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**Proceedings Paper:**

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<https://doi.org/10.1145/3582437.3582454>

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# ‘The bandwidth comes and goes’: Gaming preferences, habits and attitudes in a persistent low mood population

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## ABSTRACT

Low mood and depression are one of the most prevalent mental health problems [2]. Video games are cheap, accessible and show promise in improving people’s mental and emotional wellbeing. The amount of research focusing on gaming and wellbeing has increased over the last couple of years, but there is a distinct lack of research focusing on player preferences, attitudes and what factors they identify as helpful or harmful. This qualitative study used a semi-structured interview format to ask 18 participants with persistent low mood about what they liked to play, what aspects of games they found appealing and how they felt about their gameplay in order to better understand the interactions gaming can have with a low mood population. Through reflexive thematic analysis, 5 themes were found: 1) Finding consolation in predictable experiences, 2) Finding a focus in engaging games, 3) Gaining a sense of success, 4) Valuing games and what they can offer and 5) Exacerbating the negative aspects of gaming. These themes are discussed in terms of the current literature, as well as potential future directions and applications of this work.

## CCS CONCEPTS

• **Applied Computing**; • **Computing in other domains**; • **Personal Computers and PC applications**; • **Computer Games**;

## KEYWORDS

Video games, computer games, digital games, human-computer interaction, player experience, mental health, depression, wellbeing, applied games

### ACM Reference Format:

Laura Helsby, Jo Iacovides, and Paul Cairns. 2023. ‘The bandwidth comes and goes’: Gaming preferences, habits and attitudes in a persistent low mood population. In *Foundations of Digital Games 2023 (FDG 2023)*, April 12–14, 2023, Lisbon, Portugal. ACM, New York, NY, USA, 9 pages. <https://doi.org/10.1145/3582437.3582454>

## 1 INTRODUCTION

There is a growing interest in wellbeing, mental health and gaming that has seen a burst of popularity since the pandemic. Games have been shown to help with stress recovery [19], coping with

life experiences [20] and emotional regulation [1]. They have also been used to treat the symptoms of anxiety [9] and PTSD [12]. Commercial games are cheap, accessible and are already widely-played in many households, which makes them great potential tools for improving people’s wellbeing. With mental health and particularly depression affecting 1 in 6 people in the UK [2] it seems more prudent than ever to pay attention to new forms of technology which could potentially help.

Games show promise in their potential to help people with mental health disorders, including depression, but in order to best identify that help we first need to better understand the interactions of low mood and gaming. Low mood is a particularly relevant factor to focus on because it is one of the most prevalent affecting people [2] and previous work has highlighted a range of potential ways games can help improve aspects of low mood. Though not the same as depression, low mood can be viewed as one of the key symptoms of depression and so work which focuses on one or the other will naturally have relations to each other. Low mood populations have also been identified as being at risk of internet gaming disorder [3] and so further research might help identify why this is the case.

Though promising, existing research is generally limited to mostly quantitative, single-study investigations of either specific games or genres, using predetermined factors of importance or looking at the impact of gameplay on wellbeing or symptom measures. There has been little to no qualitative work investigating how people with low mood feel about their gameplay, or what factors they might consider important to helping them. By asking people with low mood directly, we can identify what features of games are appealing (moving beyond just genre labels), what about games they find helpful or harmful, and what role they perceive gaming to have in their lives. This can then better highlight promising areas for moving forward, as well as provide much-needed context about low mood players as a population.

The purpose of this current study therefore was to further examine how players with persistent low mood experience games, including their gaming preferences and the role of gaming in their lives

## 2 RELATED WORK

### 2.1 Wellbeing and Gaming

Before discussing wellbeing and gaming, first it is important to clarify what is meant by ‘wellbeing’ as a term. ‘Wellbeing’ is broad and can encapsulate many different aspects of a person’s mental and physical health, with recent definitions focusing on positive feelings and fulfilment in potential [4]. In terms of existing research involving games, the focus has largely been on the social, mental and emotional aspects of wellbeing and so this will be the focus for this section.

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FDG 2023, April 12–14, 2023, Lisbon, Portugal

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ACM ISBN 978-1-4503-9855-8/23/04...\$15.00  
<https://doi.org/10.1145/3582437.3582454>

The evidence that games can help improve wellbeing is extensive and varied, and this is well captured by several meta-analyses. For example, Halbrook et al [5] looked at three different categories of games (social, violent and exergames) and found that the different types of games had the ability to improve different aspects of wellbeing. Playing social games for social purposes helped increase psychological aspects of wellbeing, although these benefits were reduced if people reported playing obsessively, for achievement or for escapism. This demonstrates the potential role of intention when considering the benefits a gaming experience might have, as well as demonstrating the negative impact excessive play can have on benefits. Halbrook et al also found that violent gameplay had little relationship to prosocial behaviour and that exergames helped improve both physical and psychological wellbeing. Overall, though focusing only on limited aspects of wellbeing and limited game genres, this meta-analysis highlights the potential of games to positively influence wellbeing across different facets. It also highlights that player intention and attitudes should be considered as it can play a role in the interaction between gaming and wellbeing.

