“Slow down and look”: Desirable aspects of failure in video games, from the perspective of players.

Charline Foch

University of York, cjsf500@york.ac.uk

Ben Kirman

University of York, ben.kirman@york.ac.uk

Failure, or the possibility of it, is a key component of a lot of video games. Yet, as of now, research has mostly focused on the learning benefits of failure within game systems: little research has attempted to understand the qualities of failure that video games players focus on during and after their gameplay experiences, or what their personal relationship with failure is. Because research has highlighted the positive aspects of failure through the lens of psychology and education, the current project seeks to explore players’ perspectives in more depth: what do video games players perceive as the benefits of failure? How do they conceptualise a positive gameplay experience where failure is present?

This qualitative study investigates how 244 video game players understand and conceptualise failure, and specifically the added value it brings to their experience. Responses were collected through an online survey, and analysed using reflexive thematic analysis. We propose that there are three major aspects alongside which participants articulate their positive experiences of failure: they perceive it as an opportunity to learn; as an opportunity for meaningful social interactions; and as a deeply affective experience. This understanding of what players value in fail states and failure experiences helps establishing a dialogue between players and game designers, and suggests new avenues of reflection for researchers and designers alike.

CCS CONCEPTS • Applied Computing • Computing in other domains • Personal Computers and PC applications • Computer Games.

Additional Keywords and Phrases: Video games, computer games, digital games, frustration, challenge, human-computer interaction, player experience.

1 INTRODUCTION

Because games are the only entertainment medium entailing the possibility of failing, Jesper Juul was inspired to dub the art of video games ‘the art of failure’ [31]. Both he and art philosopher Aaron Smuts [45] ask themselves, why do we seek painful experiences such as negative emotions and failure as part of our enjoyment of artistic pieces? This question has been addressed in media studies, but why we enjoy failure in video games, or even whether or not we enjoy failure in games, is one that research has not paid as much attention to. The

research centered around failure has not quite yet sought to examine how players themselves understand and qualify their experiences of failure – rather, it has treated failure as something that needs to be acknowledged (and rightly so) in the context of other in-game events (difficulty, challenge, learning processes, feedback loops).

By centering the question on player perspective, we can connect their conception of failure with that of game designers and researchers, and gain a better understanding of player expectations, culture(s) and behaviours towards video games. This is what the current project sets out to do, by means of a qualitative study that seeks to investigate the more qualitative dimensions of failure through player perspective. Player perception of failure is not yet a widely-researched subject area: the purpose of this project therefore, is to identify a set of themes and patterns across the dataset, rather than to construct a theory of failure.

By using a qualitative analysis approach, the current work has sought to identify the ways in which video game players conceive the qualities of failure, and what they perceive as its contributions to a positive gameplay experience. We identified three main areas of interest: failure for learning, failure as a social experience, and failure as an affective experience. The following section is an account of the relevant literature that informed our research, before we present the study and our results.

2 RELATED WORK

Failure and video games are very closely entangled – video games and games in all kinds of flavours being the only medium where one can actively fail (as opposed, for instance, to reading a book, watching a movie, listening to a song, etc). However, despite being a crucial part of many video games, failure remains a largely under-studied area in research.

2.1 Failure in game design

Failure can look and feel very different from one game to the other – is failing to make the right choice in *The Walking Dead* and killing off a beloved character the same thing as getting killed by a boss in *Dark Souls*? Is it possible to fail in the Sims? Jesper Juul's voluntarily broad and flexible definition, stating that failure is 'working toward a goal, either communicated by the game or invented by the player, and the player failing to attain that goal' [31], allows us to cast a broad net across all kinds of genres and gameplays. Additionally, Juul argues that failure in games create a paradox: we tend to avoid failure in our lives, yet seek out activities where failure may occur [31]. Games are a prime example of such contradictory behaviour: Salen and Zimmerman [42] define games as systems of uncertainty: the uncertainty of the outcome is what entices us to play, and very few games exist where the outcome is already known before one even gets to play it. Not knowing how a game will unfold and result in loss or success is part of what gives the act of playing meaning. Similarly, they define games as systems of conflict, in which players struggle to attain a goal, with a chance of not attaining it. In its simplest form, failure is quantifiable: you either complete your goal, or you don't. We should note that fail states are not a necessary aspect in every game: they are, however, an important notion for games that entail some form of challenge. Challenge has more widely been researched, and research largely suggests that challenge makes games engaging [5][6][27][15][2] – some researchers suggest that maintaining the right level of challenge in comparison to the player's skills maintain the player in a sustained state of flow [19][30][34]. Similarly, research has highlighted the importance of having the player bearing the responsibility of the failure, along with its

consequences – something Juul has identified as correlated with more positive appreciation of games [32]. While this lays the ground work to explain why we would choose to engage with games and the possibility of failure, it does not tell us how players conceive or react to failure on a more personal level.

