"Whatever the Emotional Experience, It's Up to Them": Insights from Designers of Emotionally Impactful Games

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ABSTRACT

Emotionally impactful game experiences have garnered increasing interest within HCI games research. Yet the perspectives of designers have, to date, remained largely overlooked. We interviewed 14 indie game designers regarding their values and practices in designing emotionally impactful games. Counter to the focus of recent player experience (PX) studies, we find that while designers typically have a clear vision for the intended emotional impact, they aim for their games to provide a space for players to have their own personal experiences and interpretations. Despite this player-centric orientation, players were rarely involved before and during the production to evaluate the emotional experience. Based on these findings, we identify gaps between design practice and PX research, raise open questions around the design and evaluation of emotionally impactful game experiences, and outline opportunities for HCI games research to more productively support game designers.

CCS CONCEPTS

• **Human-centered computing** → **Empirical studies in HCI**; *User studies*; • **Applied computing** → **Computer games**.

KEYWORDS

Emotional challenge; game designer; design practice; agency; emotionally impactful games; emotion; player experience; video games

ACM Reference Format:
Alena Denisova, Julia Ayumi Bopp, Thuy Duong Nguyen, and Elisa D. Mekler. 2021. "Whatever the Emotional Experience, It's Up to Them": Insights from Designers of Emotionally Impactful Games. In *CHI Conference on Human Factors in Computing Systems (CHI '21), May 8–13, 2021, Yokohama, Japan.* ACM, New York, NY, USA, 9 pages. https://doi.org/10.1145/3411764.3445286

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CHI '21, May 8–13, 2021, Yokohama, Japan
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ACM ISBN 978-1-4503-8096-6/21/05…$15.00
https://doi.org/10.1145/3411764.3445286

1 INTRODUCTION

In recent years, interest in emotionally impactful player experiences – i.e. video games that have a profound emotional impact on the player in the form of complex, mixed-affect experiences, – has grown in HCI games research. Existing work has looked at player experiences ranging from emotionally challenging [8, 16, 20] and discomforting experiences [13, 28] to emotionally moving moments [6]. Others have addressed how games afford emotional [33] and deep [51] experiences, and developed ideation tools to facilitate the design for such experiences [49].

However, current literature on game design practice has been maligned for dealing with emotional responses and other more nuanced player experiences only indirectly, without clearly expressing how designers should cater for specific player experiences [49]. And so, we presently lack an understanding of how designers of such games approach and perceive their work.

Understanding designers' professional practices is crucial to developing theories [27] and tools [56, 57] that support the design and evaluation of games with rich emotional content. Insights into the values and perspectives of designers who engage with emotionally impactful games are necessary to inform player experience (PX) research about how these emotional experiences are designed for in practice. Ultimately, this knowledge may help identify and, eventually, bridge the gap between research and practice [27, 56, 57].

To gain these insights, we interviewed 14 indie game industry professionals (individuals or smaller development teams working on games without the financial and technical support of a large game publisher [22]) who had worked on commercially-released games known for their emotional impact. The contributions of our work are twofold:

(1) We describe the values and design practices of practitioners who create emotionally impactful games. Our findings demonstrate that, while typically having a clear vision for emotional impact, the designers also aim to provide space within the game for players to shape their own personal and individual experiences. While the creation of the game setting is based almost entirely on the designers' vision, the emotional fine-tuning of the game involving target players is typically conducted at late stages of the development process.

(2) Based on these findings, we identify and describe gaps between design practices and PX research of emotionally impactful games. We highlight avenues for future PX research, raise open questions around design and evaluation of such experiences, and highlight opportunities for HCI games research to more effectively support game designers.