Focusing on emotional wellbeing, Pallavicini et al [6] conducted a review and found that a variety of game genres had positive effects on emotional skills, including increasing positive emotional responses and resilience to stress. Overall, the majority of studies seemed to find games to have an overall positive impact on wellbeing, although action games showed the potential to decrease the amount of attention paid to happy faces which could negatively impact wellbeing. It is worth noting that this paper only looked at 5 studies which is a small sample for a literature review. However, it does highlight that the benefits of games are not limited to a small sample of genres but in fact can be found throughout a range, again highlighting the importance of work in this area to move away from strictly focus on genre as a categorization method.

## 2.2 Mental Health and Gaming

Moving to examining specific mental health conditions, Russoniello et al [7] looked at the effects of casual games on people with depression. Using an experimental design, 30 participants played a casual game 3 times a week for 30 minutes whilst another 30 acted as a control group. Games included Peggle, Bookworm Adventures or Bejewelled 2 which are casual games with some puzzle elements. Results showed that the experimental group scored lower on depressive symptoms after a month of play compared to how they scored at the start of the study, as measured by the Patient Health Questionnaire (PHQ-9). This study shows promise for the ability of games to improve depressive symptoms in an experimental setting, although there is a lack of clarity with regards to some of the methods which means more work needs to be done to further explore this. Though depression and low mood are not the same thing conceptually, low mood is a symptom of depression and so can be considered related to this study's results.

Building upon this work, Pine et al [8] conducted a systematic review looking at casual games and their effects on various aspects of anxiety and depression. They found that out of the 13 studies examined, 12 of those studies reported improvements in the outcome variables. In particular, casual videogames were shown to be superior at reducing anxiety and improving mood and stress

compared to many different control activities. This highlights the potential for videogames in particular to be a helpful tool when it comes to tackling symptoms of low mood.

In a similar vein, Pallavicini et al [9] examined the use of commercial video games in reducing both stress and anxiety by conducting a systematic review of 28 studies. For stress, 8 out of 14 studies reported games to be better at improving stress compared to controls such as guided meditation, basic stress management training and exercise. Out of 12 studies focused on anxiety, 9 reported an improvement from games. In terms of types of games, many different genres were shown to help with stress and anxiety rather than the usual focus on exergames or casual games. The one exception was that action and sports games showed the potential to increase rather than decrease stress, which demonstrates the need to further unpack how different kinds of game mechanics might affect people differently. It is possible that asking players about what they find helpful can shed some light on findings like this.

Qualitative research exploring the play habits of people with mental health disorders is limited but there are a few studies which take this approach. Carras et al [10] conducted a qualitative semi-structured interview study investigating video game play and recovery in veterans. They found 5 key themes which involved games being used as a distraction, to provide a sense of confidence, as a form of socialising, to manage moods and stress and also games causing problems, such as participants feeling addicted. Veterans often have comorbid depression and low mood [11] so it is possible that some of these themes would also be found in a low mood population, though there are likely to be differences as well (such as needing an outlet for aggressive tendencies).

## 2.3 Research Questions

From the literature discussed, there is clear potential for video games to help improve both general mood, emotional wellbeing and specific symptoms of depression and low mood. What is missing is an exploration of how the players feel about gameplay. It is all very well saying that games will help people with low mood or that people with low mood are more prone to disordered gaming, but that does not address the question of why. By asking players with low mood what they like to play, why they like to play it and how they feel about it, this can provide much-needed context to low mood gamers which has not been explored previously. It can help unpack the question of why certain genres might have certain effects, as well as reposition the conversation around game features rather than genre, allowing for a more nuanced discussion of games. A qualitative approach allows for the factors of importance to come from the players, rather than being pre-determined by a survey or experimental design. Therefore, the proposed research questions are as follows:

1. What kinds of games do people with persistent low mood play?
2. When and why do people with persistent low mood play games?
3. How do people with persistent low mood feel about their gameplay (in terms of both actual moods and attitudes)?

### 3 METHODS

#### 3.1 Interview Study Design Procedure

This study was intended to investigate the gaming preferences, habits and attitudes of people with persistent low mood. Due to the exploratory nature of the questions, a semi-structured interview method was chosen as it was believed that a survey would not be able to capture the potential nuance or explore the responses fully due to the inability to ask follow up questions. There was a risk of the interview being seen as intrusive but the questions were carefully designed to ensure they asked about low mood only in relation to gaming. The interview format also enabled the researcher to keep the participants on topic and ensure they didn’t disclose difficult information they didn’t have to discuss.

Before the interviews, information and consent sheets were sent out via email or Discord to all participants for signing. Interviews were conducted remotely using Google Meets due to Covid-19 restrictions and were recorded directly onto the university Google Drive. Participants were not told the questions beforehand but were told the rough subject matter (what games they played, why and how they felt about gaming).

When the interviews began, verbal consent was obtained and participants were told about their right to withdraw or not answer any question they found uncomfortable. No participants withdrew or refused to answer a question at any point. They were then asked to introduce themselves using whatever descriptors they wished, with only first names and age being asked for directly. This was done as it was believed if participants did not offer up their gender, job or other information, then it was not justified to ask for it or perceive it as particularly important for analysing results. It is worth mentioning that only one participant offered up their gender whilst thirteen mentioned their occupation. This could be due to people expecting their gender to be evident as they were on camera.