More recent research has started to examine failure more closely as a game mechanism of its own. Aytemiz and Smith [7] have proposed a taxonomy of failure mapped on the six stages of a gameplay loops (decoding output, discovering mechanics, setting goals, planning, execution, encoding output) in order to map out where and when failure can occur during gameplay (whether intentionally designed by the developers or not). Looking more closely at players themselves, Anderson, Campbell and Steinkuehler highlight that player experiences of failure may vary drastically from one game to another, and that while players who seek out challenging games may be more prone to persist in the face of failure in general, more investigation in the qualitative properties of challenge those games is warranted [5]. In a recent paper, Anderson used Cuphead to start identifying those qualities and what Cuphead players identify as failure in the game, regardless of the fail states hardcoded in the game [3].

2.2 Learning through failure

Failure exists in video games, but what are its inherent qualities? Research has traditionally associated failure in video games with learning processes – as an inherent part of the learning loop as players explore and try to learn the game they play. Gee argues that failure in that learning process has the double advantage of providing players with the necessary information to overcome whichever hurdle they face, and the reassurance that they will be able to overcome the difficulty: challenge must be hard, but feel doable, and the feedback to players following their failure must be clear enough for them to internalize the information and move on [25][26]. Recent research has also suggested that the more a player struggles through a game, the more they may actually learn from it, as opposed to easily breezing through the gameplay [4]. Players, of course, are not a single uniform entity: how players approach difficulty in games may vary greatly based on their past experiences and their own dispositions towards challenge and failure, with some people being more prone to approach failure with a positive, constructive mindset and seeing failure as a temporary setback, while others may not feel that way. [1][21]. Further research has sought to examine how failure works on a mechanical level to promote learning, for instance in puzzle games [33] or through the examination of moments of breakdowns and breakthroughs, where players use a strategy of trial and error to determine their best course of progression [28][29]. Failure in video games and how it helps us learn a game might be perceived very differently based on one's own history and predispositions – however little research has been done to examine how failure may be perceived in other areas of the play experience.

2.3 Negative emotions and the pain of losing

In general, as Juul and others have pointed out, failure is not enjoyable experience – failing usually doesn't *feel* good. Yet is has its advantages – if failure was truly unbearable or too frustrating, we would stop playing video games with fail states altogether. While there is research towards the appeal of negative emotional experiences in entertainment and their potential for emotional appraisal [8], and scholars have drawn a distinction between hedonic (pleasure-seeking) and eudaimonic (truth-seeking) experiences and their respective appeals [9], this

does not explain what benefits (if any) or qualities players may perceive to the existence of failure in the games they play. Looking at digital games specifically, Bopp et al have found that players valued the process of experiencing negatively-valenced emotions such as sadness, and that such experiences could happen upon events such as losing a character or experiencing the consequences of one's actions [14]. This offers us a first lead towards an exploration of the possible qualities players may find in failure, as although failure is not the focus of this research, some moments of gameplay reported in such instance of emotional gameplay correlate with moments of failure. Similarly, Wilson and Sicart have explored the potential for abusive game design, whereby game designers, through their games, highlight the confrontational potential of games [47] and the effects of putting players in deliberately very difficult positions – a stance that aligns with the detected potential for meaningful experiences through uncomfortable interactions [10].

2.4 Research question

Based on all the above, we can determine that failure does bring an added value to the experience of video games; what we are lacking, however, are the voices of players expressing how they understand this value, from their perspective, as players, rather than as experts. As such, the question remains: *how do players perceive failure as a positive or desirable aspect of games? What qualities, if any, do they associate with their experiences of failure? What kind of experiences, within and outside the game, do they associate with such experiences?*

3 METHODS

Qualitative survey – design and distribution

In order to find out more about video game players' perception and definitions of failure, we designed an anonymized online survey. An online survey in the context of this research project was the most efficient way to gather the data required for the study: instant access to a number of platforms and communities ensured the survey could reach as many potential participants as possible and be shared more widely. This project aims at drawing an initial landscape of player perceptions of failure: an online survey allowed us to aim wide and effectively gather a variety of opinions and experiences.

As this project seeks to investigate how players define and understand failure themselves, the freedom of interpretation of some of the questions' terms ('failure', or 'positive aspects of failure' for instance), without the researcher's direct intervention to correct possible misunderstandings, does not pose a threat to the quality of the data or analysis – having participants discuss their experiences of failure based on their own understanding of the concept was part of the intended design. The survey consisted of a series of open-ended questions asking participants to share a memorable experience of failure in a video game, before asking them in what aspects does failure contribute to their experience, and what, in their opinion, are the positive qualities of failure in video games. The complete list of questions can be found in Appendix A.