2 RELATED WORK

Historically, games have been, and still largely are, associated with entertainment, and so PX research has mostly focused on fun and enjoyment as the desired player experiences [44]. However, video games are a diverse medium that allows for a range of nuanced and subtle experiences besides fun – video games may also afford profound emotional experiences [33, 37, 42]. Over the past few years, emotional player experiences have received increasing attention within PX research, addressing topics such as emotionally moving [6] and emotionally challenging moments [8, 20, 48], discomforting experiences [13, 28], and emotional attachment to game characters [7]. These works [6–8, 28, 48] are particularly concerned with the specific emotions players feel (or at least report feeling) while playing, ranging from awe and respect to sadness, regret, and disgust. Many players report enjoying and appreciating these emotional experiences, in some cases, precisely because of the intense emotional and thought-provoking responses they afford [6, 28]. These studies also identified specific game aspects that afford these emotional experiences. For instance, players confronted with difficult themes reported feeling angry, sad, lost, lonely and helpless [8, 28]. Playing a game character who embodies virtue players aspire themselves evoked awe, admiration and respect [7]. Moreover, in their analysis of professional game reviews, Cole et al. [16] found that emotionally challenging experiences are afforded through simple gameplay, as players need to free their minds to experience a wider range of emotions other than the frustration/fiero cycle evoked by complex mechanics and controls.

Others stressed the importance of addressing emotional theories in games research. Kivikangas [37], for instance, suggested to employ constructionist theories and appraisal theories to understanding complex emotional player experiences: constructionist theories expect each emotional episode (e.g., of happiness) to be uniquely constructed by categorizing the bodily and environmental sensations based on past experiences (e.g., comparing to similar past experiences of happiness; [3]). In appraisal theories, on the other hand, specific emotion is evoked as a result of evaluating the situation according to appraisal dimensions (e.g., goal conduciveness, novelty; [46]). However, due to difficult applicability, emotional theories have, so far, not been widely used in games research [37].

Other researchers have started addressing how games provide, not necessarily emotional, but impactful and personal experiences. In a recent study, Cole and Gillies [17] suggested that games providing only a minimal outline of the story involve interpretive fictional agency, which encourages players to build their own understanding of the story and foster personally nuanced interpretation. Similarly, focusing on deep games, Rusch [51] discussed how cultivating vagueness with regards to, for example, the game's goal can inspire players to contemplate their own meaning of the game. Relatedly, interpretive challenge was described as an experience that demands players to use contextual information from outside the game world to be able to successfully interpret the game and its narrative [2].

Compared to the number of studies focusing on emotionally impactful player experiences introduced above, relatively little work has addressed game design of such experiences. Isbister [32, 32] discussed how specific game aspects, such as powerful character design, afford emotional experiences in general. Addressing the design of meaningful games, Rusch [51] offered design exercises with an aim to inspire the reader to conceptualise ideas for 'deep' games. While these books introduce game design implications, they offer little insights into how designers approach the creation of emotionally impactful games.

To promote design thinking in terms of emotional experiences, only a few games scholars have addressed design tools and techniques. Focusing on the feelings of grief and bereavement, Harrer [30, 31] reports on the design processes of a game and the involvement of bereaved mothers from the start of the design project to ensure the accurate representation of these experiences. Nevertheless, the focus of this work is limited to a highly specific emotional experience and audience. To support game designers in the ideation for more diverse emotional experiences, Portelli and Khaled [49] developed a tool to promote the use of player experience theories in design. When evaluating their tool, however, the researchers found that their participants struggled with designing for specific emotional experiences and were more concerned with fun and 'worthwhile' experiences. However, whether the designers taking part in Portelli and Khaled's study [49] were involved in creating emotionally impactful games outside of the study remained unclear.

Interviewing game designers about their personal and professional experiences is a well-established approach in HCI games research. Indeed, understanding industry professionals' perspectives and practices is essential to identifying whether a gap between research and practice exists [27] and, if it does, to narrow the gap by developing theories [27] and tools [56, 57] that resonate with both sides. The expert domain interviews with game designers have created manifold, varying insights for design and research. These range from personal values [19], lived experiences [36], success criteria [15, 52] and design challenges [15, 35, 49] that practitioners face in the process of creating their games to the common approaches to designing and testing their games which are synthesised into guidelines and recommendations [34, 55]. How designers incorporate player experiences [29] and involve players in the design processes [5, 35] have also provided helpful insights into the challenges the designers face when having to think beyond their own perspectives.

Despite the wide range of work done to address the creative processes of different game genres and styles, the perspectives of designers engaging with emotionally impactful games have been, so far, largely overlooked. While the existence of a research-practice gap was stressed in the context of games for learning [34] and games for health [15], whether such a gap exists in emotionally impactful games is yet unclear. Hence, in this paper, we aim to gather insights from the domain experts with the view to detail a design space from the perspective of lived experiences and practices.