During the interview, 10 guiding questions were planned. These were as follows:

1. What kinds of games do you play?
2. Why do you like playing these games?
3. When do you play games?
4. Do you think you play differently when experiencing a persistent low mood? If so, how?
5. How do you feel when you’re playing?
6. How do you feel after playing a game?
7. Do you think your life would be different without games? If so, how?
8. Do you feel gaming gets in the way of other things in your life?
9. Do you feel gaming helps with other aspects of your life?
10. What does gaming mean to you?

As the interview was semi-structured, the exact wording and timing of the questions sometimes changed depending on the direction the conversation had taken. Participants were also asked at the end if there was anything else they wanted to say which hadn’t been covered. Each participant was asked to allow an hour for the interview. The average length of an interview was ~30 minutes, with the shortest being 16 minutes and the longest being 50 minutes.

At the end of the interviews, participants were thanked for their time and informed of when they would receive payment. Payment consisted of a £10 Amazon voucher. After this, the recordings were halted after a verbal confirmation from the participant that the interview had ended. In general, participants did not appear to be distressed by the questions or the discussion which was happening around their persistent low mood. On the rare occasion a participant seemed potentially distressed, they were verbally signposted at the end of the interview to potential sources of help. These services were also included on the information sheet sent to all participants.

#### 3.2 Participants

Participants were recruited through a mix of social media sources, including Twitter, University of York Facebook groups (postgraduate and gaming) and Discord servers. Recruitment criteria included:

- Being over 18 years old
- Self-identifying as having or previously have had persistent low mood
- Playing digital games of any kind (including mobile games)

The term ‘persistent low mood’ was selected to avoid the need for a formal diagnosis of depression and to also avoid participants feeling like their low mood wasn’t ‘severe enough’ to take part in the study.

20 participants were initially recruited, with 2 being excluded from final analysis due to poor quality of recordings making transcription difficult. As mentioned above, limited demographics were collected but the mean age was 25.94 and the range was 18–29. One participant’s age was not collected due to human error (Alex).

13 participants reported their occupation. The majority of the sample were students of some kind (N=8) which included undergraduate, masters and PhD students. The other occupations reported included working for a game developer (N=3) or working in an education setting (N=2).

No other information was disclosed by participants except almost every participant said they had been playing games for several years and also often expressed that they had had persistent low mood since early teenagehood. Some participants talked about their current experiences whilst some reflected on a previous period of particularly low mood and their gaming habits then.

There was also a huge range of types of games and games titles mentioned by participants. The most common games were *Stardew Valley* (N=9), *Animal Crossing* (N=5), *Pokemon* (N=5) and *Overwatch* (N=4). In total, 96 different game titles were mentioned, though some games were also grouped if they were in the same series and gameplay did not differ drastically (*Assassin’s Creed* for example). Often participants would not specify beyond the franchise if they were larger series of games.

#### 3.3 Reflexive Thematic Analysis

Reflexive Thematic Analysis [13] is a process of actively identifying themes from a set of qualitative data, grouping them by meaning in relation to the research questions. This method was chosen to analyse the data as the subjective approach lined up with the researcher’s philosophies. The focus on the role of the researcher and theme creation as an active process seemed appropriate given that the researcher is both a gamer and has a background in mental

health, meaning that certain biases were inevitable and so it felt important to acknowledge those upfront.

The steps followed were: transcription, familiarisation, initial coding, two additional iterations of coding, theme searching, theme solidification and finally theme naming. Interviews were first auto-transcribed, then manually corrected and anonymised before being imported into MAXQDA. Initial familiarisation involved reading through all transcripts and making notes on patterns or points of potential interest. For the first coding phase, codes were organised under the following headings: Game titles (eg. *Stardew Valley*), Game types (eg. RPG), Attitudes/fits into life (eg. Games intricately woven into life), Feelings (eg. Relaxation), Why (eg. Consistent progress), When (eg. Post-work reward) and Low mood changes (eg. Accentuates guilt). Many codes were in-vivo during the first pass. During the second and third coding passes, overlaps in code sentiment were tidied up and many codes were either merged or renamed to better capture what they were representing.

Theme searching and development then began, starting with patterns which had already been identified during the coding phase. Different groupings of codes were experimented with using a mixture of digital and physical visualisation methods. After this initial stage, 7 preliminary themes were identified, which were then condensed into 5 after discussion with supervisors. One theme was dropped entirely (as its contents were already covered by the other themes) and two were merged together (gaming as a way of shaping identity and gaming as a valued part of life). All themes went through at least one name change. The first theme was the hardest to name as the core concept was hardest to identify, although the sentiment of all 5 themes stayed consistent throughout. After another review brainstorming session with supervisors, all 5 theme names were finalised and written up again.