The survey was done in English on Qualtrics and shared on social media. It was first posted on Twitter via the researcher's personal account, using the hashtags #Games and #VideoGames in order to reach player communities, and #AcademicTwitter, #GamesResearch, #HCI, #ComputerScience in order to reach out to

colleagues in academia who may in turn retweet the ad and reach friends, colleagues and students who may have an interest in video games. In order to reach out more to player communities and non-academic participants, we then posted the survey on Reddit: we posted on the subreddit /r/truegaming, a major games-specialised subreddit where moderation allowed surveys to be posted after being reviewed by a moderator, and on /r/SampleSize, which focuses specifically on surveys. Finally, being aware that such platforms had the potential to return a disproportionately large part of male participants, we posted the survey on the Facebook group "Women in Games", where we hoped to boost female participation and improve gender representation in our demographics. The survey and this research project received ethical approval from the Physical Sciences Ethics Committee at the University of York.

Participants

Our targeted demographics were English speakers (native and non-native), over the age of 18. All levels of experience with video games were welcome.

We closed the survey two weeks after its publication. The survey returned a total of 244 usable responses for analysis. Out of the 244 participants, 152 identified as male (62%), 70 identified as female (29%), 10 identified as non-binary (4%), 3 chose the 'Other' option, and 1 preferred not to say. The remaining participants did not answer the optional demographics question. The vast majority of participants were younger, with 127 participants aged 18 to 24 (52%), and 89 participants aged 25-34 (36.5%); and most of them were experienced players, reporting a gaming experience of 10+ years for 207 (85%) of them.

To contextualise this data further, we asked participants to share the titles of their favourite, and their most recently played games. Our participants mentioned a total of 770 individual titles and franchises: *The Elder Scrolls* (1994-2020*)* franchise (in particular *Skyrim*) and *Minecraft* (2011) appeared to be the most cited, closely followed by *Animal Crossing: New Horizons* (2020) and the *Dark Souls* (2009-2020) franchise. Such results suggest that this pool of participants is mostly constituted of PC and console players – mobile-only players were an absent demographic from this study. While the survey was not designed to exclude them, we wanted this survey to reach out to players who we know habitually spend time reflecting on video games, discussing them within their communities and outside of them: their experience across a wider variety of genres and games was a resource we wanted to tap into.

Reflexive Thematic Analysis

Qualitative methods are well-suited to exploring the nuances of people's experience of a given phenomenon, including in HCI [18]. At its core, thematic analysis (TA) is 'a method for identifying themes and patterns of meaning across a dataset in relation to a research question' [17]: it allows the researcher to investigate a dataset and to extract the information relevant to the research question, shape it into themes and patterns, and critically engage with the dataset to create meaning in relation to the research question.

There are various ways to engage with thematic analysis [16]: for this research project, we opted for **reflexive thematic analysis**. In RTA, themes do not emerge: they are created through the concordance of the data and the informed reflection of the researcher through the lens of their knowledge, expertise, and at times, experience of the subject. We, as researchers, are video games player too: the type of player we are, the games we play,

our experience and video games literacy all inform our own understanding of failure in video games. RTA acknowledges this bias and values it as an additional tool of reflection.

After collecting the data, we did a first pass of complete coding [41][16] in NVivo 12. This involved reading through all the responses and assessing each answer to our survey's questions, before coding them based on how participants talked about and conceptualized failure. Because we were examining the data through the lens of video games studies and using RTA, we used both semantic codes ('descriptive' codes that reflect exactly what the participant says in-vivo) and latent codes (more interpretative codes, where prior knowledge of the researcher may feed into the creation of a code, as opposed to the participants' words only) [17]. A second pass of coding was done to hone in on specific instances of failure (failures more specifically tied to narrative, puzzles, boss fights, etc) and determine the qualities participants associated with them. A third pass of complete coding was done to refine our final codes. The first author of this paper did the coding, while the second author reviewed the codes after each pass.

4 RESULTS

After completing the coding and analysis process, we identified three major themes pertaining to the participants' experiences of failure: when players perceived their failure as a learning experience; when players perceived their failure as a social experience; and when players perceived their failure as an affective experience. Each of those three themes entails two of three sub-themes that help in refining this overview of the possible experiences associated with failure. From the researcher or the designer's point of view, it is important to note that those three possible dimensions of experience are not completely separate: based on the participants' responses, they can happen simultaneously, build on each other through gameplay, be interconnected, or lead to one another. They are permeable – their commonality being that failure played a major role in triggering them.

Table 1: Perceived purposes of failure.