3 METHOD

To investigate the indie game industry perspectives on emotionally impactful player experiences, we conducted semi-structured interviews with professional game designers who have been involved in creating emotionally impactful games. In our interviews, we used the following questions to guide the conversation with the designers:

(1) What are the motivations of game designers who create emotionally impactful video games?
(2) What experiences do game designers want their players to have?
(3) How do game designers create experiences that challenge their players on the emotional level?
(4) What challenges do game designers face when working on these games?

3.1 Participants

We approached video games designers who have worked on games that are known for encouraging or affording emotionally impactful experiences. The inclusion criterion was that the participants have previously or are currently working on at least one game that involved prominent emotional aspects. Potential titles were chosen from a diverse pool of styles and genres based on the authors' personal experiences with the game, critics' and players' reviews, or video games discussed in previous literature on emotional challenge [8, 16, 17]. Participants were approached through personal inquiries, via game developer communities, and referrals from other participants. In addition to the inclusion of a range of emotional games, we also aimed to include perspectives from a diverse sample of participants from different cultural backgrounds, genders, ages, and experiences. Based on these criteria, we contacted 39 game designers (a list available in the supplementary material).

Fourteen out of the 39 designers we initially approached took part in the interviews. These industry professionals were game designers amongst other roles, directly involved in and responsible for the creative process of making games. The breakdown of the backgrounds of interviewees and the games they worked on is provided in Table 1.

We decided to stop recruiting after 14 interviews, as this was deemed sufficient to address our research question given the richness of the interview data and the specificity of our participant sample [11, 41],

3.2 Procedure

An interview guide was created with the main questions to be asked to set up a general structure. Each participant was provided with a consent form before the interview.

The interviews began with a brief about the research project, followed by the questions about the participant's motivations to create the game in question, the potential inspiration for the idea, and a discussion of the intended experiences or feelings that the designers aimed to evoke in their players. This lead up to the discussion of the approaches they took to deliver the idea to the players and the practices they followed to evoke the feelings and experiences intended. The third part of the interview was about challenge: we asked designers whether they considered their game as challenging, and what the main challenges were for their players in the game. The interview concluded with a discussion about the suitability of the medium for delivering the aforementioned ideas and experiences to the audience.

To accommodate our participants' busy schedules, we conducted the interviews based on their preference – via text chat, email correspondence or video conferencing software. Specifically, we conducted 5 interviews via video conference apps (done and transcribed by the first author), 7 via email (first author), and 2 via an instant messenger (third author). All interviews lasted approximately one hour. Overall, we collected approximately 40,000 words of content.

3.3 Thematic Analysis

We analysed the collected interview data using reflexive, inductive Thematic Analysis as outlined by Braun and Clarke [10, 12]. The flexibility of the method allows for an in-depth exploration of the data to identify patterns. As we were interested in *the values and practices of designers of emotionally impactful games*, the entire data set was analysed. Following Braun and Clarke's [12] approach, only one analyst (the second author) was involved, and the themes were developed after analysing the data thoroughly.

First, the second author carefully read the complete interview data multiple times to familiarise themselves with the data. During the reading sessions, initial observations and ideas were noted using ATLAS.ti [26], which resulted in the generation of 115 initial codes. Sentences formed the smallest coding units, and multiple codes could be assigned to a coding unit. Codes were developed regarding both the semantic content (i.e., what participants said) as well as on a latent level (i.e., participants' assumption underlining the semantic content). Next, the initial codes were collated and examined regarding their relationships to identify potential themes. The second author then sketched a first thematic map consisting of six candidate themes and 25 sub-themes.

Finally, candidate themes were reviewed to refine, redefine and reorganise the themes and sub-themes in successive discussions among the authors. This phase was repeated until we identified the final themes that represented the data satisfyingly. Candidate themes that lacked support from the data were put aside (e.g., "Central role of intended feelings during development", "Developers' understanding of challenge"). Some themes were re-evaluated and merged to create a new theme, as the codes had intertwining themes (e.g., "What the game should do to players" merged with "When do developers set a vision of emotions" to "Impact players on a personal level"). The thematic maps and a list of initial codes, as well as transcripts of participants we obtained consent for, are provided in the supplementary material. The Thematic Analysis resulted in three final themes identified: (1) Design Vision: Impact Players on a Personal Level; (2) Gameplay: Creating Room for Experience; and (3) Experiential Fine-Tuning.