## 4 RESULTS

Looking at the nature of gameplay habits in a persistent low mood population, 5 themes were identified: 1) Finding consolation in predictable experiences, 2) Finding a focus in engaging games, 3) Gaining a sense of success, 4) Valuing games and what they can offer and 5) Exacerbating the negative aspects of gaming. Each theme is discussed further with illustrative quotes, which are reported alongside gender-neutral pseudonyms generated for the participants. Quotes have been kept intact for the most part, with any edits indicated by a '[...]' symbol. Edits are made either for brevity's sake or to remove unnecessary repetition, and the overall meaning of the quote is retained.

### 4.1 Finding consolation in predictable experiences

This theme describes how players during a period of particularly low mood had a tendency to desire 'low effort' games which didn't demand much from them in terms of energy or engagement. There was also an element of consistency and predictability being part of the appeal, often resulting in a very repetitive playstyle whereby the participant was playing almost on 'autopilot':

'I would definitely say that the lower my mood, the more basic the game I play, like the more arrhythmic is not the right word...repetitive? So I found that games like *Stardew Valley*, *Animal*

*Crossing*, *Pokemon* my mobile games, the games where I can just literally stop thinking, I tend to play those most when I'm at a really low mood and I tend to play them in a way that's quite, quite autopilot. You know, it's a way to fill, fill time.' Leslie.

Repetitiveness results in a predictability which allows participants to know exactly what kind of gaming experience they would get from playing. Predictability wasn't always necessarily a positive experience (in fact, it was often neutral) but it was seen as preferable to experiences described as 'stressful' or demanding high energy:

'But yes, *Stardew*, I think the reason I go to that one a lot when I'm in a depressive bout or, or whatever is because it's very repetitive. It's very rare that you're going to have like something unknown happen.' Jo.

Though simulators were most commonly associated with repetitive play, the type of game participants chose seemed to be individual preference. Even types of games usually thought of as high engagement, such as action games, facilitated this predictable play:

'Like *Diablo*, you can just kind of put yourself in a dungeon over and over again and just see if you get anything better. Or I used to play like *Elder Scrolls* online, which is kind of similar to *World of Warcraft*, and there's so many storylines like good writing in it, but I would just put myself in dungeons or there would just be like world events where you just kill the same things over and over again.' Drew.

Along with repetitive mechanics and the ability to play on 'autopilot', there is also the element of consistent feedback. Whether you are building a house or killing enemies, there is feedback the game will give you to indicate something has happened in response to an action. The difference between this and a desire for success is twofold: firstly, the feedback does not have to indicate 'progress' in a sense of achieving anything or improving a behaviour. The feedback merely indicates that you have done something with your time and have affected the virtual space in some way. Secondly, there is a distinct lack of strong emotion, both in terms of excitement and/or frustration. Achievement is often associated with the excitement of a challenge or the frustration that you have failed, whereas this kind of repetitive action has no meaningful fail state. The tasks are easy for the participant and if they fail, there is nothing lost to them personally (even if there arguably is a loss effect in the game).

This avoidance of loss can be seen by some participants deliberately playing competitive modes that wouldn't affect their rank when they were in a lower mood period. There is an element of avoiding risk but also the implication that 'failure' in these circumstances is not significant to the participant.

There was also a general idea of some games requiring more commitment than others. In these cases, it was often reported in the context of players avoiding certain games when they were feeling low as they felt like they should be saved for times when they had more energy or would enjoy it more. These were often new games they hadn't played before:

'Cause like, you know, starting new games, kind of a commitment as well. And having like the band- emotion, the brain bandwidth I guess, to playing a sort of story-focused game sometimes comes and goes. So it's kind of, you know, up in the air a bit' Robin.

Overall, this theme highlights a desire for players with low mood to stick to familiar, predictable gaming experiences when their

mood or energy levels are too low for a gaming experience which demands something from them.

## 4.2 Finding a focus in engaging games

The second theme describes how some participants seemed to favour games which they could fully immerse themselves in and that would hold their attention. When mood was low but energy levels were sufficient, these games were favoured due to their ability to distract participants from their low moods. One type of game which fulfilled this role was a heavily story-focused game, as described by Robin:

'So I really like Night in the Woods it's, it's I really rate the game. I think a lot of it is to do with the fact that it's a very, very story-focused game. It's a very engaging game. It's very focused on plot, characters, story. Like gameplay-wise [...] it's not particularly extravagant control wise or game- mechanics wise, but yeah, it's, for me, at least it's the story, the progression, it's finding out what happens is that sort of thing that's compelling and gripping in that sort of way.'

Numerous participants described being able to be completely absorbed by a good story and feeling bonded to fictional characters and there seemed to be two elements to this. Firstly, the act of being absorbed by a story served as a strong distraction from the low mood in a way that a more repetitive game could not. Secondly, there was the appeal of a fictional world being better than their current situation or a fictional world being more attractive. Leslie describes a particularly extreme version of this:

'I was in a pretty bad place at the time and there was a feeling of, well, my life is shit compared to this, like I I don't want to leave these characters. I mean the story, the, the thing I always tell people is Dragon Age Inquisition made me realize I had to break up with my partner. Like I loved my ingame relationship more than I loved them.'