Learning	**Social**	**Affective**
Learning about the game (performance, rules, lore…)	*Bonding through failure* (shared with friends, fun, getting closer to others, finding a support community, bonding with characters…)	*Processing emotional experiences* (experiencing strong emotions, positive and negative, embracing and working through one's emotional reactions, self-reflection…)
Tapping into real-life issues (beyond the game, lessons, real-life skills, philosophy…)	*Working together* (handling conflict, teamwork, compromising, toxic behaviours, group dynamics…)	*Appreciating the game* (new perspective, discovering new aspects of a game, new depths and layers of meaning…)
Acting upon oneself (self-reflection, self-awareness, adaptability…)		

When players perceived failure as a learning experience.

Some of our participants framed their experience of failure as one of learning, where failure is part of a broader learning loop or process. This doesn't demonstrate that learning experiences have to come from failure, but that for some players, perceiving failure as a necessary part of the learning experience is a big part of their video game culture and the conventions they are familiar with. Some participants critically reflected on this injunction to performance:

> "[…] I think most of the articles and YouTube videos I've seen are much more into challenge than I am. Most of the time when I'm playing video games, I want to feel like I'm accomplishing something or humor a power fantasy or just experiment. […] Failing in games usually feels like I'm being told I'm not allowed to play the game because I'm not good enough, and I'm not good enough because I haven't played the game". (p233)

Nonetheless, this perceived experience of failure-as-learning can be divided alongside three aspects: learning about the game; tapping into real-life issue; self-development.

Learning about the game: Participants describe their approach to failure as an opportunity to learn about the game as a system. A first type of learning experience relates to performance: players use failure to get feedback on their performance as part of the gameplay loop and progression path towards completing the game, in which failure reflects an inadequacy on their part, a shortcoming that needs to be addressed in order to progress further into the game:

> "Failure in casual and competitive play is always a learning experience. Games are not meant to be played perfect the very first time. Everytime you fail, lose, game over, die, etc is a chance for you to learn and not get beaten or caught in failure the next time." (p38)
> "Being stuck on the first boss of Dark souls 3 forced me to learn a different fighting style because my original approach of trying to dodge perfectly wasn't working. […] Helped me learn the patterns faster against all enemies leading to an extremely fun run through the rest of the game." (P186)

We note that performance and feedback can be seen as separate from learning about the rules, limitations, and content of a game. As opposed to receiving information about the correct or incorrect ways they interacted with the game, players also receive information about the system in which they evolve – information they can then act upon, before the process of receiving feedback about their performance. Failure is part of a learning loop that does not just include performance: sometimes, failure can give out information that the player was not even aware existed, and therefore could not act upon.

> "Or in games like Limbo, which are not obvious, which do not explain what should be done. You need to try, fail and them visualize the new mechanics of the game and understand how it works to succeed in the next attempt." (p41)

Limbo (2010) is a prime example of failure as a source of information: the level design and artwork do very little to differentiate traps from inoffensive environmental elements, and there are no tutorials nor hints displayed in a UI. The only way to determine whether or not something is a trap is to walk into it, and learning how the trap behaves often results in death. Actual performance only comes into play once the player has had the chance to die a few times, develop a familiarity of what to expect and what to be wary of, in a 'fool me once, shame on you, fool me twice, shame on me' approach.

Figure 1: Limbo (2010). Upon first encounter, it is difficult to evaluate whether the rope holding the crate will hold, or how the trapped child and the crow will behave.

According to our participants, in some games, failure is designed in ways that put the emphasis on the game's potential for discovery and exploration:

> "So, most of the time, a failure doesn't mean "Ok, it's no fun time for you now" but "It's an opportunity for you to experienced a side of the game you would not experienced either way" or "That's some good narrative material that come at a price for you, but ultimately, it's worth it"". (P8)

Indeed, failure can encourage players to explore a game in ways that they would not have envisioned had they not been forced to rethink their position within the game world; in other situations, notably in more narrative-driven games where failure does not halt progression or set the player back, failing can unlock in-game content that would not have been accessible otherwise [32].

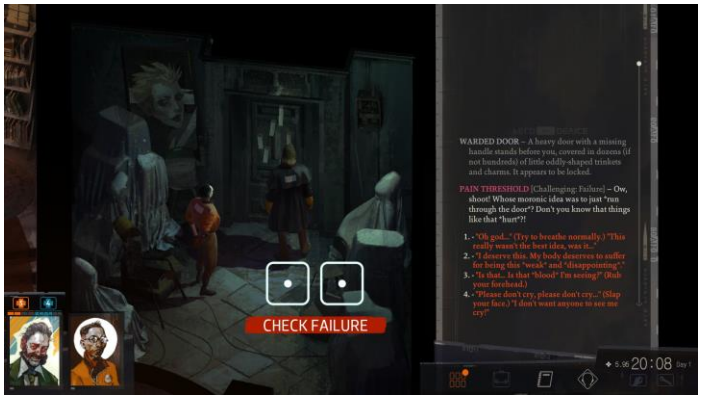

Figure 2: Disco Elysium (2019) and its die checks trigger new content based on the result of the die cast.

