoyment, whereas contemplativeness was related to appreciation. This is largely in line with previous findings on need satisfaction and PX (Johnson et al., 2015; Oliver et al., 2015), as well as the notions of hard and easy fun (Lazzaro, 2009). This further supports the fact that competence and autonomy are important to game enjoyment (Oliver et al., 2015;

Ryan et al., 2006). It also comes to little surprise that character engegement was related to enjoyment, since it shares many similarities with relatedness (Bartsch, 2012; Ryan et al., 2006). Players did not experience contemplativeness as enjoyable. However, this does not mean that contemplativeness did not contribute to a positive experience, as it was related to appreciation, arguably itself a type of positive experience (Bartsch, 2012; Oliver et al., 2015). Seeing how appreciation has also been suggested as a facilitator of prosocial behavior in serious games (Steinemann et al., 2015), it might prove useful to expand the notion of positive player experience to not only include enjoyment (cf. Mekler et al., 2014), but appreciation as well.

Overall, these findings contribute to our understanding of how positive and negative emotions shape the player experience (Birk et al., 2015). While positive player experience has largely been equated with enjoyment (Mekler et al., 2014), fun (Lazzaro, 2009) and positive affect (Birk et al., 2015), our study indicates that negative or mixed affect need not forcibly preclude enjoyment (or appreciation). In other words, the experience of negative emotions in games must not necessarily suggest that the experience itself was negative. As Benford et al. (2012) argued, negative affect can be entertaining. Moreover, Marsh and Costello (2012) differentiated between positive, thought provoking, positive-negative, and purely negative game experiences. Many of the experiences recounted in our study mentioned both negative and positive emotions, suggesting they fit the notion of positive-negative experience. Several undoubtedly will be categorized as thought provoking experiences. Although, it could also be argued that the high ratings on appreciation and enjoyment ultimately characterized most of them as positive experiences.

In this study, the participants had to report a past game experience. A retrospective evaluation of an experience can differ from a report on current feelings, since the retrieval of past emotional experiences are more prone to the most intense moment of the particular experience (Kahneman & Riis, 2005). Therefore, asking players about their feelings and thoughts during or immediately after an emotionally moving experience might be worth exploring. Similarly, whether negative affective response and positive experience arise simultaneously or successively may prove as interesting for further research. Furthermore, the

time needed to appreciate a media experience (reading stories) was found to take longer than the time needed to evaluate enjoyment (Lewis, Tamborini, & Weber, 2014). Accordingly, varying the point of measurement in general (e.g., during, and immediately after the experience, as well as weeks later) may provide a more in-depth understanding of emotions and experiences derived from digital games.

Game Elements Contributing to Emotional Experiences

Our study highlighted the role of several game elements in contributing to or possibly causing emotional reactions in players. Many of these game elements, have already been examined or discussed in previous work, such as making decisions (i.e., interactivity; Steinemann et al., 2015), loss (Harrer, 2013), game narrative (Oliver et al., 2015), character attachment (Harrer, 2013; Iacovides & Cox, 2015), as well as music and sound (Bartsch et al., 2014). Additionally, our study identified a few more game elements as a possible source of the players' emotions.

First, agency was an important factor, as it gave players control over their actions. In contrast to loss, narrative, character attachment, and audio, agency (including making decisions) is a unique property of game experience, since it requires interactivity (Elson et al., 2014). In line with previous studies (Johnson et al., 2015; Oliver et al., 2015; Ryan et al., 2006), agency was associated with increased autonomy, which itself was related to enjoyment. But agency also meant that players had to assume responsibility for their actions, which sometimes resulted in feelings of guilt or regret over their decisions. Similarly, having little or no control over their actions elicited varying reactions from players: Some players, while conscious of the fact that they were forced by the game to perform a specific action, mentioned that this heightened their emotional reaction. Others however, experienced the lack of agency as disturbing, which resulted in feelings of anger and helplessness. Indeed, Burnell (2012) called for caution when breaking player autonomy, lest it detract from the player experience. However, deliberately restricting player autonomy can make for an intensely emotional experience (Burnell, 2012), when players care for characters (e.g., having to bury the brother in *Brothers – A Tale of Two Sons*), or have agency over smaller decisions (e.g.,

choosing which crew member to talk to in the *Mass Effect* series). A more in-depth examination of the role of player agency, autonomy, and responsibility in triggering certain emotional responses (e.g., guilt, helplessness) might prove insightful, especially when designing serious games (see also Iacovides and Cox, 2015; Steinemann et al., 2015).