4 RESULTS

In the following, we introduce the themes accompanied by illustrative quotes presented between quotation marks. Note that quotes from text-based responses are kept in the original spelling.

Name	Games Studio	Role	Game	Interview
Steve Gaynor	Fullbright Studios	Manager, Game Designer, Programmer, Writer	Gone Home [63]	Video chat
Adrian Tingstad Husby	Krillbite Studio	Game Designer	Among the Sleep [66]	Email
Anselm Pyta	Studio Seufz	Director, Game Designer, Artist	The Longing [67]	Email
Chella Ramanan	3-Fold Games	Co-founder, Writer, Narrative designer	Before I Forget [59]	Video chat
Marc Harpin	Worthing & Moncrieff	Developer, Writer, Art director	Austen Translation [71]	Email
Ian Dallas	Giant Sparrow	Creative Director, Programmer, Designer, Writer	What Remains of Edith Finch [64]	Video chat
Clemens Scott	Broken Rules	Creative Director, Art Director	Old Man's Journey [60]	Video chat
George Rowe	Aardmann	Senior Producer	11-11 Memories Retold [61]	Email
James Earl Cox III		Game Designer	Temporality [65]	Email
Florencia Minuzzi	Tea-Powered Games	Writer, Co-Director	Dialogue: A Writer's Story [69]; Elemental Flow [68]	Email, instant messenger
Rex Crowle	Foam Sword	Game Designer, Artist, Writer	Knights & Bikes [62]	Email
Dan Salvato	Team Salvato	Creative Director	Doki Doki Literature Club [70]	Email
Destina Connor	Tea-Powered Games	Game Designer, Co-Director, Programmer	Dialogue: A Writer's Story [69]; Elemental Flow [68]	Email, instant messenger
Claire Morwood	3-Fold Games	Co-founder, Programmer, Artist	Before I Forget [59]	Video chat

Table 1: Full names of interview participants, the game studios they work at, their role(s), the name(s) of video games they had worked on and were interviewed about, and the interview format(s). Information printed with participants' permission.

4.1 Design Vision: Impact Players on a Personal Level

Designers professed to aspire an experience that is, in one way or another, impactful and personal to players. The majority of the designers stated a clear vision for the feelings they intended to evoke, ranging from *"an experience of utter loneliness"* (The Longing) and *"feel[ing] disturbed"* (Doki Doki Literature Club) to feeling empathy for the game characters. Others emphasised their desire to make players think about a specific topic or to convey a specific message: *"different kinds of experiences are meaningful to different people, and that we shouldn't judge people for what is meaningful to them"* (Doki Doki Literature Club). However, not all designers held a clear vision for the impact, stating that they wanted to afford *"experiences that leave the player with something to think about once they've finished playing"* (Temporality), without specifying what "something" might be. Another designer commented that they deliberately do not target any specific emotions, instead, they seek *"to put [the player] into a situation that forces them to be more conscious than they would be in a normal life experience. And whatever that emotional experience is for them, it's sort of up to them"* (What Remains of Edith Finch).

Interestingly, while the designers had a more or less clear vision for the experiences they were hoping for players to have, several designers highlighted that they appreciate when players report experiences other than the ones originally intended by them:

> *"It's still the absolute best feeling when someone who has played the game describes their positive experiences to us, because that's the only way I ever really know. Even if it was not the specific feelings I intended, it feels good, because these things are nuanced, complicated, and once I put something out there, it's kind of nice to see other people's interpretations, because it enriches my perspective"* (Dialogue: A Writer's Story and Elemental Flow, Destina).

To encourage players to arrive at their own conclusions, some designers provided an ending that is

> *"purposefully vague and different people have different interpretations about what happens. We had a review recently where they sort of summarise...well, sort of, not exactly what happens about the ending... And I was like 'Oh, I didn't think that anyone would have that kind of interpretation'. The point is that it's supposed to be – you make your own interpretation"* (Before I Forget, Claire).