Tapping into real-life issues: Another dimension of learning perceived by players as enabled by failure could be called 'going beyond the game', learning experiences that teach them about skills or concepts that carry over into real life. In this scenario, video games become spaces allowing for thought experiments, simulations that players can use to experiment with and learn about subjects or skills that may or may not be at the center of the developer's intended experience, but nonetheless carry a weight once the game is shut down. According to participants, this may entail philosophical reflection, reflecting on the real world outside of the game, using video games as a virtual environment fostering critical thinking and empathy.

> "Games such as Detroit Being Human [sic] provides players with several endings, some that could be considered failing, but since it depends on your choices throughout the game, it is quite similar to life choices. Those types are positive in my opinion, not only the game has replayability, you start to think of your choices beyond the game." (P26)
> "Sometimes those lessons from failing in a video game can even teach things that are relevant in real life: developing strategic thought, challenging assumptions, or even teaching real life skills. What's more, I think failure in a video game can be potentially more useful, since it is a "safe" form of failure, with no real-life adverse consequences." (P209)

Games offer players with the possibility of asking themselves questions and exploring themes they would not necessarily have to face in real-life (narrative games with choice-based systems are a prime example of such games-as-thought-experiments [49]), as well as develop skills that will resonate outside of the game. When playing World of Warcraft, a player does not only learn about the specific items and game mechanics from this specific title: they learn the conventions of MMORPGs, develop skills in strategy, teamwork, adaptation – transferrable skills they can apply across different games, or in their everyday life. [25] [26]
This connects with the final dimension of failure-as-learning: the idea of failure as a trigger for self-development.

Self-development: In addition to reflecting on their choices or the world of the game they inhabit, and learning transferrable skills, participants reflect on instances where failure triggered the possibility of reflecting and acting upon themselves, feeding into a positive process of personal growth. In this case, what players learn is described as a deeply personal experience, that may affect not just the way they can interact with the world,

but also the way they navigate within it. It is not only what they can do, it is also who they are: patient, emphatic, adaptable.

> "Failure at the best of times can provide a learning experience. In some cases failure in video games can teach lessons that promote personal growth, and in others it may just give you better understanding of a game's mechanics." (p100)

Some participants associate the experience of failure with the opportunity to better themselves and learn important human values, giving failure a moral valence.

> "[…] I try to be a good sport, largely because I often play with my 9-year-old son. Learning how to be a good sport/ teammate is something that I actively think about using video games to teach him with. It makes life so much easier later if you don't go through it trying to take shortcuts, taking advantage of your allies, accusing everyone else of cheating, etc." (P112)

Participants' testimonies suggest that challenge and the threat of failure is not the only element of games fostering learning experiences: however, failure, the actual moment of failure, is perceived as a significant trigger for such events.

When players perceived failure as a social experience.

A lot of memorable failures were memorable because they were shared with someone else. The social part of their failure experience is what those participants picked up on, turning failure into a collective shared experience, an opportunity for meaningful bonding moments, and for learning how to work with others.

Bonding through failure: Participants have described memorable instances of failure as occasions for bonding with other people, including teammates, friends, family or partners. In this scenario, failure becomes a collective experience: because we asked participants about their memorable experiences of failure and whether they thought it was possible to have positive experiences of failure in games, participants highlighted good memories formed through fun experiences of failure, that become positive at least in retrospect, sometimes on the spot depending on the game and the stakes. Be it through the sheer fun of the experience, or the possibility to benefit from someone else's support, those experiences are perceived as valuable.

> "Failure provides an opportunity to eventually triumph, and it also provides an opportunity to laugh at our idiocy, impatience, confusion, bad aim, etc. My husband and I can admonish the other for failing, and it doesn't affect the marriage in any way :) If anything, failing and ultimately succeeding together is great for our bond." (P104)
>
> "A couple things come to mind, in fighting games if you go to a local tournament and get beaten by someone better than you, if you approach them and ask if they were able to pick up on any of your habits that you can fix in most cases they'll be happy to help." (P241)

In those experiences, failure is perceived as a spectacle and an experience in and of itself. Conversely, participants highlighted the other side of this dichotomy: toxic behaviours, teammates getting angry may make the experience of failure, or peer pressure, more memorable in a negative manner, and at times even deter players from going back to the game.