This kind of connection was frequently associated with a strong emotional reaction when the game ended. Often the emotional response occurred during periods of low mood specifically, suggesting the low mood contributed at least somewhat to the deep emotional connection a participant had with a game.

The active nature of gaming seemed to be a more appealing way for people in a low mood to consume narrative stories compared to other forms of media. Sometimes this was explicitly linked to comorbid issues of attention and was cited as a unique feature of games when compared to other, more passive forms of media:

'As someone with dyspraxia who has attention problems, having the story as a reward as opposed to a thing which is going on in the background, like with television, is a lot more accessible to me in a weird way by gating off the story, suddenly, and treating it as a reward, it's a lot easier for me to consume and remember it' Nic.

As well as narrative-driven games, games with strong strategic elements also facilitated this desire for high engagement. RPGs were often favoured as the statistical strategy gave participants something to focus on:

'You have control over like the team building and then sort of how, what you do with them. So like Pokemon, you get to pick the moves, Genshin, you build characters with different, like you can boost their stats using different stuff. And so it's, it's sort of got that

element of, you have to sort of think about what you're building and how you're playing that I really enjoy.' Sam.

Participants also seemed to desire games which offered high engagement which continued beyond the gaming experience itself. Several participants discussed reading about gaming lore:

'I do find that if I am like quite stressed or at a low point, I tend to become way more obsessive, you know, so like, I will just like try and find out everything I possibly can about all the mechanics of the game or, you know, like read all the lore and just like, yeah, become quite obsessed with it in a way that I wouldn't normally, if I wasn't experiencing low mood at the time.' Leslie.

Or thinking about strategy to an excessive amount:

'And I'll, I'll, I'll sort of replay the story in my head. I'll replay the character progression in my, in my head as well, and think about, think about the stats and how I'll level up next time and what equipment I might use as well. So, so I take it quite seriously [laughter]' Ash.

This was common among competitive or social gamers in particular, and while it's not unusual for competitive gamers to strategise with their teammates, this behaviour was explicitly described by participants as being exacerbated by low mood. This exacerbation effect is discussed in more detail in a later theme.

In summary, this theme suggests that when people with low mood have the energy available to do so, they favour gaming experiences they can throw themselves into and that will completely capture their attention and focus. Story-driven games and strategy games are both appealing due to their ability to offer this focus, be it through an engaging story or through complex mechanics which require thought and attention.

## 4.3 Gaining a sense of success

This theme describes how one of the appeals of gaming for participants was the feeling of success they could achieve through games. While not necessarily unique to a low mood population, it did seem to be potentially more significant to this population due to a lack of success in other areas of their lives. In this context, gaming could be seen as an easy way of getting positive, tangible feedback that participants might not get elsewhere.

One example of this was a tendency among competitive gamers to focus on the ability of games as a pathway to self-improvement. Riley describes how gaming allowed them to discover this mindset and the effect on their sense of identity:

'The way I play games now with the competitive mindset and improving, it's always been there, but I've only become aware of it ever since I started playing games competitively. So without the outlet [...] I'm not sure if I would have even been the same person, if that makes any sense? It's not necessarily that games themselves changed who I am, but they gave me a path to kind of develop this sense of accomplishment and self-improvement.'

For players of competitive games, there seemed to be a strong link between their enjoyment of gaming and their ability to feel like they were succeeding at a game. Having a measurable sense of progression was usually the key motivation given for playing competitively. Competitive gaming also offered this chance for achievement for participants who didn't have another way to experience it to the same extent, as described by Nic:

‘I grew up as someone who was decidedly average all the way through primary school. I got reasonable grades and was considered a smart kid, but like my talent was never, I was never top of the top class. I was just above the average grade. And then all of a sudden, a few years later, like I found things that I’m good at. So I, you know, I’ve topped multiple tournaments. Not great tops, but I’ve still done incredibly well.’

Aside from competitive games, the other way participants seemed to get this feeling of achievement was through playing games with a strong strategy element, such as deck building games or RPGs where you are required to design a team. When discussing these games, participants would often focus on the satisfaction of pulling off a successful strategy:

‘So it’s almost like mathematical, there’s like a kind of statistical strategy to, to card games that I think I enjoy. And yeah, if I’m, if I’m playing a single player game, it’s usually a card game and it’s usually for that reason, Oh, I know how to articulate it. It’s like basically I just want to feel big brain, you know?’ Adrian.

This was sometimes linked to behaviour discussed in Theme 2, whereby participants would strategise beyond the play session.

While neither of these examples so far are specific to low mood populations, there was evidence to suggest that a sense of achievement might be particularly important to participants when they were experiencing low mood:

‘When you’re going through like a low mood time, when you’re going through a bout of depression or whatever, it’s very easy to feel like you’re not accomplishing anything. So I think personally, the reason I think these games resonate with me is because they give you that sense of accomplishment.’ Jo.

One final element related to this theme was the idea that games provided a route for social success. A frequent topic of conversation for participants was feeling alienated growing up, with games providing a respite from that. Rory mentioned how games helped them cope with being bullied:

‘Early teens. I, I struggled a lot with my self esteem and kind of the social aspect at school. I had quite a high pitched voice that a lot of people were kind of almost bullying me for, especially some people online, but through games, I was allowed to find communities and people who were the same age as me, who didn’t really care about that stuff.’

