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Videogame player experiences with micro-transactions: An interpretative phenomenological analysis

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ABSTRACT

Background: Videogame monetisation methods have become a billion-dollar industry. Concerns surrounding micro-transaction use and potential negative psychological impact have become prevalent in recent years. For example, there is a suggested association between loot box buying and problem gambling, although this does not capture the nuanced experiences of players with a broad range of micro-transactions.

Aim: The present study aimed to identify convergences and divergences in videogame player experiences with micro-transactions, using interpretative phenomenological analysis.

Method: Eleven participants took part in online semi-structured interviews. Interviews focused on participants' feelings, beliefs and motivations surrounding micro-transaction use.

Results: Six super-ordinate themes were identified: (i) *self-control vs. impulsivity*, (ii) *motivations for use*, (iii) *obligation to play after purchases*, (iv) *guilt and regret*, (v) *feeling tricked or cheated* and (vi) *comparing micro-transaction use and gambling*. Sub-themes relating to motivations for micro-transaction use and comparisons between micro-transaction and gambling also emerged.

Conclusions: Key motivations for micro-transaction use were giving back to or 'rewarding' game developers for their work and social connectedness. Participants who engaged with battle pass micro-transactions often felt a sense of obligation to continue playing the game after purchasing. Micro-transaction use was explained by participants' need for autonomy, relatedness, and competence. It is recommended that cognitive behavioural therapy could be used to treat maladaptive cognitive beliefs related to micro-transaction use.

1. Introduction

1.1. Background

The videogame industry and its monetisation methods are ever-expanding, with in-game spending being projected to reach over $74 billion a year by 2025 (Clement, 2021). A popular form of in-game purchases are micro-transactions. Micro-transactions are commonly described as low-cost virtual items consisting of extra or bonus digital content. This digital content can include cosmetic items for avatars such as clothing or 'skins', expiration-based items that allow players to continue playing a game or speed up an in-game process, surprise items (typically known as 'loot boxes'), and paid progression systems that require experience points (XP) to unlock items (often known as a battle pass).

Micro-transactions are suggested to exist in a converging space between videogame playing and gambling, due to the nature of their inclusion in many popular videogames, as well as the suggested structural similarities between some forms such as loot boxes to methods of gambling such as slot machine use (Drummond & Sauer, 2018; King & Delfabbro, 2020). Videogames, and their respective forms of micro-transaction, are a widely accessible form of entertainment to players of all ages, and as such, concerns surrounding the potential impact of micro-transactions on problem gaming and gambling behaviours have become prevalent (Gibson et al., 2022; Griffiths, 2018; Li et al., 2019).

1.2. Review of literature

Much of the quantitative research surrounding micro-transactions has focused on specific micro-transaction forms and their relationship to disordered gaming and problem gambling (Gibson et al., 2022; Raneri et al., 2022). Most notably, there is a suggested association between the use of loot boxes and problem gambling (Wardle & Zendle, 2021; Zendle

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& Cairns, 2018, 2019). Further to this, those more at risk of exhibiting problem gambling behaviours typically spend more on loot boxes than those not at risk, particularly when income levels increase (Garrett et al., 2022). While spending on loot boxes does not necessarily lead to problem gambling behaviours, it is suggested that frequency of purchase is associated with higher problem gambling levels (von Meduna et al., 2020).

Additionally, engagement with loot boxes is suggested to be associated with problem gaming behaviours. It has been reported that those who are high-risk gamers are more likely to make an initial loot box purchase (than low-risk gamers) and that those who purchase loot boxes are more likely to engage in 'bingeing' when gaming (Li et al., 2019; Spicer et al., 2022). However, this association is contested, with peer purchasing behaviours suggested to be more influential on loot box purchasing than disordered gaming (King et al., 2020).

Beyond loot boxes, other forms of micro-transactions, such as skins and pay-to-win micro-transactions and their relationships to both problem gambling and problem gaming have been studied using quantitative methods. Although direct purchasing of avatar skins, as opposed to through loot boxes, is suggested to be less problematic due to the lack of 'surprise' element involved, wider use of skins in unofficial gambling games among youths and adolescents are suggested to be associated with both problem gambling behaviours and disordered gaming behaviours (Hing et al., 2021). In the case of pay-to-win micro--transactions, which can include expiration-based forms, as well as advantageous weaponry or items, it is suggested that higher engagement levels are associated with with pay-to-win purchases (Steinmetz et al., 2022).

To date, Japan, China, the Netherlands, and Belgium have all implemented policy regarding the regulation of loot boxes as a result of the emerging quantitative research (Leahy, 2022), although these policies and regulations are not standardised and relate to the gambling law for each country. In the UK, reports published suggest that, although links between loot boxes and problem gambling have been reported, the lack of ability to 'cash out' and obtain real-world money prevented loot box legislation from being implemented (Goddard, 2022). It is clear that there is still a lack of consensus regarding the risk of harm involved with the use of loot boxes and, even less so in the case of other forms of micro-transactions. It should also be noted that the previously discussed research highlights correlational relationships between micro-transactions, problem gambling, and disordered gaming and so the direction of the relationships (as well as the underpinning causality of the relationships) is not currently apparent.