> "I tried to play [League of Legends] recently, I was completely new at it and tried for the first time with other players after practicing against bots for a while. There was one particular player in my team who would say bad things to me about everything I did even after telling him it was my first time. After that I did not play the game again, it wasn't enjoyable at that point." (P181)
> "The consequences sometimes can mean someone harassing you and being toxic. I've been lucky to avoid playing with those types of people. I can often feel pressure not to mess up which does give me anxiety." (P14)

The way players and their teammates frame failure as they go into a game completely changes the possible experiences they derive from it. In those examples, failure can both result from, and be the cause of, social interactions that become crucial to the overall experience of the game. Who one plays with, and who one seeks out before, during and after play, are just as important considerations as the event of failure itself.

Failure has led some participants to look for help: advice from more experienced players online, forums, external resources. One feels less lonely in the experience of failure, and may even find a community out of this experience.

> "Not a specific game, but in RPG's for example being stuck somewhere or not being able to beat a difficult enemy can create conversation and even lead people to joining a community of other people to discuss strategies". (P211)
> "Also playing Sekiro, the inability to navigate the game smoothly, push me to consult online guides and videos on how to play it opening up for me a new community and form of entertainment that I didn't yet experience." (P23)

Bonding can also happen with characters: feeling of grief or sadness when losing a beloved character, feeling of relatedness because characters can fail just like real people can, empathy, caring for a character and their fate, ultimately feeling responsible for them.

> "The story becomes deeper. The relationships with certain characters influence decision making. A choice that got one character killed while saving the second may lead to me continuing to choose person 2 over others moving forward because now I have a "bond" with them." (P29)

Working together: Part of this bonding experience also comes down to collaboration and communication, which are key to success in multiplayer games. Participants highlight the difficulties of navigating other people's reactions to failure, which are often unpredictable: they put their social skills to the test too.

> “Sometimes, it seems impossible to convince other players not to give up. But I wish I could learn to do that, so in future I could use it to my advantage.” (P9)
> “In team games it presents interesting confrontation scenarios --usually players who were doing well individually will complain or call out specific people that were not doing well. It trains individuals to become skilled in conflict de-escalation, conflict escalation, or conflict avoidance over time.” (P56)

There is a highlight on how they need to deploy and work on their communication and adaptation skills, especially when under peer pressure, but also the satisfaction that comes with being able to push through as a team, or to laugh about it before changing their strategy not just as individuals, but as a collective. The shift in strategy and perspective, the transformation, does not just happen to the individuals, but to the whole group.

When players perceived failure as an affective experience.

In this section, we use the term ‘affective’ bearing in mind the distinction between affect and emotion. Based on psychology literature, affect seems to encompass a wider range of experiences, starting from our unconscious perception of the world around us, to the conscious formulation of those affects (which then become emotions and feelings) [36][40][43]. In other words, ‘emotions are expressions of affect’ [36]. Using the term ‘affective experiences’ rather than ‘emotional experiences’ is a way for us to include the most diverse range of those experiences possible.

Based on this literature it can be said that video games and failure can have affective qualities (“the ability to cause a change in core affect”)[40]. These affective qualities constitute the final part of this analysis.

Based on survey responses, we argue that the perceived affective qualities of failure are a central feature of the experience. Failure acts as a trigger to two valuable and interconnected processes: emotional experiences, wherein participants report intense emotions during the experience of failure, and a renewed appreciation for the game itself.

Processing emotional experiences: Participants reported experiencing a wide range of emotions upon encountering failure, such as anger, sadness or frustration, or pride and satisfaction after overcoming it. In this situation, failure is perceived as a trigger for initially negative emotions and negative affects, that constitute a core part of the gaming experience and of the experience of failure. The emotional impact of failure can thus be either positive or negative:

> “It's not always a positive experience e.g. RDR2 where death breaks immersion but in many games, it can be. In Long Dark, if you die it carries a very emotional and impactful experience that isn't found in a lot of games. The failure is part of the experience of playing that game.” (P13)

Some participants also highlight a twofold experience, where negative emotions give way to positive emotions once the failure has been overcome, and the conjunction of those two experiences enhance the pay-off:

> “I love dark souls for the failure. The extremely hard bosses that are an absolute joy to fight. The sheer frustration of not being able to kill them, but knowing when you finally do- the feeling is UTTERLY AMAZING! I will never forget the first time I fought each boss in DS3!”. (P66)

Failure seldom leaves anyone indifferent, but, in our participants’ experiences, is often described as a trigger for a process of emotional appraisal, shifting their attention away from the game to focus on their emotional state, before adjusting their behaviour accordingly. In these instances, failure is perceived as fostering self-reflection, renewed motivation, or the awareness of needing a break from the game.