This designer further added that the game *"is not supposed to be an educational game, and so it doesn't matter necessarily that the players always understand the things that are going on"* (Before I Forget, Claire).

To further settle their envisioned experience, designers took different approaches. A few participants reported to have conducted background research, including search on the internet and other media, and in a few cases interviewing people they knew *"about their lived experiences"* (Gone Home) when unable to draw from their own experiences. Others mapped out *"the emotional flow of*

each level" (11-11 Memories Retold) in the beginning of the design process or created a spreadsheet with *"each major point in the game and then next to it would be the broad emotion that was supposed to be felt, and the intensity level as well"* (Before I Forget, Claire). Interestingly, the experience of the player and the feelings expressed by the character were not *"always in the same place. Sunita might have a happy thought but we may feel sad about it because we know something that she doesn't"* (Before I Forget, Chella).

4.2 Gameplay: Creating Room for Experience

This theme refers to the designers setting the stage (in this case, the game) for the intended experiences, where their role was to provide a context and to consider *"how do we create an interesting setting but then not let things get ruined for the player?"* (What remains of Edith Finch). One aspect of this stage setting was to deliberately include both emotionally negative and positive moments in the game: *"we needed lighter moments of triumph and joviality in the story, as well as the sadder moments, as it's hard to truly appreciate one without the other"* (11-11 Memories Retold).

Another aspect that the designers considered was how a specific mechanic might influence and potentially undermine the intended experience. For instance, if audio diaries were the main source of the narrative and finding them was the central activity in Gone Home,

> *"then that would really quickly devolve into the just like a "find the cassette tapes" game. And we wanted the game to be about finding everything and having interest in this little scrap of paper that is behind the desk or the figurine that is on the table that says something about what this character cared about, and not just, you know, digging through everything, looking for the thing that will give you the next piece of the story."*.

Hence, to avoid that, the focus on the audio diaries was made peripheral, leaving the player with a sense of *"surprise when you find them, as opposed to a thing that you are explicitly looking for"* (Gone Home). Conversely, to examine whether something was distracting the player from the envisioned experience, some designers used a non-interactive setting, and observe what catches their attention, for example, presenting the player with *"a table, and there is a microscope, and a knife, and a chipmunk on a table. Where does your eye go? What do you think about that possibility space?"* (What Remains of Edith Finch). Then, based on the player's feedback, the designers evaluated whether that aligns with their intention:

> *"[...]hopefully, those things align with what I wanted. But sometimes, from the very beginning, people are really attracted to the chipmunk, and so the chipmunk becomes the focus or we need to get rid of the chipmunk and change it to something else. I guess I look for confirmation about the overall scale of these things and make sure that nothing is overturning the experience and ruining whatever is also there."* (What Remains of Edith Finch).

Creating room for experience sometimes meant *"to give players plenty of space within the game to play-around with each other, and not just feel like they were being marched through a story that they had no control over"* (Knights & Bikes). Others left room for players to encourage individual experiences by letting players piece together information by themselves and build up conflict in their head (rather than explicitly presenting it in the game) to create room for individual interpretation. For instance, Among the Sleep tries *"to role-play along with the players – using sound cues, moving visuals, subtle unnerving atmospheres. Leaving room for the player to fill in the blanks and making their own imagination an obstacle also fit nicely with the themes and a child's perspective"*.

Despite this openness to interpretation being seen as important by the designers, making sure that the players still understood the narrative was equally as essential to their experience. To evaluate this, the developers of Old Man's Journey, for instance, asked their play testers to *"look at the picture [from the game] and talk about what they are seeing. And after they were done, we would let them retell the story of what happened, just to see if people actually understood what the story was about"* (Old Man's Journey).