Qualitative studies analysing micro-transactions have found a range of themes related to how videogame players experience micro-transactions, including motivations for their use, perceptions of their inclusion in games, and links to gambling. However, these studies have various limitations that the present study aims to address. Research conducted by Cleghorn and Griffiths (2015) assessed the purchase behaviour of those who engaged with a broad range of virtual items using interpretative phenomenological analysis (IPA) methodology (Smith & Osborn, 2003). Several motivating factors were identified, including exclusivity, necessity, social shopping and items being perceived as 'cool'. Additionally, themes reported were related to social aspects involved in the purchase of virtual items, connection to avatars, impulse purchasing, purchasing for self-expression and feelings after purchases (feeling rewarded and self-torment). It was found that players expressed positive attitudes towards micro-transactions, through enabling friendship development and boosts of self-esteem related to self-efficacy and satisfaction. It was also suggested that participants felt attached to their in-game avatars and this motivated purchases.

Although Cleghorn and Griffiths (2015) addressed a research gap surrounding motivations for in-game purchasing and directly assessed lived experiences of participants and how individual meaning factored into their purchases, the rapidly changing climate of videogame monetisation methods, and the recent discourse surrounding associations between micro-transactions and problem gaming and gambling suggests the need for a more current analysis of videogame player experiences using IPA, allowing for the discussion of how changing monetisation methods may have and will continue to impact these experiences. For example, the study did not discuss potential similarities between virtual items and forms of gambling, and how players may perceive their micro-transaction use in relation to their gambling experiences.

More recent qualitative studies used thematic analysis methods, as opposed to IPA. Alha et al. (2018, pp. 49–58) conducted deductive thematic analysis among free-to-play (F2P) videogame players who use micro-transactions, using a pre-determined set of four themes: (i) perceptions of F2P games, (ii) experiencing F2P games, (iii) using real money in F2P games, and (iv) ethical issues in the F2P model. It was found that those who used micro-transactions generally had negative perceptions of the free-to-play model, with the concept of those who used micro-transactions as having unfair advantages in-game, although those who did purchase often discussed the benefits of time-saving and skipping content. Additionally, participants highlighted the ease of using micro-transactions in relation to spontaneous purchases, and the 'addictiveness' of micro-transactions was seen as dependent on the players themselves, as opposed to the fault of game developers.

Alha et al. (2018) provided perspectives from a sub-group of players who engaged with micro-transactions. However, they did not specify the forms of micro-transactions used by participants, focusing on the F2P model as a whole. In this case, although experiences with micro-transactions were discussed, the focus of the study surrounded players' perceptions of and attitudes towards the micro-transactions and did not look in-depth at individual experiences, underpinning motivations for purchases or resulting emotional responses to these purchases.

Additionally, recent qualitative studies have use thematic analysis methods but focused specifically on loot boxes (Nicklin et al., 2021; Puiras et al., 2022). Nicklin et al. (2021) conducted a reflexive thematic analysis of participant accounts of motivations loot box engagement. Seven themes were found from this analysis. These were (i) opening experience, (ii) value of box contents, (iii) game-related elements, (iv) social influences, (v) emotive and impulsive influences, (vi) fear of missing out, and (vii) triggers and facilitators. It was found that stimulating aspects of loot box buying were mostly related to the excitement of the 'opening' of the loot box, as well as game developers adding novel items into the game. Additionally, the 'fear of missing out' was a driving motivation for loot box purchases, particularly when content was locked behind a paywall, or aided in the progression of the game. Most notably, the study linked motivations for purchase to the satisfaction of daily needs and needs satisfaction (Deci & Ryan, 2015).

Similarly, Puiras et al. (2022) conducted inductive content analysis to identify motives for refraining or engaging with loot boxes and gambling among a sample of Canadian university students. These motives were then compared between loot box buying and gambling, to identify key similarities and differences. Similar themes between engaging with loot boxes and gambling were reported to be (i) enjoyment and (ii) the chance to win. Similar themes between refraining from loot box buying and gambling were reported to be (i) negative consequences, (ii) disinterest, (iii) finances, and (iv) accessibility. It was found that loot box buying was typically passive or to progress in the game, as opposed to gambling but that both loot box buyers and gamblers engaged due to feelings of excitement and the thrill of a surprise. It was also found that loot box buyers reported less concern about addiction and loss of money than gamblers, potentially due to the lack of knowledge surrounding negative financial impact from loot boxes. Alternatively, the double currency conversions used by some videogames (i.e., purchasing in-game items using virtual currency that is purchased using real-world money) may contribute to a disconnect between players and the real-world monetary impact (King & Delfabbro, 2019), leading to 'easier' purchases.

However, by focusing solely on loot boxes, both Nicklin et al. (2021) and Puiras et al. (2022) did not identify how other forms of

micro-transaction play a role in videogame players' experiences and perceptions. For example, differences in emotions surrounding 'good' or 'bad' micro-transactions, as identified as part of the perceptions of F2P players by Alha et al. (2018, pp. 49–58). Additionally, loot box buyers may have different underpinning needs satisfaction requirements than those who use other forms of micro-transaction. Therefore, further in-depth and reflexive analysis is needed across a broad range of micro-transaction types.