> “It can make the player think deep about how much the game matters to them, about what exactly is making the feeling of frustration and failure arise, and, ironically, it can lead to a potential transformation, depending on the willingness of the player to eliminate the so-called "toxic" behavior that can eb triggered by failure.” (P117)

Some of our participants described failure as the starting point of powerful emotional experiences, despite the associated emotions being negative, such as sadness or grief:

> “In a narrative game in which I am making decisions, I always want to make the right decision. […] When I fail and end up hurting someone in the game, I am touched deeply. Those are defining moments. “ (P55)
> “I think that the pathos that comes from facing a setback, losing a party member, losing a campaign or mission, etc. is enhanced when that failure isn't inevitable or scripted. Even if the emotions are sadness or frustration, in the end, they are much more fulfilling. […] I mentioned Crusader Kings II, above, but I think that X-COM is another game where the possibility of failure and permanent consequences adds a lot of emotional and intellectual depth to the gameplay.” (P73)

The mechanic of failure itself however, has seldom been highlighted in research as a trigger to such processes. Failure is known to feed into performance and learning, but research has largely left out its potential on a more personal, emotional level – or has avoided focusing on the word ‘failure’.

A renewed appreciation for the game: Finally, the last theme we want to highlight is the way participants perceive failure as a major mechanic in the shaping of their experience. Participants highlight that instances of failure can make them walk away with a newfound appreciation for the game itself, having had the opportunity to explore it under a new light that they would otherwise not necessarily have sought out themselves. Participants explain that having failed pushed them to reflect not only on their behaviour, but on the game itself as a system, and their relationship to it.

> “Failure often brings about a determination to do better and to try again. It also makes me wonder what people thought while making game difficulty or challenges. What inspired them for this?” (P24)
> “If I had to choose I would say it would be any of the Dark Souls games, despite each death sending me back to the last save point and stripping me of all my in-game currency, I found myself enjoying

> the trek back to where I died. I would often slow down and look at things in more depth, study my surroundings, plan my next move, and generally enjoy the game more" (P127)

Such instances are not dissimilar to the concept of 'breaking the fourth wall' in cinema: players become aware of the system they evolve in, of its limitations, of the way it frames their experience. Failure here is not perceived as a necessary punishment for not performing well enough: it actively encourages the player to entirely change their frame of mind, establishes a dialogue between player and medium, guides the player towards uncharted paths and outside their comfort zone:

> "I love thinking one thing will work and then being proven that I was wrong... it reshapes my understanding and opens up a new train of thought about a subject or situation." (P199)
> "It gives you a reason to explore and level up before defeating a boss, which can lead you to finding new things that otherwise you wouldn't have looked for." (P234)

That is not to say that *all* players have such a positive attitude towards failure – research in fact suggests otherwise, depending on the player's state of mind and approach towards challenges [1][21] – but we do argue that this is one way failure *can* be framed in video games, and the effect it can have on players as the result of deliberate design on the part of the developers.

5 DISCUSSION

The current work has allowed us to identify three main areas of interest: failure for learning (within the game, beyond the game, about oneself), failure as a social experience (bonding with others, working with others), and failure as an affective experience (emotional experiences, appreciating the game).
All three are not necessarily separate and fixedly set in stone: they are interconnected, flexible, and their combination can make for powerful gaming experiences. One participant cited *Life is Strange* (2015) as a memorable example of failure, and highlighted such potential with regards to failing to save Kate Marsh from suicide:

> "If you poked around the right places, you have the "knowledge" to avert the situation. But if you can't, the failure is not due to the fact that you didn't react fast enough, it's just that you were part of the scenario yourself as the player. Maybe you are not supposed to know what to do. […] Kate's suicide can be prevented by going through her stuff, learning about her family, what she thinks of the people around her […] If you don't know her enough, or said something very wrong, she proves her point: "nobody cares about her"" (p207)

If the player has failed to collect the correct information to talk Kate out of her decision, they go through a learning experience (they find out how crucial exploration is to the gameplay and learn more about one of the main NPCs), a social experience (the scene unfolds through dialogue and invokes the player's social skills), and an affective experience (they lose a character they had built a bond with, and go through an intense, heavy emotional experience due to the subject matter and the way the game frames it).

By constructing those three categories of the perceived benefits of failure in video games, the current project aims at highlighting how the interplay between the many functions of failure may influence the player's experience of a game and create more meaningful gameplay experiences, as well as provide further dynamics between the player and the game itself – or with their approach to video games altogether.