Deliberately removing or lowering the gameplay difficulty was another frequently employed approach, so players can *"spend their energy solely focused on their internal thoughts and feelings"* (Temporality). Accordingly, designers' attention was primarily spent on *"removing that frustration and decreasing the overall cognitive load"* (What Remains of Edith Finch). Nevertheless, designers by no means intended to remove player interaction completely. Just watching a let's play video of What Remains of Edith Finch *"feels greatly diminished. [...]my hope would be that everything we do is something that only really makes sense as a video game. And that's certainly the original design of everything — how do we make something that the players are interactively exploring"*. Players actively experiencing the game first hand was paramount for the experience to be more impactful, to enhance the felt emotions, and encourage empathy: *"I think having an interactive experience means that players can experience that same frustration because, especially, they are used to being so powerful"* (Before I Forget, Chella). This was especially the case when a game evoked the feelings through mechanics, as having no player interaction would *"not capture certain feelings the player would have – choosing what to say under the time limit, equipping different focuses and learning their uses"* (Dialogue: A Writer's Story, Florencia). Making the gameplay mechanics a crucial part of the emotional experience, these games often included a more conventional way of challenging players. Nevertheless, overcoming these challenges was not necessarily the core appeal of these games, as the designer of Austen Translation pointed out: *"lots of play styles are viable, if the player isn't bent on 'winning'. And Austen Translation is an experience where winning isn't the only reward"*.

4.3 Experiential Fine-tuning

Player experience plays a significant role in the development of emotionally impactful games with the designers shaping and attending to the intended experiences throughout the whole process. Designers emphasised the importance of playtesting, although some considerations and caution were called for when collecting feedback on *emotional* experiences in the early phases of design process, with one designer in particular stating that they generally *"don't listen to the feedback, especially early on, because I don't really know what I want."* (What Remains of Edith Finch). Early prototypes also typically differ from the end product, and, as such, the experiences

of players can change accordingly: *"But it's hard to listen to any kind of subjective feedback, like "I like this" or "I don't like this" because early on there is not enough there for the people to really respond to. And the stuff that's there is also crude, and so there are a lot of false positives for things that people think of as bad or good."* (What Remains of Edith Finch). Hence, when testing parts of the game, like the gameplay or story, early on *"it was mainly about testing if people were able to understand what was happening. [...] The emotional involvement at that point was not as important because we knew that with what we have right now, we can't really gain that information"* (Old Man's Journey). When making design decisions regarding emotional experiences during the production, designers often relied on their intuition and personal experiences.

Emotional experiences were generally evaluated with players only upon the completion of the entire game or at least a fleshed out prototype thereof. Observing players (e.g., at game conventions) was a common approach used to assess whether the intended feelings were evoked. Some designers stressed that *"During the actual development of the game it's much harder to know if you are going in the right direction. [...] So it's important to try and put your unfinished game into the hands of others and learn from watching them play, and possibly informally interviewing them about the experience afterwards"* (Knights & Bikes). Designers called for using the feedback from playtesting in the follow-up game iterations:

> *"[...]we pulled out a lot of the references and we ended up making that actually very light: with the flowers, musical background, you know, this sort of joyful poetic quality to prevent what was there from overwhelming people. Because we found that, with certain playtesters, there was just too much there for them to really absorb and that we didn't need very much – we just kind of set up the context and let them create a lot of it in their own heads"* (What Remains of Edith Finch).

Only one designer mentioned using in-depth interviews and questionnaires to directly ask players about their emotions by including *"questions such as rating how scary they found it, what they understood and not etcetera."* (Among the Sleep). They further remarked that while *"fear is very easy to test"*, other experiences *"like how 'mysterious' something seems"* to the player of Among the Sleep are much more challenging to assess. Emotional fine-tuning was particularly difficult for participants when no similar games existed to compare to and *"to give comfort as to what would be the right balancing of the players patience and so forth "* (The Longing). In these cases, the designers often *"playtested by myself on holidays and on weekends, in a different environment than where I usually work"* (The Longing).

5 DISCUSSION

Despite the increasing interest in researching players' experiences of emotionally impactful games in recent years, the perspectives of *designers* of such games have been largely overlooked. To address this gap, we interviewed 14 indie game professionals about their design values and practices. Our findings demonstrate that designers of emotionally impactful games typically have a clear vision for the emotional experiences they intend to evoke, but their design approaches allow for unique personal experiences and interpretations from their players. They also emphasise the importance of players actively interacting with the game and experiencing it first hand to be creating a deep connection with the game. Despite this player-centric orientation of the final envisioned experience, players were rarely involved during the early stages of the design and development regarding the emotional experiences. We have showed that designers are interested in aspects other than what PX research is currently focusing on, indicating an existing research-practice gap. In the following, we elaborate on the gaps identified, discuss implications and open questions PX research may pursue in future, and outline opportunities for HCI games research to productively support designers of such games.