Other recent qualitative studies surrounding micro-transactions have focused on singular forms of micro-transaction other than loot boxes. Petrovskaya and Zendle (2020) carried out thematic analysis on content from a *Dota 2* forum, focusing specifically on battle pass micro-transactions. The analysis of the content mainly explored perceptions and attitudes towards the battle pass micro-transaction. Three main themes were reported. These were the (i) spend-grind trade-off, (ii) elitism, and (iii) positive engagement. It was found that negative perceptions of the battle pass surrounded the difficulty and the time investment involved in gaining the required XP to level up and gain a reward. For some players, the ability to buy levels resulted in feelings of elitism. That is, playing to progress was not accessible to those who could not afford it and resulting in a feeling of pressure to engage with the battle pass. For others, purchasing the battle pass resulted in a feeling of connectedness with fellow players, particularly those who enjoyed guild-based play.

It should be noted that the qualitative analysis conducted by Petrovskaya and Zendle (2020) formed part of a mixed-methods study, which also focused on quantitative analysis of battle pass engagement. As a result, the qualitative analysis, although providing novel findings, did not analyse individual battle pass users and so did not draw conclusions from individuals own lived experience, instead utilising online content. Further exploration of battle pass users and their motivations for purchase, as opposed to just their attitudes and perceptions, is necessary. This would also allow for participants' discussion of sense-making and meaning and how their experience may differ to other micro-transaction forms. For example, the battle pass mechanism differs to the loot box micro-transaction and more time investment is required to gain rewards, rather than monetary investment. Therefore, a more thorough investigation of the types of investment involved with multiple micro-transaction types and potential differing motivations for purchase is necessary.

1.3. The present study

The present study addresses the gap in research in multiple ways. First, as the few qualitative studies that have been conducted concerning micro-transactions have only utilised one type of analysis (i.e., thematic analysis) (Alha et al., 2018; Nicklin et al., 2021; Petrovskaya & Zendle, 2020; Puiras et al., 2022), it is crucial that individual videogame player experiences are considered, including how those who use micro-transactions make sense of and understand their engagement in relation to their both videogames and wider gaming and gambling context. Second, convergences and divergences in these experiences across a group of micro-transaction users should be considered. Subsequently, models associated with motivations for in-game purchases can be developed, allowing for an in-depth exploration of factors involved with the use of micro-transactions and the relationships between these.

Third, understanding the perceptions, needs and motivations of individuals is considered to be key for identifying any preventative or harm-reducing measures for addictive behaviours (Kennedy & Gregoire, 2009). Through understanding what motivates potentially problematic micro-transaction use as well as understanding the underlying cognitive processes involved in using micro-transactions, videogame companies and governing bodies can utilise preventative and corrective approaches in order to protect at-risk individuals.

Fourth, the present study examines multiple types of micro-transaction. Previous qualitative literature has focused either solely on loot boxes (Nicklin et al., 2021; Puiras et al., 2022) or battle passes (Petrovskaya & Zendle, 2020). Other qualitative literature has focused on general 'virtual items' (Cleghorn & Griffiths, 2015) or unspecified F2P micro-transactions (Alha et al., 2018).

Therefore, the present study aims to address these methodological and literature gaps and contribute to the limited body of qualitative literature surrounding the lived experiences of videogame players who engage with micro-transactions. The present study utilises IPA to analyse individual and nuanced participant accounts of their experiences with multiple forms of micro-transaction, before identifying convergences and divergences among the participants. The present study posed the following three research questions (RQs): How do videogame players perceive different forms of micro-transactions? (RQ1); What motivates videogame players to engage with micro-transactions? (RQ2); and (iii) How do videogame players relate micro-transaction use to problems with gambling and problematic gaming behaviour? (RQ3).

2. Method

2.1. Design

The present qualitative study utilised an interpretative phenomenological analysis (IPA; Larkin et al., 2021; Smith et al., 2022; Smith & Osborn, 2003) approach in order to explore the lived experience of videogame players who use in-game micro-transactions. Semi-structured interviews were conducted. These were then transcribed and analysed to produce a series of themes relating to experiences with micro-transactions. A rationale for the use of IPA and the research procedure are detailed in the following sections.

2.2. The use of IPA in the present study

IPA is most commonly described as a double hermeneutic process, through which the interviewer or researcher makes sense of a participants' sense-making of a phenomenon they experience (Smith & Osborn, 2003). IPA has three main theoretical underpinnings that should be considered throughout the research process to ensure a high quality of analysis (Eatough & Smith, 2017; Shinebourne, 2011). The first is that the process is hermeneutic, or in other words, is interpretive in nature through sense-making of individuals experiences. The second is that the research remains closely rooted to the phenomenology and the lived experiences of individuals. Finally, the process is idiographic. This means that each participants' experience is analysed on a case-by-case basis, so that the nuances of individual experiences are considered. The researcher may then choose to present a single case study or can analyse the emerging themes identified in the group as a whole. For the purpose of the present study, the group experiential themes are presented, so as to discuss the convergence and divergence in experiences among a group of videogame players who purchase in-game items.