Alex mentioned how being part of the competitive gamer community made them feel like they belonged to something exclusive and socially desirable:

‘I feel like I’m part of a club that like is, I dunno, I just feel like I’m part of something. Like, I mean I’m in a community where like, I can talk to my friends about gaming and like they won’t, people around me won’t really know what we’re talking about, I can talk about [...] ‘Oh, I just won this CS game last night’ and like people will be like ‘What the hell is that?’ and I kind of feel like I’m part of like some form of lingo that people might not know. And I guess like maybe I interpret the room wrong, but I kind of feel like they, not are jealous that they don’t know what I’m talking about, but they might be a bit interested and I kind of feel a bit like quirky, I guess. Gives me a bit of an identity that I might not have, I might not have otherwise.’

Overall, it seems that for low mood players, games offer a chance to achieve and measure success which is both accessible and appealing to them. They may also provide the opportunity for success which might not have been attained otherwise.

#### 4.4 Valuing games and what they can offer

This theme covers how participants in general had an overall positive attitude towards gaming, citing many psychological and emotional benefits. Among these benefits, there were three core aspects: social play, identity formation and an emphasis on games being a good vessel for mood regulation.

**4.4.1 Social Play.** The unique ability for games to offer social connections was often talked about by participants as a huge benefit, both of games and to their mood:

‘Jo: One of the big things that helped me come out of that last bout [of depression] was that as well as some counselling I was able to get, making a concerted effort to like game with people, again, like finding games I could play with my mates again [...] like, or starting up ones that we used to play, but hadn’t in ages and just, you know, generally that’s how I was able to sort of like bring myself back round.

Researcher: Yeah. Yeah. So gaming helped a lot with that?

Jo: Yeah, gaming specifically with other people though. The gaming on my own wasn’t necessarily, but actually [...] being able to interact with something in real time with other people was a real kind of like blessing. You know, cause we obviously we can’t be up in real life, but you know, if we’re playing like CFDs or something, you know, we’re both, we’re both in the moment and like present together.’

This quote highlights what many participants reported; that there is something unique about games and the kinds of social interactions you can have around games that can’t be experienced through other forms of media:

‘You know, you are solving a problem together with someone and that is, you know, sometimes the other person is the problem, right? Like there’s adversarial games and that’s, that’s also very interesting and you can come to know the way that someone thinks that way. And then there’s like an intimacy there as well. There’s there are a lot of dimensions, I guess, because games can be so many different things. There are a lot of ways that games can be enriching.’ Adrian.

Social play was often connected to better emotional wellbeing for participants, with many citing gaming as something which allowed them to connect with family members or other people which they might not have been able to otherwise, with these subsequent relationships improving their wellbeing:

‘Like it just, it fills so many facets of my life like from the way that I can connect with my youngest siblings who are 12 years younger than me, all the way to how I can make new friends.’ Sam.

‘I can direct every single one of my major friendships and friend circles as a result of me playing these games.’ Nic.

**4.4.2 Identity Formation.** Many participants asserted that they had been gamers their whole life, and the importance of games in shaping their sense of identity and self. This links a little bit to the social success mentioned in Theme 3 where participants saw the

identity of 'being a gamer' as something valuable, but this is also more about games offering a safe way for people to experiment and discover their own sense of identity. This can particularly be seen with queer gamers:

'For certain context, I grew up in a really kind of like homophobic area. You know, I grew up in a time where it was still fun to call people gay and laugh at them and, you know, whatever. So I always repressed the fact that I'm bisexual[...] This was actually a really well done, really well written character, and it allowed me to kind of explore that side of myself that I hadn't been able to in, in real life. And, you know, to some extent still haven't been because like I've met, I've been married, I'm married now and stuff so, but through virtu- through the virtual game and stuff, I was able to kind of understand my sexuality better. And it was like a safe space.' Jo.

Games were also good tools for people to experiment freely with concepts that otherwise would be difficult to explore, such as morality:

'I do a lot of human rights work and I always play these kind of like hyper moral characters. [...] And for me growing, like in my teens and twenties, it was a way of me really experimenting with my morality a little bit and sort of being, you know, particularly when a story is told well, and it shows-because they have these like extreme situations that you're probably never going to face, to be able to test your morality in those situations has actually been really beneficial for my work and to put myself like, literally you are putting yourself in somebody else's stories sometimes, right? It's not like reading a book, like you are controlling and, and living this person's story. [...] games where you sort of play these, like God of War where you play difficult characters, it has very genuinely made me think about my own work differently.' Leslie.

As with the social connection of playing a game together, this quote highlights something unique about games in terms of being able to offer this experimentation. Games allow you to feel like you are embodying a character and so experimenting in a game is different than exploring different viewpoints through a film or book. This was often talked about as being very beneficial to a participant's mood and wellbeing.