Recent PX studies on emotional experiences [6–8, 28] typically focus on what specific emotions players experience and discuss design implications of the addressed emotional experiences[1] (e.g., which game aspect may evoke a specific emotion). In the analysis of our interview data, we observed that this focus of PX research on how these specific emotions are created diverges from the perspectives of the designers that indicate that they often leave these experiences and interpretations to the player. To align with the designers' focus, future PX research ought to address players' unique interpretations of the games and how they affect players' emotional experiences. Our findings related to players filling in the gaps in the story and creating their own interpretations of the game resemble the notion of interpretive fictional agency [17] and interpretive challenge [2], both of which have so far received scant attention in PX research. Hence, empirically exploring how players experience interpretive challenge and fictional interpretive agency may be an interesting avenue for future work.

Moreover, ambiguity was argued to be key to interpretive [2] and emotional challenge [16], and beyond games, it was introduced as an design opportunity that foster open interpretation of interactive design in HCI [25, 54]. Ambiguity "is not uncertainty, but certainty – the certainty of many, equally plausible interpretations" [58, p.175]. While uncertainty in games – as the experience that arises from not knowing or being unsure about certain details in the game – has received much attention [1, 18, 39, 50], ambiguity is rarely discussed in PX research. Addressing the role of ambiguity may, hence, expand our understanding of interpretative experiences players may have in games.

Another interesting avenue for future PX work is concerned with the role of player-related factors in game design. Beyond games, studies have found that viewers' needs for cognition (whether one tends to engage in or enjoy thinking [14]) and needs for affect (motivation to approach or avoid emotion [40]) influence the emotional and eudaimonic film experiences [4, 47]. Additionally, psychological research suggests that some people desire a firm answer to a question (need for closure [38]), whereas others may be attracted more to ambiguity (ambiguity tolerance [43]). These individual differences may further enrich our understanding of emotional and interpretive player experiences.

The conflict between complex mechanics and emotionally challenging experiences was researched in recent PX studies [16, 48]. Both papers, however, suggest that the two experiences are not

[1] Although, it should be noted that this seems frequently to be expected and demanded by the HCI games community.

mutually exclusive. Our findings provide further evidence to the argument that simple gameplay mechanics are not always indicative of emotionally impactful games. While removing complex gameplay aspects is a common practice to steer players' focus towards specific feelings and thoughts, designers can and sometimes do deliberately integrate gameplay mechanics with the envisioned emotional experience. This indicates that gameplay difficulty and emotional experiences may be in a more granular, multi-dimensional relationship, rather than a strict dichotomy. This stresses the need for PX research to explore the interplay between these game aspects in a more nuanced way.

Designers emphasised the importance of player experience both for the creation of the game as well as a means of evaluating the success of the game. Yet, they rarely involved players before or during the early design and development phases regarding the emotional experiences. Some explicitly stated being reluctant towards gathering feedback on emotional experiences from players, especially, early on, reasoning that (1) the designer may not have a clear vision for emotional experiences at that stage, and (2) the look and feel of the game, as well as having the gameplay and narrative integrated to a whole experience, were essential to appropriately evaluating players' emotional experiences. We echo insights from Portelli and Khaled [49] in that this approach may not necessarily be unsound or in need of change, but that there is a disconnect here between our participants' values and their design practices, highlighting the unique challenges these designers are facing when evaluating emotionally impactful games. Hence, we see here an opportunity for HCI games research to support designers by engaging with the question of how designers may evaluate whether the afforded emotional experiences align with what they have envisioned using an early prototype without the perfect looks and feels implemented. A possible starting point may lie in the techniques mentioned by our participants using pictures and non-interactive versions of the game, to adapt and refine them to focus on the emotional experiences. To further investigate the evaluation of emotionally impactful games, we may need to look into how narratives are evaluated, as it has been suggested that they can be difficult to evaluate early on and out of the context [9].