Next, Burnell claimed that the death of a character may reduce feelings of relatedness (Burnell, 2012), whereas Harrer suggests that in-game loss affects players, because these scenes often occur late in the game's progression, giving players enough time to connect to the characters (Harrer, 2013). Character attachment was one of the most frequently mentioned reasons for why players deemed their experience as emotionally moving, which was also reflected in the high ratings of character engagement. These findings suggest that character loss does not actually reduce feelings of relatedness. Rather, loss may actually serve to emphasize and intensify the connection players feel towards characters. In line with Rusch's notion of procedurality (Rusch, 2009), the loss of a character in certain games (e.g., *Final Fantasy VII*) was also accompanied by loss of game play functions (no healer), which possibly further accentuated players' sadness or anger.

Moreover, not all emotionally moving experiences were characterized by mixed or negative affective responses, as many accounts of in-game achievement were described in purely positive terms. Mastering challenges (Cole et al., 2015; Lazzaro, 2009), and the resulting feelings of competence (Johnson et al., 2015; Oliver et al., 2015; Ryan et al., 2006), are well known factors contributing to the players' enjoyment of digital games. Nevertheless, some players reported ambivalent feelings, for example when having to fight an initially friendly character, which then evoked both positive emotions, such as pride, as well as sadness. This is interesting, because it suggests players also experience emotions different from the frustration/fiero cycle of hard fun (Lazzaro, 2009). It also showcases that functional and emotional challenge (Cole et al., 2015) need not forcibly be mutually exclusive. Instead, the friction caused by both the in-game conflict and the conflicting emotions, may perhaps even add to the intensity of the experience.

Emotional Game Experiences Stimulate (Self-)Reflection

Both the quantitative and qualitative data suggest that emotional gaming experiences inspired contemplativeness in players, further highlighting the potential of digital games to provoke thought (Brown et al., 2015; Iacovides & Cox, 2015; Oliver et al., 2015; Steinemann et al., 2015). Even though many core games do not primarily aim to be particularly thought provoking (Cole et al., 2015), many of the games listed in our survey were commercially available blockbuster titles.

Interestingly, emotionally moving game experiences not only stimulated players to ponder general or game-related questions, but often times triggered self-reflection. The latter seemed especially interesting, as players not only pointed out game elements, but often mentioned personal aspects as potential causes for their emotional reactions. As of now, this aspect has received relatively little attention in PX research.

Firstly, emotional game experiences often prompted reflection by reminding players of past life events, which perhaps even further intensified the emotional experience. Harrer (2013) previously argued that "throughout a play experience players establish meaningful links between the medium, their cultural memory, and the real world" (Harrer, 2013, p. 610). Similarly, our data indicates that this was especially the case when players lost or were separated from a well-liked character. For instance, several players recalled the loss of loved ones when playing *Brothers - A Tale Of Two Sons*, and commented on how similar the feelings of grief evoked by the game events were to their own personal experiences.

Secondly, emotionally moving game experiences inspired players to reflect on how they would have reacted if they had been confronted with the same situation in real life. Other players specifically questioned their in-game actions, when these went against their own moral values (e.g., things they would never do in real life, such as the infamous torture scene in *Grand Theft Auto V*) or when they thought they had done something wrong. This finding seems especially relevant for serious games, as they often aim to be thought-provoking (Marsh & Costello, 2012). Iacovides and Cox (2015), for instance, found that allowing players to take their own – sometimes bad – decisions in a game, led them to think more about the everyday challenges facing healthcare professionals. Such experiences may also challenge players'

self-perception (Bem, 1967), which provides another interesting avenue for further study. Identification with a game character was suggested to influence players momentary self-perception (Klimmt, Hefner, & Vorderer, 2009). Particularly, putting oneself into someone's situation physically (e.g., steer a wheelchair for control input) stimulates reflection and may encourage an attitude shift (e.g., attitude towards people in wheelchairs; Gerling, Mandryk, Birk, Miller, and Orji, 2014). Similarly, whether by confronting the player with game characters' property and/or actions disparate or uncommon to oneself (e.g., operate a wheelchair or torture someone) enhance reflection and behavior change might prove as insightful.