2.3. Participants

A total of 11 participants were recruited through social media platform *Twitter* ($n = 3$), the authors' employing university *Microsoft Teams* spaces ($n = 5$), and through *Super Smash Bros.* community Discord servers ($n = 2$) and *Dota 2* community Discord servers ($n = 1$). In the case of the Discord server recruitment method, potential participants were informed of the research and were told to contact the first author if they met the eligibility criteria and were interested in taking part. All remaining participants ($n = 8$), both on *Twitter* and on *Microsoft Teams* were informed of the research and the eligibility criteria and were provided with a link to contact the first author if they were interested in participating. The eligibility criteria stated that participants should: (i) be aged 18 years and over, (ii) play videogames, and (iii) have previously purchased in-game content, including any form of downloadable content (DLC). For the purpose of the present study, DLC is defined as

the umbrella term for any downloadable content associated within a game. This includes smaller cost micro-transactions, as well as larger cost expansions and game add-ins. Participants were made aware that the present study sought to discuss smaller cost purchases made within games themselves (i.e., micro-transactions), as opposed to larger cost forms of DLC (i.e., expansions and additionally story content) purchased externally to the game.

Participants were aged between 18 and 25 years. There were two female participants, two non-binary participants, and seven male participants. All participants were residents of the United Kingdom. As such, monetary expenditure is discussed in Great British Pounds (GBP; £). Before taking part in the interview, participants completed a pre-interview survey. Participants were asked their age and gender and also answered questions about their gaming behaviours. These asked about participants' self-identified gaming experience level (beginner, intermediate or advanced) as well as their preferred genre and platforms and how many hours a week they played videogames. Following these questions, participants completed the nine-item Internet Gaming Disorder Scale–Short Form (IGD-SF9) (Pontes & Griffiths, 2015). None of the participants met the threshold for internet gaming disorder. Finally, participants were asked about their gambling engagement within the previous 12 months. If participants engaged with any forms of gambling, they were also asked to complete the Problem Gambling Severity Index (PGSI; Ferris & Wynne, 2001). One of the participants met the threshold for problem gambling. Participants who did not engage in any form of gambling were not asked to complete the final gambling portion of the pre-interview questionnaire. See Table 1 for a summary of participant characteristics and instrument scores.

2.4. Interview schedule

The initial interview schedule[1] was developed by the first author, derived from the author's own interactions and experiences with micro-transactions, as well as current literature. The remaining authors then provided constructive input throughout the development of the interview schedule. Following semi-structured interview procedures outlined by Hennink et al. (2020), the interviews began with more general questions that explored the role of videogames and micro-transactions in participants' lives. These questions served to build a rapport between the interviewer and the participants. The general questions were then followed by more specific questions concerning the goals of the current research (i.e., participants' engagement with and behaviours surrounding micro-transactions, their reasons for using micro-transactions, their gaming behaviours and their experiences with gambling).

2.5. Data collection

Semi-structured interviews were conducted from January to March of 2022. Each participant was interviewed once by the first author online, using either *Microsoft Teams* or *Zoom*. Participants chose their preferred platform. Interviews lasted between 30 and 45 min. Participants were offered no reward for participation. Interviews were transcribed verbatim and participants were given pseudonyms after transcription.

2.6. Data analysis

The analysis process for the present study was informed by best practice literature (Nizza et al., 2021). Interpretative phenomenological analysis (IPA) typically follows the process of multiple readings of a single transcript at a time, while note taking in the margins, each time allowing the researcher to become more involved with the participants' experiences and perceptions (Larkin et al., 2021; Smith & Fieldsend, 2021). Each transcript was thoroughly read multiple times, with no notes being taken to ensure that the first author was familiar with the data. After familiarity with the data was achieved, the first author read the transcript again and made notes about notable comments made by the participant or words used by the participant. These took the form of descriptive and linguistic coding. After this, the first author read through once more, turning the notes made into phrases that capture the essence of the participants' experience, as well as the first author's initial reaction to this. These formed the conceptual coding and subsequent emerging themes. Following the development of emerging themes, the first author then listed these in sequential order. During the IPA process, individual researchers may take novel approaches to grouping and condensing the emerging themes. For the present study, the first author printed the sequential list of themes onto physical pages and then colour coded related and similar themes until a set series of personal experiential themes (PETs) were formed. These included superordinate themes individually or with sub-themes. The first author then identified the most relevant and rich quotes from the transcription to illustrate these themes.

Finally, the first author then identified group experiential themes (GETs), highlighting any convergence or divergence throughout. The first author also made a note of relevant and illustrative quotes from each participant in relation to each superordinate or sub-ordinate GET identified. The GETs were then shared with the remaining authors for triangulation. The final series of group themes is analysed and discussed in the present study.