While none of the participants mentioned emotion theories, they have potentials to inform evaluation of emotionally impactful player experience, such as by identifying appraisal patterns of players' experience. For instance, when the designers are keen on providing an interesting and surprising experience (i.e., What Remains of Edith Fintch), assessing the degree of novelty may be effective as it was suggested to determine the amount of attention one devotes to an event [53]. The validated questionnaire [53] may be beneficial for both researchers and designers. Emotion theories, such as the basic emotions and appraisal theories, were also suggested to inform game design [21], for instance by starting with a well known theme to the players (i.e., high familiarity) and then to switch the action and the story to unexpected direction (i.e., suddenness, high novelty).

Several participants stated to draw out the emotional trajectory of the game in the early production phase using applications, such as spreadsheets. While not explicitly stated as a challenge, developing 'tools for thinking' [56] that support envisioning and tailoring the emotional trajectory may be beneficial to both designers and researchers. Another aspect the designers were particularly interested in was whether the game leaves enough space for players to have a personal experience and interpretation. While several works have addressed the openness of interpretation in games [2, 17, 51], a tool to assess such experience has not yet been developed. A potential way to evaluate the space of interpretation may be to analyse the levels and topics of reflection, along the lines of Mekler et al.'s study [45]. If players report cycles of questioning, hypothesising and interpretation, as well as consider relationships between instances and alternative explanations – indicative of dialogical reflection [23, 24] – then, the game arguably provides enough space for unique interpretations. In contrast, if they only provide descriptive response [23, 24] of the game, this may indicate a limited opportunity for interpretation. While this approach provides a promising starting point, it demands good analytical skills and would be time-consuming for developers. An adaptation to fit the designers' convenience would, therefore, be beneficial.

5.1 Limitations and Future Work

We interviewed indie game designers working independently or in small teams, who often played multiple roles in the creative process alongside being a designer. Hence, our findings may not be representative of the experiences and values of the designers working in big studios where envisioning and development is influenced by several parties [29]. For instance, our interviewees tested gameplay aspects informally, either themselves or with their friends and colleagues, but evaluated the emotional experiences with their players at later stages in the development. In contrast, in larger teams, the roles tend to be more specialised, so designers might not be involved in the game evaluation as both aspects might be tested near to the game's completion, often by UX researcher(s). Future work may explore how designers of triple-A games that are considered emotionally impactful approach and engage with their work. Further, we aimed to synthesise and present a range of unique perspectives and experiences gathered from diverse participants. While, we did not focus explicitly on how one's background affected their perspectives, it would be a compelling future study.

In the interviews, all but one game have already been published. As such, designers shared their retrospective views of their vision and past experiences of creating these games. However, retrospective reports do not reflect small ambiguities faced during the production phase [36] and so, these insights may differ from day-to-day experiences of, for instance, design tool usage [57]. Future work, therefore, could focus on a longitudinal study following the project from idea inception to publishing or, alternatively, explicitly focus on design practice of work-in-progress projects [36].

Lastly, our findings showcase that while addressing similar gameplay aspects and experiences (e.g., interpretive challenge), researchers and designers do not share a common vocabulary. Developing shared language and concepts will be another step to narrowing the research-practise gap in future [27].

6 CONCLUSION

Video games afford emotionally impactful experiences. Accordingly, PX research is increasingly interested in how players experience emotionally impactful games. Despite that, research into how game

designers create and curate these emotional experiences remains peripheral and largely overlooked. To address this gap, we interviewed 14 indie game designers of recent, critically-acclaimed games about their values and practices. Employing thematic analysis approach, we identified the following themes: The designers typically have a clear vision of emotional impact they seek for players, but at the same time, they aim to provide space for unique and personal experiences and interpretation. They also emphasise the importance of players' active interaction with the game for such experiences. Nevertheless, player feedback on emotional experience was rarely gathered in the beginning and during the early stages of development. Describing the designers' practices and values, we identify an existing PX research-practice gap with regards to emotionally impactful games. On the one hand, this opens up new avenues for future work and highlights topics that garnered little attention in the existing PX research. On the other hand, we also outline how research may in turn support designers more effectively, as such, extending the current HCI games research agenda.

ACKNOWLEDGMENTS

We would like to thank all our participants for their time and valuable insights. This work was approved by the Institutional Review Board of the Mathematics & Engineering Research Ethics Committee, City, University of London (reference number ETH1920-0154).

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