Thirdly, our results suggest that games have the potential to provoke thought about the players' personal development and ideals. Several 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 behaviour changes, as players aspire to become a "better self". Moreover, Bartsch (2012) argued that contemplativeness in movies might promote well-being. Meaning making pertaining to bereavement in real life has been suggested to contribute to survivors' well-being by, for example, encouraging them to move on, change perspective, or supporting personal growth (Gillies, Neimeyer, & Milman, 2014). Furthermore, one player in our study emphasized that the similarity of the game experience with a real-life event had triggered emotions which usually had to be hidden in everyday life in order to be strong. Since experiencing emotions in noninteractive media too, has been suggested to contribute to viewers' well-being (Bartsch, 2012), playing a game alone in an environment without social demands may provide an opportunity for players to let the emotions leave blanc, thereby influence players' well-being positively. Seeing how games have already been found to positively influence players' well-being (Vella, Johnson, & Hides, 2013), it seems conceivable that games also further contribute to player well-being by affording opportunities for experiencing emotions, particularly vicarious release of emotions, and self-reflection. This may especially provide an interesting avenue for further research, since it may have a potential for coping intervention to overcome real life events. For instance, people who experienced

death of a beloved person may feel better when letting the emotions blanc by experiencing a similar situation in game. Moreover, through identifying oneself with a character, which experienced loss, may stimulate reflection, thereby giving meaning to the loss, and support players to change their attitude, to overcome the loss of the beloved person and to move on.

Limitations and Future Research

Due to the exploratory nature of the study, no causal inferences may be made about what factors actually caused players' emotional reactions. Still, the present study identified several game-related and personal factors that might contribute to emotional game experiences, which may serve to inform future empirical work. However, note that while many participants in our study emphasized the suddenness of the emotional game content, all participants seemed to be receptive to this kind of experience. When conducting a study which aims at deliberately evoking negative emotions through gameplay, participants expecting to engage in more traditional (i.e., fun) forms of gameplay might not become as involved (Iacovides & Cox, 2015). In contrast, exploring the emotional response of players, who are expecting emotionally moving game experiences (e.g., players of the Japanese game genre *crying game*) might provide an interesting approach for further research.

Moreover, plenty of players reported sadness to have contributed to positive experiences. In what circumstance negative emotions enhance enjoyment and/or appreciation may provide an interesting avenue for further research on PX. In media psychology, Oliver (1993) introduced the concept of meta-emotion – emotional reaction to one's own ongoing emotion – to address why some people enjoy experiences derived from certain media (e.g., drama). A positive meta-emotion, such as enjoyment and appreciation, may result from emotions valued by a person due to, for instance, its novelty of the emotion (e.g., experiencing sadness in games). In turn, negative meta-emotion (e.g., embarrassment; Deterding, 2015) are thought to withhold expressing the emotional reaction in the presence of others, since the emotion may be considered to infringe personal or social norm. Hence, applying meta-emotion to the context of gaming might prove worth pursuing (Mekler & Bopp, 2015). Thus expanding the current notion of the linkage between negative emotions and positive experience, and may

provide a more in-depth understanding of the psychological mechanisms shaping PX.

Notably, nearly half of the participants reported that their experience occurred more than two years ago, showcasing that emotionally moving game experiences often linger with players for a long time (cf. Marsh and Costello, 2012). Lingering experiences have been linked to reflectiveness in serious games (Marsh & Costello, 2012), but may prove difficult to assess in the long run (Iacovides & Cox, 2015). A possible work-around would be to take appreciation into account, as it has been found to be predictive of lasting impressions in movie contexts (Oliver & Bartsch, 2010). Future research may also examine how to encourage players to share their feelings and thoughts evoked by emotionally moving game events with others. This seems especially important for serious games, as it may promote discussion of the subject (e.g., stipulate reflection), and dissemination of the game to others, thereby raising awareness of the game's message.

Next, if we consider both enjoyment and appreciation, not a single experience in our study was perceived as purely negative or uncomfortable (Benford et al., 2012; Brown et al., 2015). Therefore, it would be interesting to ask players about uncomfortable gaming experiences, their potential causes and the types of emotions they evoke, as well as whether players experienced them as enjoyable. Similarly, some players recounted experiences that were thrilling or frightening, which was usually attributed to the game's atmosphere and sound design. It would be interesting to explore what other game or personal aspects influence the player experience, by specifically investigating fear experiences or horror games. Moreover, feelings of guilt were sometimes present when players faced difficult decisions. A large scale study may provide insights on whether guilt in games promotes contemplativeness, as well as attitude and behavior change. For example, players taking a decision, which result in a loss of a game character, might feel responsible for their decision, evoking guilt and sadness. Moreover, such experiences may further stimulate (self-)reflections leading to attitude or behavior change. In contrast, players experiencing a loss of a character without making a decision by themselves may only feel sadness. Furthermore, whether the perceived responsibility and emotional responses (e.g., guilt) differ in term of (lack of) agency may be interesting, for instance, when a decision is either forced or optional.