**4.4.3 Games for emotional improvement & regulation.** As mentioned in Theme 1, there was an effect of some gaming experiences of a 'flattening' of mood. The benefits of gaming for mood have been evident in every theme discussed so far, but there is an additional element of people with persistent low mood deliberately using games as a way of regulating their low mood:

'I think it definitely helps me switch off my brain, which I can have problems with, you know, especially with the low mood. Like if I'm, if I can get myself distracted into a game, that can kind of give me some relief from that long enough to just get my head back on straight.' Jamie.

'I mean, I think it, it kind of like makes me feel a bit like normal, I guess. [...] like if I'm in a low mood and I play a game and I finish the game, like [...] It would give you a different thing to focus on. And I feel a bit more like re reset, but not necessarily in a positive way. I do still feel like a bit like down, but I won't be down for the reason that I came on in the first place.' Alex.

Games were consistently cited as an important coping mechanism to many participants:

'I think, cause I kind of use them as a coping strategy for anxiety, which is like linked to my low mood. So yeah, I think I'd definitely struggle to cope without games for sure.' Frankie.

This also cropped up in relation to competitive gaming and the importance of being able to regulate your emotions in order to perform well. Participants who were competitive gamers often mentioned emotional benefits directly:

'Like a game like Valorant is like, it's really taught me to like, got a handle on like my emotions or like that kind of thing. Like, you know, it's, you know, trying to cope in a, maybe like a stressful situation and not let the emotion, you know, your emotions get the better of you.' Taylor.

This can be contrasted to a period of lower mood in Taylor's life (which was when they played Overwatch) where it became harder for them to emotionally regulate:

'[I], try and aim for like keep calm kind of thing, which I wouldn't necessarily say that I would have done when I was playing Overwatch. It was kind of just like, yeah, just kind of drag go through it, like, rather than trying to restack, reset kind of thing.'

It was common for participants to play a game when they were feeling low in order to 'reset' their emotions and enable them to do other things they needed to (such as work):

'So yeah, like there is times where I'm like really addicted to the game and I'm like, I should be doing other things, like I should be working or cleaning or something, but these days I think I'm in like a healthier place with it. Like I kind of see it as like recharging my batteries. Like I take a break to play the game to make myself more efficient when I do other things. Like, yeah, if I'm getting frustrated with my writing, take a break for an hour, play a video game, I can go back and work faster. Whereas like if I just carried on trying to write, I think I probably would get nothing done and I feel awful. So yeah. I, I don't think it gets in the way at the moment, but it has, and I think that's a very conscious effort on my part to stop that from happening.' Pat.

**4.4.4 Summary.** Overall, games were viewed as having value by participants and were often a key part of their lives. Even if participants cited gaming as 'just a hobby', they would list many benefits to said hobby and spoke favourably of the 'active participation' in gaming that was absent from other hobbies, such as Youtube or watching TV. This active participation was one of the main appeals of gaming and seems to have interactions with gaming's ability to facilitate emotional regulation.

## 4.5 Exacerbating the negative aspects of gaming

The final theme describes the tendency of participants to describe a more negative or less beneficial gaming experience when they were experiencing a persistent low mood compared to when they were not. One example of this is participants finding it harder to stop playing when they were experiencing a low mood:

'And certainly when I'm in yeah in a, in a lower mood period, it definitely does [get in the way]. Cause like I said, I'm just using it and I'm not doing the other things. I think, you know, there's an element of addiction of just being like, I'm just kind of sucked into playing it, an element of like just losing track of time.' Spencer.

This was linked to stronger feelings of guilt about gameplay in some situations, as described by Jo:



‘Let’s say I’m like bingeing a game or something because I’m in a low mood, I then will feel like I’ve got nothing else done and I’ll feel super low more because like, yeah, there’s a guilt that it it’s wasted time’.

Another element was that negative emotions during play tended to affect a participant more strongly if they were in a low mood, such as frustration:

‘I guess like I get annoyed at things easier in the game.’ Alex.

There was also a greater emotional response to story elements. This did seem to be an overall greater intensity of emotions that wasn’t just limited to negative experiences:

‘I think the, the multiplayer games I play, especially competitive games. It, it feels a lot more, there’s a lot more passion about whether I’m winning or losing. So if I’m winning, I’m happy, if I’m playing good, I’m happy if I’m losing, I’m not so happy.’ Rory.

However, participants did tend to focus more on the negative feelings when reporting these more intense emotions.

The reduced enjoyment of playing whilst in a low mood was somewhat linked to the tendency for participants to avoid playing new games in this state as, in addition to the effort required which was discussed previously, there was also a sense that the game would be enjoyed less if played in a low mood:

‘I don’t tend to play the big sort of AAA games when I’m, when I’m at a low mood, because I need the emotional energy. So like, that’s kind of why I stopped playing Cyberpunk because I just didn’t have [...] the energy to, to invest myself.’ Leslie.

This in itself was often frustrating for the participant as several mentioned desiring to play certain games but not feeling able to due to their mood, as described by Ash:

‘I think I wa- when I play those games, I want to be fully enjoying them. And if I’m not fully enjoying them, I feel like I’m losing out on the experience as well and don’t, don’t see the point in, and I become quite kind of frustrated with myself.’