2.7. Reflexive statement

Guidance surrounding best practices for qualitative research indicates that the nature of IPA requires reflexivity from involved researchers (Clancy, 2013). Throughout the research process, author biases were considered and noted to ensure that any personal experience with micro-transactions or beliefs did not influence analysis of participants' own experiences. Prior to data collection, the first author recognised potential bias due to involvement in multiple videogame communities, research experience, and awareness of media discourse surrounding micro-transaction engagement. This means that the research and media discourse surrounding potential issues developed from micro-transaction engagement were not considered unless participants themselves discussed these in relation to their own experiences. Moreover, three of the 11 participants were recruited through the first author's own videogame community links, meaning similar perceptions and beliefs to the first author may have been observed. To this end, participants were asked open-ended and neutral questions, encouraging discussion of their own perceptions, beliefs and experiences, with no reference to the first author's own. The first author also ensured that neutral responses were given to participants during interviews, as to not convey any opinion or to influence further responses. Finally, any reflexive thoughts were noted during the analysis stage and considered before the group experiential themes were developed.

2.8. Quality assessment

Multiple assurances were taken to guarantee a high standard and quality of research. Alase (2017) highlights the importance of authenticating data when undertaking IPA research, so as to not compromise the understanding of participants' lived experiences. As such, the authors utilised triangulation and auditing methods to ensure that the analysis upheld the underpinning philosophical theoretical perspectives of IPA. That is, to ensure that the first author's analysis was interpretative and not wholly descriptive, was idiographic in nature, and remained close to the participants' account of their experience. Moreover, the integrity of the research was upheld through the inclusion of a

[1] Available on demand from the corresponding author
[2] Internet Gaming Disorder Scale – Short Form (Pontes & Griffiths, 2015).
[3] Problem Gambling Severity Index (Ferris & Wynne, 2001).

Table 1
Sample demographics, characteristics, IGD-SF9[2] and PGSI[3] scores.

Pseudonym	Age	Gender	Videogame playing level	Hours of game play per week	Preferred videogame genre(s)	Preferred videogame platform(s)	IGD-SF9	Type of gambling in the last 12 months	PGSI
Eleanor	19	F	Intermediate	15	Roleplaying Games (RPGs)	PC, Mobile, Console	20	National Lottery; Private betting	0
Jordan	26	Nb	Advanced	20	RPGs, Platformers, Puzzle, Visual Novels	PC, Console	19	Private betting	0
Tim	22	M	Intermediate	6	First Person Shooters (FPS)	Mobile, Console	21	National Lottery; Another lottery	0
Alex	20	Nb	Advanced	20	RPG, Dungeon-Crawler, Strategy, Massively Multiplayer Online Roleplaying Games (MMORPGS), FPS, Platformer, Action/ Adventure	PC	18	None	x
James	25	M	Intermediate	8–10	FPS, Indie, Puzzle, Action	PC	9	None	x
Daniel	23	M	Advanced	30	Adventure, Action, RPG, Puzzle, FPS	PC, Mobile, Console	14	Betting pools	0
Nina	21	F	Advanced	15	Shooters, Battle Royale, Multiplayer	PC, Mobile, Console	21	None	x
Harry	18	M	Advanced	42	FPS, Roguelike, MMORPG, Rhythm Games, Virtual Reality (VR), Soulslike	PC, Mobile	22	None	x
Charlie	21	M	Intermediate	25	Multiplayer Online Battle Arena (MOBA), RPG	Mobile, Console	20	National Lottery; Betting pools	14
Nathan	19	M	Advanced	16	Grand Strategy, RPG, Simulation	PC, Mobile, Console	29	None	x
Michael	27	M	Advanced	8	RPG/Football Sims	PC, Console	15	Slot machines; Private betting	0

participant eligibility criteria. This was to ensure that a group of videogame players who had engaged with micro-transactions were chosen to take part in the study based on their lived experiences and ability to answer the research questions posed.

2.9. Ethics

The research was approved by the research team's University Ethics Committee. To obtain favourable ethical approval, multiple safeguarding and privacy policies were considered. Firstly, participants were given an information sheet outlining the purpose of the study, as well as what the study entailed and information about protecting anonymity. Participants were then asked to sign consent forms agreeing to taking part and for the use of the subsequent data. Secondly, participants were given post-participation debriefs, including relevant links to guidance and advice surrounding the topics discussed, should they need assistance after the study. Finally, participant names were pseudonymised to protect their confidentiality.

3. Results

Between three and five superordinate themes were found in each transcript. As the present study explored experiences across a group, these were analysed further to identify similarities or differences in experience. Six superordinate themes were identified during the analysis of the participant interviews (Table 2). The remaining fives themes were evident in most of the transcripts, but not all. Two of the themes identified (*Motivations for use* and *Comparing micro-transaction use and gambling*) also had linked subordinate themes. Each superordinate theme is illustrated with linking text from participant transcripts and in cases where sub-themes were present, the sub-theme is illustrated instead.

Table 2
Group experiential themes.