Finally, one participant explicitly stated that sharing the same cultural background as the game designers enhanced her empathy with the characters and thus contributed to the emotional intensity of the experience. Several studies on emotional reactions in real life denoted cultural differences in emotional experiences (e.g., Markus and Kitayama, 1991; Matsumoto, Kudoh, Scherer, and Wallbott, 1988). For instance, comparing the emotional responses of Japanese and U.S. participants, Matsumoto et al. (1988) found a difference in attribution of responsibility for events evoking sadness. Whereas American respondents attributed the responsibility to other people, Japanese participants attributed it to themselves. In research on media experience (Kim, Seo, Yu, & Neuendorf, 2014) as well as in PX research (Yee, Ducheneaut, & Nelson, 2012; Zagal & Tomuro, 2013), several studies have also stressed the importance of taking the players' cultural background into account, though empirical studies in gaming context are scarce. Therefore, it might be useful to take cultural difference into account.

Conclusion

Emotion is key to PX, but emotions beyond fun have remained largely unexplored, limiting our understanding of what constitutes a positive player experience. We surveyed 121 players about an emotionally moving game experience, their thoughts on its cause, and whether they considered it positive. We found that although sadness was the most frequently mentioned emotional response, players enjoyed and appreciated these experiences thanks to the intense emotions the games afforded. Moreover, we identified agency and responsibility, character attachment, achievement, loss, and atmosphere as potential facilitators of players' emotional reactions. Emotionally moving experiences were also often accompanied by (self-)reflection. Taken together, our findings indicate that negative emotions in games may indeed contribute to positive player experiences.

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Appendix A

Descriptions, examples, and frequency of the categories

Categories and Subcategories marked with an asterisk (*) are based on the descriptive system developed by Gabrielsson and Lindström-Wik (2003).

Table A1

*General characteristics of the experience **

Subcategory	*n*	Description	Example
Uniqe experience	37	Experiences being unique, fantastic, incredible, unforgettable, memorable experience, or never experienced before.	"One of the most memorable moments in gaming for me was the first time I played Dragon Age: Origins" (P2, *Dragon Age: Origins*)
Hard-to-describe experience	6	The experience is difficult or impossible to describe in verbal terms	"For some reason, this very detail touched me. It's hard to explain why" (P51, *Thief 1*)

Table A2

*Physiological reactions and behavior **

Subcategory	*n*	Description	Example
Physiological reactions	38	Any kinds of physiological reactions in the body: Tears/crying, Lump in the throat, shivers/chills/thrills, muscular tension/relaxation, palpitation of the heart/feel blood pulsating, changed breathing, trembling/twitching/shaking, become warm/perspire/cheeks flushing, pressure on chest/stomach reactions.	"Then it happened, that my body produced so much adrenalin as if I was out on a hunt for real and I felt this feeling in the stomach when one is fighting for her/his life" (P84, *Monster Hunter 4 Ultimate*)
Behavior	6	Actions (incl. action tendency) which was caused by the experience, e.g. laugh/smile, stop playing, replay the game/scene, close one's eyes, open one's eyes/mouth wide, shout/scream, become immovable, stare.	"I remember I shut the game off and didn't play for a few days" (P19, *Final Fantasy VII*)

Table A3

Unexpectedness

Subcategory	*n*	Description	Example
Unexpectedness	22	The experience or the event was unexpected or surprising to the players.	"It was totally unexpected and a complete blow to everyone who loves this particular franchise. But in a good way" (P47, *Gears of War 3*)

Table A4

Loss

Subcategory	*n*	Description	Example
Death of a character	50	Player reported death of a game character.	"One of the most emotionally impactful moments for me in gaming is Xion's death in Kingdom Hearts: 358/2 Days" (P103, *Kingdom Hearts 358/2 Days*)
Separation with a character	18	All kind of separation with a character excluding death.	"When I had to say goodbye to my companion in the game at the end" (P93, *The Legend of Zelda: Skyward Sword*)
Other loss	13	All kind of loss exculding death of and separation with a game character: e.g., objects, game control, HP	"The whole game, you had been using both hands, utilizing both sides of the game controller. When the character dies, his loss is reflected in the game's control scheme, giving the loss a physical real-world manifestation" (P83, *Brothers - A Tale of Two Sons*)