5.1 Connection with other work

Although we were able to construct three overarching themes identifying three broad areas in which failure contributes to meaningful gameplay experiences, there is a commonality between all three of them: our findings echo some of the literature made on the persuasive [12][13] and transformative [20][23] power of video games. In all three areas, participants highlighted the importance of failure to trigger a transformative process: changing one's tactics within a game, taking on new perspectives, re-thinking one's behaviour with others (through real players or characters), carrying change beyond the game. Similarly, the aforementioned research argues that certain techniques of game design encourage an active dialogue between the player and the game, which becomes a product of rhetoric which triggers reflection and transformation within or outside the game, or both. Alongside Culyba's [20] proposition for a transformational framework for game design and Bogost's [13] conception of video games as systems of procedural rhetoric (wherein the system itself constitutes an argument), Wilson and Sicart's definition of abusive game design [47] points towards the possibility of using (or abusing) difficulty, challenge and fail states, to offer a different game experience [47] – *Getting Over It With Bennett Foddy* (2017) is one example of such a game. Finally, Whitby, while not specifically focusing on fail states, has highlighted how the combination of game systems, narrative, and consequences, can foster perspective-challenging moments and experiences [46].

5.2 Applications for the video games industry

This research is also addressed to video game designers and developers interested in gaining a better understanding of how their players experience fail states and failure in their games. Providing an insight into the qualities players associate with their experiences of failure enables us to look beyond the assumptions that can be made from a solely industry and academic standpoint. We hope that game designers can take this work and find valuable information that will help them in their own practice, by highlighting aspects of failure that players experience and relate to, but that designers may not have expected from their own standpoint.

5.3 Limitations

Our demographics clearly points towards a pool of participants constituted of mostly experienced, not mobile-only, English-speaking, younger players, who play across a wide variety of genres and have been familiar with video games as a medium for a very long time. They engage with video games on a very regular basis and have an extensive video games literacy: this selective sampling reflects the type of participant we were expecting to reach when posting our ad on Reddit, as it would seem more likely for passionate players to dedicate some of their time expanding their interest for games outside of the games themselves, and our demographics confirmed it. We do not know how less experienced players may perceive and conceptualise the uses of failure in video games.

5.4 Further research

The present research aimed at furthering our understanding of how player perceived failure in a very general sense: as such, we did not restrict our research to a specific genre, or even a single definition of failure, instead inviting players to provide their own. We present a broad landscape of what these players understand, and in the best cases, expect of failure in video games. Future research project could narrow the focus more specifically on specific genres and gameplay: for instance, failure in narrative-driven games, or failure in games without hard-coded fail states (or fewer of them, such as The Sims or Stardew Valley). Further research could also investigate how the perception of failure may or may not vary based on players' games literacy, experience, and preferences – someone who exclusively plays multiplayer games may have a very different conception of the purposes of failure than someone who shares their time between Overwatch (a team-based FPS) and Hollow Knight (a single-player platformer). Finally, while we have sought to identify what players perceive as positive aspects of failure in games, and have highlighted the potential of failure of a variety of transformative experiences, further research is necessary to determine in what contexts such failure-related transformative events could take place, as there is a difference between players *perceiving* an event as potentially transformative, and the event proving to be in real scenarios.

6 CONCLUSION

The main takeaway we want to propose is the transformative potential of failure, across the board – not just for learning purposes, and this is where its strength lies. Failure may be perceived by a player in a game without fail states, but not every game needs to have fail states. Failure is not a one-way road whereby players receive feedback on their performance or receive a certain affect – it can act as a trigger, a mechanism that can constantly change the player's experience and relationship to the game they are playing. Failure can be the event that will make a player decide that the stakes are being raised. Failure can help the player decide to take a new approach, try out new strategies; failure does not necessarily interrupt the game experience but modifies it, feeds into a dynamic dialogue between player and system; failure can make a player reconsider what they thought the game was about and their own attitude towards it (more attentive, more careful, more reflective). It enriches the game experience by confronting the player with something that did not go the way they had planned or wanted.

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A APPENDICES

A.1 Survey questions

1. How long have you been playing video games?

- Less than a year
- Between one and five years
- Between five and ten years
- More than ten years

2. How long have you been playing video games?

- Every day
- Several times a week
- Several times a month
- Once a month

3. What game(s) have you been playing recently?

4. What are some of your favourite video games?

5. Please tell us about a memorable experience you had failing at a video game. What game were you playing? What about the event made you identify it as a failure? What about it made it particularly special or memorable for you?

6. What do you think failure brings to a video game, if anything?

7. Can you name one (or more) video game that you have played where failing was a good part of your experience? Why?

8. Do you think it is possible to have a positive experience of failure in a video game? Why/why not?

9. What is your gender?

- Female
- Male
- Non-binary
- Agender
- Prefer not to say
- Other

10. How old are you?

- 18 to 24
- 25 to 34
- 35 to 44
- 45 to 54
- 55 to 64
- 65 and over