Super-ordinate themes	*Sub-themes*
Self-control vs. impulsivity	
Motivations for use	a. Rewarding developers b. Limited time offers c. Peer influence and social status
Obligation to play after purchases	
Guilt and regret	
Feeling tricked or cheated	
Comparing micro-transaction use and gambling	a. Similar feelings of excitement and euphoria b. Similarities between loot boxes and gambling

3.1. Superordinate theme 1: self-control vs. impulsivity

This theme illustrated the similarities and differences in the ways videogame players purchase and use micro-transactions. All participants discussed their experiences with controlling their micro-transaction use or making impulsive purchases. The interview did not explicitly ask about spending behaviour and instead asked participants about their engagement with micro-transactions. In some cases, participants related their engagement to setting spending amounts, or instead discussed their experiences with making impulsive decisions. The participant accounts of their experiences were divided almost equally between those who controlled their purchases and those who typically purchased impulsively. For each participant there were varied degrees of control involved in their purchases. For example, Harry explained how he controlled his engagement with micro-transactions through setting himself spending limits:

> "I guess … like, I've been on and off for like, several years, like, I don't actively force … like, I set myself like a budget, I suppose, like, this is, this is one and then you're done for the rest of the month. And then, and then I basically live by that. But apart from that, I've not really been like … I've not really felt the encouragement to go into micro-transactions that much"

Harry appeared to find following a budget easy when engaging with micro-transactions. His lack of consistency when using micro-transactions enabled him to take a step back and objectively view his purchases. He later mentioned his reasons for controlling his spending:

> "Most of the games I play tend to have the aesthetic micro-transactions, so the ones that don't give you any like sort of advantage. So, it's more just like … I feel like it's just more of a principle for me where I try not to spend … too much. So, I could spend it on other stuff, like, a new mouse or a new keyboard"

Harry's control over his spending stemmed from the limited impact

cosmetic micro-transactions have on the game. For Harry, value is placed on the ability to build skill and competency in the game he is playing. He self-identified as a competitive player and so his priority is not on the appearance of his avatar, but on his level in the game and achieving goals. His ability to maintain his control with micro-transactions was also shown through his rationalisation and planning of his spending on physical game enhancing equipment. This also showed a level of caution when purchasing virtual items, versus tangible goods. Harry's experience indicated his lack of need for micro-transactions, due to being motivated by building skill and learning how to master the game and so he was able to control his spending. Michael also discussed his budgeting when spending and his need to control his spending, due to the ease at which purchases can be made:

> "And, and ah well, you know, sure, why not, I'll spend the extra couple of quid. Because I'm topping up my Google account anyway, get a few more Pokéballs because then I can catch even more of them, and then you do fall into that cyclical … well, while I'm here, I may as well expand my storage and my backpack and that kind of thing, but I just have like a really set limit of like, well, I'm not gonna blow like thirty quid on this, you know, fiver, ten like at absolute most"

Michael discussed his experiences with the free-to-play mobile game *Pokémon GO*, in which expiration-based micro-transactions are offered in the form of *Pokéballs*, which are used to 'catch' *Pokémon*. If a specific number of *Pokéballs* are used a day, the player cannot catch any more P*okémon*, potentially missing out on 'rare' finds. By purchasing more, the player is able to play the game for a longer period of time, without having to wait for their stock to refresh. Unlike Harry, Michael showed a clear struggle not to spend more money than he initially intended to. This appeared to be exasperated by the speed at which micro-transactions can be purchased and having easily accessible funds. For Michael, the longer he wanted and needed to play the game, the more likely his impulsive purchases were. However, Michael's anxiety about wasting or 'blowing' more money was clear in how resolute he was regarding his personal budget and his 'absolute' limits. For Michael, a balance was needed; ten pounds (£10) or below was considered to be a small enough amount of money to pay in order to potentially catch a rare *Pokémon*, but not too much that he felt guilty about his purchase and so he was able to control his spending through finding this balance.

Tim similarly mentioned his planning in regard to micro-transaction use, stating that he actively planned when to engage, but suggested that he often felt like his gaming would be enhanced by purchasing, and so impulsively engaged with in-game purchases:

> "Because I look back at some of the kind of micro-transactions I've made throughout the course of the game. And then you think it maybe allowed me to get to the end of the game, or participate more in the game for like a week. But after the week, they kind of … it's very micro in the sense that it's um … the impact of it has kind of run its course and ran out. So it's a kind of thing where generally, I think over the course of my gameplay, I've kind of veered slightly more cautiously away from them"

Tim's experience indicated that he did not feel able to complete a game without micro-transaction use, suggesting that they 'allowed' him to finish the game. It appears that in moments, he would impulsively purchase when he felt stuck or he had no choice but to purchase but that in hindsight, he did not need to engage in a micro-transaction. His change in opinion and engagement with micro-transactions over time was related to an increase in his gaming skill. This indicates that it may be more casual videogame players that are typical micro-transaction users, when they feel as though they are not skilled enough to complete the game and wish to enhance the gameplay further. The need to purchase to enhance gameplay was also true for Nina. Her main forms of engagement with micro-transactions were through cosmetic items and battle passes.