Table A5

Character attachment

Subcategory	*n*	Description	Example
Generic character attachment	30	Any kind of character attachment (i.e. connection, or bond felt with the character), which is not further elaborated. Keywords: attachment, connection, emotional investment.	"I feel a strong emotional attachment to Clementine and Lee" (P29, *The Walking Dead*)
Investment into characters	26	Investment of resource on game character (e.g., long playing time, effort, equipment, money, etc.). But no emotional investment.	"The characters over a 50 hour long story really grew on you" (P57, *The Walking Dead*)
Empathy	33	Players felt with the character. Empathy do not include any association to the "self".	"Those were very sad moments, as I empathized with the remaining character and their loss" (P83, *Brothers - A Tale of Two Sons*)
Shared goals with characters	19	The goals of the player are identical to those of the character.	"This robot who was killed the person, flew away, but I wanted revenge and wanted that he suffers pain" (P100, *Xenoblade Chronicles*)
Identification with a character	15	The player identify with the character, being the character itself. Particularly, the"self" is prominent. Further, player may consider the character as kind of ideal self.	"He was what I wanted to become. Neither cowardly nor cruel, but ready to do what needs to be done" (P77, *Final Fantasy VII Crisis Core*)
Characters like real people	19	The character is no more perceived just as a game character but rather like a real person or friend. However, the player doesn't identify him/herself with the character.	"I had come to view them as almost people, I guess, and it felt terrible to have their lives in my hands" (P27, *Dragon Age: Inquisition*)
Get to know the characters	36	Through the game play the player get to known the character better.	"But seeing her attitude adjustment throughout the game and her true nature of wanting to do good has made her grown on me" (P21, *The Legend of Sword and Fairy*)

Table A6

Emotional engagement with game world

Subcategory	*n*	Description	Example
Emotional engagement with game world	18	To have the feeling of being in the game world, being immersed. Including statements on atmosphere (description or evaluating statements about game atmosphere).	"I felt like I was really in the ocean, hearing all the noises ring throughout, and that was what really made me attached to the game, was that experience" (P59, *Subnautica*)

Table A7

Realness

Subcategory	*n*	Description	Example
Realness	11	The experience and/or emotions felt real.	"In the moment it felt very real, like a genuine break up, which I myself have never experienced in real life" (P11, *Dragon Age: Inquisition*)

Table A8

*Feelings and emotions ***

Subcategory	*n*	Description	Example
Intense/powerful emotions	35	Player describes the intensity and power of the evoked feelings without reporting any specific emotion.	"I'd say this was one of the most powerful emotional responses I've had while playing a game" (P24, *Journey*)
Positive emotions	42	Positive emotions from low to high arousal.	"I was excited to find some Easter eggs" (P7, *Journey*)
Negative emotions	72	Negative emotions from low to high arousal.	"There was anger, grieve, crying and the stages of grief" (P67, *Final Fantasy VII*)
Conflicting/mixed emotions	24	Conflicting feelings or mixed emotions (min. 1 positive and min. 1 negative emotions) are evoked at the same time.	"But besides sadness there's also joy and happiness" (P111, *Mass Effect*)

Table A9

Player action/control

Subcategory	*n*	Description	Example
Decision	19	Any kind of decision the player made.	"The player then has the choice of either telling Clementine to shoot Lee, or not to shoot Lee, to save bullets. When I played, I chose to shoot Lee" (P29, *The Walking Dead*)
Could not act	11	Player could not do anything, did not had the possibility to act.	"The main disappointment I think was due to the fact that there wasn't an option to do something I just assumed would be true" (P105, *Dragon Age: Origins*)
Unwilling action	4	Player had to take an action by her-/himself even when they actually didn't wanted. Focus on "unwillingness".	"I really hated it and did not want to do it but the game didn't leave the choice to me. So if I wanted to get on with the game I had to use electro shocker, tongs, and waterboarding and so on" (P107, *Grand Theft Auto V*)
Do it your own way	16	Player could do what they wanted, do it on their own way, do it the way they think is right.	"You've probably developed some favorites, depending on your personal preferences, but you aren't really told which ones to like by the narrative" (P38, *Mass Effect 2*)
Do it by yourself	15	Player had to do something (forced or not) by themselves.	"Actually having to dig a grave for the dead character as part of gameplay had probably more emotional impact than witnessing it passively in a cutscene" (P83, *Brothers - A Tale of Two Sons*)
Consequence of one's action	14	Consequence occurred due to player's action.	"In addition the whole thing was a highly political affair with great impact on the game world, which made decisions even harder" (P1, *Mass Effect 2*)