In contrast to participants experiencing emotions more strongly during a low mood period, some reported a ‘flattening’ of emotions instead. This was reported as both a negative thing for the participant, and as a more beneficial or neutral effect (as mentioned in the last theme):

‘I think like when I’m doing less well than I am, I can find myself almost not playing for fun. I’m just playing because it’s what I do [...] I’m kind of going through the motions of being me, but I’m not often deriving in a huge amount of enjoyment from the game’ Spencer.

Although this flattening can seem beneficial to the participant, it is included as part of the theme of low mood accentuating negative experiences of gaming as it does suggest less enjoyment of gaming itself compared to when participants play in a more positive mood.

Overall, gaming in a low mood seems to be a more negative or less positive experience than ‘normal’ gaming. Emotions are more intense, negative associations such as guilt or more obsessive playstyles are enhanced and participants seem aware of this and subsequently alter their gameplay choices to try to avoid these negative effects.

## 5 DISCUSSION

Overall, 5 key themes were found surrounding persistent low mood and gaming habits. These themes suggest a potential pattern of behaviour within these participants which could be valuable when considering the wider scope, such as gaming disorder or designing games for improving wellbeing. It appears that during periods of particularly low mood, gamers will reach for a predictable, familiar game which is low stakes and will occupy their minds without requiring huge amounts of effort from them. During this time, people often report having a less enjoyable or beneficial gaming experience, and struggle more with the negative aspects of gaming such as playing more than they intended. When emotional energy is sufficient, players with low mood report seeking out engaging games that offer them a lot to think about and can help distract them from their negative thoughts. In general, gaming can offer many emotional benefits and is seen as a valuable part of players’ lives

### 5.1 Connections with other work

The themes found have several connections to existing literature. There is evidence to suggest that gamers regulate their emotions more than non-gamers [1, 14] which relates to how participants talked about using games to ‘reset’ during periods of low mood in order to be able to do other tasks. There are links with Mood Management Theory [15] although the detail and scope of this research is not sufficient to make any strong claims.

Steadman et al [16] highlighted the potential therapeutic applications of some types of commercial games and suggested that RPGs might be well-suited to challenge thinking patterns due to the strong identification with the characters. This is very similar to how some participants talked about exploring their morality or sexuality through games with strong RPG and story elements, and highlights the potential for exploring the mental benefits of this further. Steadman et al also talked about how strategy games engage executive functioning, something which has been linked to the benefits of gaming extensively in literature with mixed conclusions [17].

Social success, identity exploration and a sense of community were all mentioned by participants during the interviews. Sargent et al [18] found that a sense of belonging was inversely related to depressive symptoms in a group of naval recruits, which might explain why gaming is seen as so valuable to this population. Games can offer powerful senses of belonging and opportunities for social interactions, which might make them especially suited for helping alleviate depressive symptoms in this way

### 5.2 Applications

This work offers several key avenues of application. Firstly, the gaming habits of people with persistent low mood and depression have not been explored using these methods before. Previous work involving gaming habits of people with depression has largely focused on internet gaming disorder [3] and this work marks the start of a deeper exploration into other types of interactions and feelings people with low mood can have with games. These themes can offer a starting point for further investigation of how and why gaming can improve wellbeing and mood by highlighting what

aspects seem to be important to the players. This has applications in game design and development in both industry and academia as again, it pinpoints factors and interactions that are useful to consider when making a game.

### 5.3 Limitations and Future Research

As always, there are some limitations to bear in mind when considering the findings of this work. Firstly, though the aim was to examine a persistent low mood population, it can be argued that people suffering from severe depressive episodes are unlikely to take part in the study. Many participants reflected on periods of their lives when their mood was extremely low but this is affected by time and memory and so may suffer from accuracy, though it does gain the benefit of reflective insight. This limitation also applies more broadly to the study, in that the interview was designed to prompt reflection upon past experiences rather than asking about something happening directly in the moment. A diary study or similar could therefore be a good step in collecting thoughts and feelings that occur 'in the moment' when gaming.

Additionally, all participants were either involved in research, the games industry or education in some fashion. This is likely to result in some unique perspectives on gaming and mental health, though it is hard to say what nature of influence it might have had. It might be beneficial to conduct interviews with people from different jobs or backgrounds in order to see if the details or reflections focused on are different.

Another potential direction this research could take is a follow-up quantitative study using established measures of mood. Throughout the interviews, participants reported a mix of positive and negative moods experienced whilst gaming and it would be interesting to see if a similar mix is found using quantitative measures in a more experimental setting.

## 6 CONCLUSION

The main takeaway of this work is to offer a more detailed look at the habits and attitudes of a gaming population with persistent low mood. These themes hopefully offer a starting point for developing a deeper understanding of how games and low mood can interact beyond what the literature currently suggests. The argument as to whether games are beneficial or harmful to people with mental health disorders is a frenzied one, but without asking the affected populations, the steps forward we can take are sadly limited.

## ACKNOWLEDGMENTS

This work was supported by the EPSRC Centre for Doctoral Training in Intelligent Games and Games Intelligence (IGGI).

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