Table A10

Achievement

Subcategory	*n*	Description	Example
Achievement	14	All kinds of achievement, which resulted in positive or negative experience (e.g., beating a boss, to level up, or managing to play the game to the end).	"I remember being extremely happy to have managed a relatively happy ending" (P1, *Mass Effect 2*)

Table A11

Audio *

Subcategory	*n*	Description	Example
Audio	30	General description of the music/audio, the "objective" quality of sound/music (e.g., loudness, technique), or music described in emotional terms, e.g., beautiful/sad music. Includes music, audio, sound, voice acting.	"The music plays very slowly und quietly and the facial expressions are just wonderful" (P50, *The Legend of Zelda: Wind Walker*)

Table A12

Visual

Subcategory	*n*	Description	Example
Visual	27	Description or statements on the quality of the graphic, e.g., realistic landscape/characters, incl. statements on how the game world looks like, e.g., beautiful place.	"I remember the setting was so beautiful, it was this really slummy church, everything felt dirty and dark but in the middle there was a beam of light breaking through a hole in the roof and cast a sunny patch on the ground where colorful flowers grew that she tended too" (P19, *Final Fantasy VII*)

Table A13

Control interface

Subcategory	*n*	Description	Example
Control interface	9	Statements on the interface of the game.	"The actions the game offers are limited. You can move, you can make singing noises, you can interact with certain game objects" (P24, *Journey*)

Table A14

Narrative/script

Subcategory	*n*	Description	Example
Narrative/script	9	Statements on game script, plot, written dialog or narratives.	"As a player, you never suspect that the plot will develop in this way" (P25, *Brothers - A Tale of Two Sons*)

Table A15

Miscellaneous game aspects

Subcategory	*n*	Description	Example
Miscellaneous game aspects	17	Game aspects not specified or not coded above game component codes.	"Third, the threat was human. The difference in NPCs versus human players in games in vast. Even the most intimidating NPCs will follow the script they are programmed with, and even with just a little interaction with them, a general pattern can be established of their strengths and weaknesses and how to exploit them. Human players are much more difficult to predict, and as such, have a far greater range of risk associated with them" (P37, *H1Z1*)

Table A16

Cognitive aspects

Subcategory	*n*	Description	Example
Changed attitude *	7	Any kind of opinion about the (recounted) game or in general that changed after the experience or behavior change.	"All these experiences added up to a slightly disturbing and moving experience for me. Now I try to be more helpful to others" (P54, *The Last of Us - Remastered*)
Contemplativeness personal *	25	Stimulating thoughts about anything associated to one's life; focus is on the thought provoking aspect and not on the personal aspect. including insights (keywords: keep me thinning, reflect, ponder, contemplate), confirmation of identity, selfactualization (the experience (or the game) is needed for expressing oneself, the game (component)/a character/a situation reflects one's person/thoughts/feelings, increased selfesteem/self-confidence).	"As someone who plays quite a lot of video games, in place of normal entertainment like television and movies, this really made me look at myself and see that I needed to focus on the bigger picture in my own life for a change" (P74, *Little Inferno*)
Contemplativeness game	41	Statements on game script, plot, written dialog or narratives.	"But what really blew my mind in the end, is the vast amount of thoughts put into the plot: quantum physics, parallel universes, booker being in an endless loop, the sheer amount of what could be and leaving an open end, letting the mind of the player create his own ending" (P52, *BioShock Infinite*)
Contemplativeness in general *	14	Stimulating thoughts in general.	"Maybe it was the distance between the living and the dead and the awareness, that even in the afterlife, the remembrance of life is still precious" (P51, *Thief 1*)

Table A17

Personal aspects

Subcategory	*n*	Description	Example
Healing *	6	The experience had healing effect, gave comfort, or relax, used game(s) to affect one's mood. Keywords: healing experience, give comfort, hope, help, relief, relax, power, or a kick; feel need to keep, confirm, elicit, or change feelings.	"Gold Saucer was immediate relaxation" (P10, *Final Fantasy VII*)
Memories/associations to earlier experiences	24	The experience reminded on an earlier experience (in-game or real life event), people, or situation.	"I think the similarity to my own life and my own experience with death of a loved one simply triggered the feelings I often have to keep away during my normal life" (P44, *Brothers - A Tale of Two Sons*)

Table A18

Social aspect

Subcategory	*n*	Description	Example
Want to disseminate the game to other people *	2	Player wanted to disseminate the game to other people or vice versa, that other people introduced the game to the player.	"Some of my friends suggested this game to me" (P56, *Planetside 2*)
Sharing of emotions or experiences	13	Player shared or wanted to share the emotions, thoughts, and/or experience with other people.	"John and I both laughed and talked about how we were both terrified of someone walking into the rooms we were in, so we very clearly had the same experience" (P37, *H1Z1*)
Communication *	15	Communication with other player (incl. during game play and outside of game play) or game characters in the game.	"I think some of these feelings came from the limited communication created by the game mechanics. By creating a communications challenge, it heightened emotions when we could not effectively say or do what we wanted" (P7, *Journey*)

Appendix B

Full text examples of the individual themes

The first paragraph of the examples refers to the first open-ended question:

"Please bring to mind an emotionally moving experience you had with a digital game. Write about your thoughts and feelings that may have been brought up by this particular game experience and about how you responded emotionally to the particular event(s) of this game experience."

Respectively, the second paragraph is the response to the second open-ended question:

"Please clarify your thoughts and feelings regarding this particular game experience. Specifically, where you think they came from and/or what caused these thoughts and feelings."

Loss

In the game "The Last of us", the beginning of the game shows some interactions between a widowed father and his teenage daughter [before any real gameplay]. You could tell that they loved each other, they were a tight-knit family; a regular working-class family, trying to make ends meet and make everything work. Shortly after, all hell breaks loose as zombies start attacking and spreading [as they do in games], and as the small family [and the father's brother] try to escape the zombies, the daughter is killed by a soldier, by accident. That was so heartbreaking like nothing I had experienced in a game before - especially because you kind of got to know the little family a bit before the inevitable loss of his daughter. I can't remember completely, but I think it was one of those It's the best day in my life; I love you dad! moments where you just know she'd gonna die. But it still moves you. (P114, *The Last of Us*)

It really connected with me; probably because I have 3 sisters and 5 nieces, and I had just had a daughter at the time – I have always been very protective of all these girls/women in my life. But I think it's also just a trope that is easy to

connect with. As a male gamer I definitely connected more with it than if it had been a mother and her daughter, although that would have been more original. (P114, *The Last of Us*)

Character Attachment

I had to choose between two characters to leave behind to be killed. My choice was between Alistair, whom I had romanced in Origins with my Warden, and Hawke, who I had "been" in Dragon Age 2. It was like choosing between "people". These were two people who I had come to know, having experienced their life stories, and it felt terrible to have to condemn one to death. It elicited guilt, anger, hurt, betrayal and sadness. I was angry that I was being forced to make this choice. (P27, *Dragon Age: Inquisition*)

As I said, I was angry that I had to make this choice. This I think came from the fact that someone had decided to present this choice to the player, make people choose. Someone had done this on purpose. I felt guilty, because over the last 2 games, I had done everything to keep these people alive, and I had witnessed their life stories, and their trials. I had come to view them as almost people, I guess, and it felt terrible to have their lives in my hands. It felt like I was betraying myself, no matter who I chose, as when you play a game, you become the character [or I do, anyway] and this truly felt like a choice between killing myself – someone I had been, or my true love - whom my character had had many a conversation with over a long and grueling war. But these are characters like people, and the game makes certain to show you that these people are not just pawns, which die like flies. It is made clear that these people have family and friends, and people that care about them who will hate you for not saving them. Even having made the decision, other characters react to the death, and it is like having watched your favorite character die in a film – yet somehow worse, as you killed them, and the characters know it was you who made the choice. (P107, *Dragon Age: Inquisition*)

Agency and Responsibility 1

In GTA V I had to take some missions from the FBI. First I had to free a prisoner from the CSI. Then I had to torture that guy. I really hated it and did not want to do it but the game didn't leave the choice to me. So if I wanted to get on with the game I had to use electro shocker, tongs, waterboarding and so on. I was not feeling good after that and my hands were sweaty after that. (P27, *Grand Theft Auto V*)

It was really disturbing. First I tried to skip that part of the game but I could not. So I just had to go through it. It was totally going against my moral sense, that's where the feelings came from. It was like I was there. And the worst: I could not stop after using one instrument, I had to go on... After playing that sequence I first had to make a break and after that I didn't play GTA for maybe 2 weeks... So maybe I should have not played it at all... (P107, *Grand Theft Auto V*)

Agency and Responsibility 2

In Mass Effect 2, there is a sequence in which a large portion of your crew gets captured. I believe there was some kind of hint that you should proceed straight to the place where you will rescue them, but the typical way games work is that time is never an actual factor unless you're in a timed level or something. However, in this sequence, if you complete other missions before you go to your crew, some of them will have died. Even if you don't delay at all, you will be right in the nick of time as your fellows are about to be processed into biological sludge before your eyes [ew!]. That in itself generates a really visceral horror and a feeling that your actions have had and will continue to have consequences. While other games do a good job of telling emotional stories, this game added the element of agency – that is, you have choices. As a result, when the story goes in emotional directions, you feel really invested and sometimes, personally responsible for what happens. That combined with the sensory information you are given makes for a really potent effect – when I saw one of my crew members in this pod and started to hear

some kind of whirring machinery beneath her, saw a splash of blood across the pod, saw her eyes widen and dart around, I panicked with her. I think the game could have done a better job at setting you up for different emotions in different parts in terms of that sensory information, but the structure of the game's plot really enriches what is there. (P38, *Mass Effect 2*)

A big part of why I think the sequence was so intense for me was the buildup with the different characters. With some of them, you've had no real interaction. Others, however, have been your companions. You've come to have them aboard by completing missions to get them, you've likely had multiple choice-filled conversations to gain their trust [or potentially lose it]. You've probably developed some favorites, depending on your personal preferences, but you aren't really told which ones to like by the narrative. By the time this situation came about in my first play-through, I was none too keen on losing anyone. Another thing is the way that the game handled the idea of an urgent situation. The way that you couldn't complete other missions without sacrificing time was an unexpected mechanism. It was subtler than a big timer across the screen but still made the relief when I successfully completed the rescue that much more extreme. It was much more like real life when there are deadlines, priorities, and opportunities get missed. (P38, *Mass Effect 2*)

Achievement

Upon entering the final area of the game in question, you are confronted with the last boss – a fellow companion that has helped you throughout your whole adventure and now wishes to release you from your suffering. Hauntingly beautiful music starts playing, and you realize that you actually have to defeat your old mentor. I felt kind of sad that I had to fight my friend, but at the same time he looked so badass that I really enjoyed fighting him. (P92, *Bloodborne*)

I thought the fight was very appropriate. It wasn't your typical final boss fight where everything has to be as epic as possible, but rather it was calm, sad and in a

very beautiful area with moving music. The feelings were caused by the atmosphere, music, culmination of story progression, and the realization that you have become strong enough to take on everyone – including your former mentor. (P92, *Bloodborne*)

Atmosphere

I played Subnautica for the first time, it's a game all about diving and exploring. As I was playing, I decided to find the parts to build myself a Seamoth [little submarine] to go explore further. I thought, this will be pretty cool, but as I got closer and closer to finishing the submarine I got more and more excited. I finally finished the ship, and I could not wait to go further into the depths of the water of that game. I hopped in the Seamoth and drove down to around 70m. It was a small cave with some plants here and there, but there was plenty of wildlife to be seen. It put a big smile on my face when I looked around and saw living creatures, only because I've always wanted to go diving. I turned off the music so I could listen to the actual sounds, and that's when the game really grabbed me. I could hear what sounded like whale sounds, far far away. Then, there would be closer, brittle noises. I felt like I was really in the ocean, hearing all the noises ring throughout, and that was what really made me attached to the game, it was that experience. (P59, *Subnautica*)

My feelings in this experience came from the fact that I've never been diving or in the ocean, but really would like to. I anticipated a similar experience in SubNautica, and when the sounds in the game were presented, I was truly amazed by it. Even though I might not get the chance to go diving, this game gives me a fun idea of what it might be like [however, it is on another planet]. (P59, *Subnautica*)

Self Ideal

One of the most powerful emotional experiences I have ever had while playing a digital game was when I finished Little Inferno. I remember the sudden realization of the message the game tried to convey through the gameplay and story, and how the message directly comments the very nature of someone who plays video games. Upon this realization, I immediately felt humility and a kind of sadness, while somewhat still finding closure by completing the game. (P74, *Little Inferno*)

The message I had found in the game was the futility in wasting time playing video games when more pressing matters are at hand; in a broader sense, not to let the time you have slip away. The game's cute aesthetic and endearing music contrasted underlying themes of consumerism and addiction in such a way that really had a lasting effect on me. Especially in the ending in which you break away from the repetitive cycle of buying things, burning them, and buying more after your house burns down and you are left without knowing what to do. The little space you had been so intently focused on throughout the game is gone and you now see there are things beyond home to discover. As someone who plays quite a lot of video games, in place of normal entertainment like television and movies, this really made me look at myself and see that I needed to focus on the bigger picture in my own life for a change. To find out where I am going with my life and if my current lifestyle is one that I genuinely enjoy. It was a very personal moment brought on by only a couple of hours of playing a game that had a thoughtful story and message. (P74, *Little Inferno*)