> "So, with battle pass, I immediately like for the games that I play, I immediately get the battle pass. I also play Fortnite, so I get like there's this membership, thing along with the battle pass I get that. If there's a new skin I like I get it, if there's some sort of DLC then, I won't immediately get it because DLCs are a little bit more expensive, but if it's something I'm like, oh that would be really good or I should get it and it'll help me and if it looks like it's worth the cost, I'll do that"

Nina showed no hesitation towards micro-transaction use, and she was immediate with her decision to purchase in-game items, illustrated by her repetitive use of the word 'immediately'. Regardless of the skin or the quality of the battle pass, she showed a tendency to impulsively purchase. She played a variety of games and used micro-transactions in all of these. However, she did take time to plan more expensive transactions. Her mentioning of some purchases 'helping' her in the game shows that she felt her gaming experience was dependent on micro-transaction use, whether through feeling included in social event through purchasing skins, or through increasing XP and gaining rewards from battle passes. In both instances, it is clear that Nina's impulsive purchases give her a feeling of progression and skill afterwards.

3.2. Superordinate theme 2: motivations for use

This superordinate theme focused on participants' motivations for using micro-transactions. Three key motivations were established during the group experiential theme analysis. These were *rewarding the developers*; *limited time offers* and *peer influence and social* status. The sub-theme *rewarding the developers* surrounds participants' willingness to use micro-transactions in games made by developers they respected. The *limited time offers* sub-theme discusses both expiration-based and rare or collectible forms of micro-transaction and how these are attractive to some players. Finally, the *peer influence and social status* sub-theme focuses on the influence of players' peer groups when using micro-transactions, as well as how status is reflected in their in-game purchases.

3.2.1. Sub-theme 1: rewarding developers

This sub-theme encompassed how rewarding developers for their involvement in games is a driving motivation for some videogame players. It may be assumed that when individuals pay a base price for a game, purchasing extra content for the game would feel redundant. However, for some participants, micro-transaction use was a method of supporting games and creators and enabling the continued creation of the game. This particularly seemed to be the case for free-to-play games. Nathan's investment in videogames went beyond playing for entertainment. He explained how he engaged with forums and media discussing the games he was currently playing in-depth. This then factored into his decision for micro-transaction use in games:

> "I think I might be more likely to buy a micro-transaction, if it's for a game and developer that I respect, if that makes sense. If, the game itself, at base level, is really fun and enjoyable, and I've got a lot of hours out of it and I know that the developers are good people, then I might be tempted to … buy something further within the game just to support the developers"

By investing more time into researching games and their creators, Nathan built his knowledge about the practices of game companies. To this end, he was more motivated to purchase when he felt a level of connectedness to a developer, or if he found the game developers likeable. The morality of game developers is something that has been discussed in popular media and in gaming communities, particularly surrounding micro-transactions, with the ethics of gaming companies coming being scrutinised due to the monetisation methods they use (King & Delfabbro, 2018). Therefore, Nathan appeared to be more drawn to make purchases when he felt their implementation of

micro-transactions was more moral. Nathan's inclusion of his enjoyment level and time investment in the game was also notable, because these factors together were also mentioned by other participants. Similar to findings by Eliassen (2022), this was especially expressed in the case of free-to-play games. For example, Daniel mentioned this is how he expressed his support:

> "And yeah, just basically just because the hours I put in, it's almost like, it does also kind of support the game. So, if I'm playing it a lot, it's like, ah I'll spend a bit more on that just to be cool. And you know, they can keep … keep running the game. So, I mean, a lot of the micro-transactions are like the sort of free to play games"

Similarly, Jordan mentioned the idea that making in-game purchases aided developers, particularly for independent companies:

> "You know, it's the idea that you know I've got this whole game to play and then I've got more content on top of that and with like if it's like an indie game from a smaller developer I feel quite good because it feels like I'm supporting them a bit more"

Jordan's emotional response of 'feeling quite good' after supporting the developer is a concept that has been discussed before in the micro-transaction literature, with supporting the developers and feeling charitable towards developers as a key motivating factor for some videogame players (Marder et al., 2019). In the cases of Jordan and Nathan, their involvement of gaming went beyond that of a casual player, and they both engaged with other game-based media and communities. In fact, of those participants whose experiences included engaging with other forms of media outside the respective games they played, most mentioned the game development companies and felt the need to support their work. It then could be the case that a feeling of belonging and community is what drives the feeling of being charitable towards game development companies, especially for those heavily involved in gaming and for those who identify with particular gaming communities.

3.2.2. Subtheme 2: limited time offers

This sub-theme referred to how limited time offers, or good value micro-transactions is a motivating factor for some videogame players in micro-transaction engagement. In-game events have become increasingly common in videogames that use online or real-time features, to provide players with perceived valuable or discounted virtual items. For some, limited time micro-transactions are appealing due to the rarity of the reward offered, and for others, limited time offers are seen as more valuable than regular micro-transactions offered in games. For Eleanor, how micro-transactions are presented within videogames heavily impacted her motivations to purchase:

> "Yeah, so I'd say … I'd feel more inclined when something was kind of limited edition. I feel like, with … videogame marketing, I feel like if they market something as being limited, in time and special, it does kind of make me consider it a bit more"

For Eleanor, the ability to feel unique or 'special' among a group of players through the purchase of in-game items was appealing. In this instance, Eleanor's act of micro-transaction use was based on the feeling of belonging to a small, elite group of players who own and can use the item. This may especially be the case for cosmetic-based micro-transactions, because they can be used as a symbol of investment in the videogame. For Eleanor, the value of the item increased if it was special, whether through monetary value or emotional value. In this case, the motivating factor of limited-edition offers indicated Eleanor's need for social acceptance and the positive feeling she got from feeling part of a group. Alex described a similar experience with a micro-transaction. However, this refers to their purchasing of loot boxes, rather than purchasing skins outright:

> "Yeah, so I think … I've been more inclined to buy like, loot boxes, for example, in Overwatch during events when they have uh skins that you can only get during that event to get out of loot boxes, for example"

In Alex's case, even though they may not obtain the skin they desire from loot boxes, the fact that the limited-time skin is a possible reward was a driving motivation in their purchases. In this sense, Alex experienced less aversion to potential loss from loot boxes due to the perceived reward value they might gain. Loss aversion refers to the concept that those who play videogames and engage in micro-transactions would rather spend money than to risk not owning or potentially owning the item (Schmidt & Zank, 2005). In the case of Alex's experiences, the need to own the limited-edition skin outweighed the cost of the money they had spent on opening loot boxes. This has been previously noted in research concerning loot boxes, with arousal levels increasing when more rare items are won (Larche et al., 2021). Therefore, it is reasonable to suggest that Alex felt a sense of accomplishment when a rare reward was finally won from the loot box.

3.2.3. Sub-theme 3: peer influence and social status

This sub-theme illustrated how, for some, peer influence and boosting social status can be a key motivation for micro-transaction use. This sub-theme also illustrated how this may not always be the case, and that for some players, micro-transaction purchases are more of a personal choice. For videogame players influenced by peers, micro-transaction use is an indication of social status through respectability, as well as an opportunity to feel connected to their gaming communities. For others, it is a more autonomous choice to engage with micro-transactions, based on their view of themselves and their feelings towards their in-game characters. Nina described experiencing positive social benefits from purchasing in-game items, especially regarding feeling respected by her community:

> "And I want to get involved and be part of it as well and … you know how, uh, in games when you see someone with a really old badge from when they were like they just started off and oh my God, that's an old person and you have automatically have a respect for them. So, things like that, like it, it builds a collection"

For Nina, community was an important part of her videogame playing and was mentioned continuously throughout her interview. Collecting items appears to be Nina's way of building her in-game status and allowing her to be an individual in a community of like-minded individuals. In this way, Nina needed to feel competent and respected by other players and felt showcasing her purchased items was the best way to do this, particularly in games she felt invested in. She initially mentioned two games that she played for at least 2 h every day. These were *Valorant* and *Dauntless*. Both games are free-to-play but offer cosmetic-based micro-transactions. In free-to-play games, it could be the case that at a base level, Nina did not feel that she could personalise and customise her avatars or characters to the level she needed to express herself properly, and so the cosmetic items offered appealed to her. Moreover, Nina purchased items like skins to gift to her friends in-game:

> "Um, to kind of be part of the community, like if my friends like a skin and they have the skin, or if they don't have a skin and they like it, and I want to get it and give it to them"

Another of Nina's experiences centred around buying skins for other individuals, specifically because reciprocal gift-giving factored into her motivations for micro-transaction use. By gifting friends her skins, she boosted or maintained her friendships with her community members and also increased the likelihood that she would be gifted in return. This in turn boosted her reputation and projected a positive image of herself to those she played games with. For Nina, this served to be beneficial in games like *Valorant* because teamwork can be a big part of gameplay. Daniel, on the other hand, explained his change from purchasing due to his friends to only purchasing because he enjoyed the micro-transaction:

> "Um, personally, I don't … maybe, maybe when I was younger, I maybe did it a bit more like to be like … oh, hey, look, I've got this cool item in this game or something. But nowadays, it's probably less like … for me to buy something, I'd have to think it's like, oh, that's something cool that I'd want to get. Like, I wouldn't get something just because like, you know, my friend or someone else says, oh, that's really cool. Like, sort of, like, it has to be more like a … yeah, I do want that, I'd get that"

The change in behaviour Daniel described appears to centre around his ideas of friendship and popularity. He explained that as he became more autonomous and as his maturity levels increased, he decided that the value of the items he purchased should be more personal. In this sense, it may be the case that Daniel's risk-taking behaviours (in this case compulsive or less inhibited spending) decreased as he gained a more solid sense of self and identity. It appeared as though Daniel's need for autonomy outweighed his need for a sense of belonging among as his peers as he aged. Similarly, Charlie purchases were more individual and focused more on his attachment to his in-game character, as opposed to how other players viewed him and his in-game avatar:

> "But then when I play, you know, mobile games, yeah, I do realise … it … sometimes with the skins, it makes … it looks cooler. And like, you know, you've got the feeling, you're attached to it. It's like, you know, you have a pet dog, you want to make your pet dog, you know, the most beautiful, the most handsome dog ever. That's why you buy him or her like clothes, good chains, or anything"

Although looking 'cool' played a role in Charlie's purchasing, his experiences indicate his need for autonomy, presented through a unique in-game avatar and the resulting pride he feels when purchasing for his avatar. Likening his character to a 'pet dog', he showed his connectedness to his in-game self and how he was represented online. For many videogame players, videogame avatars can represent the 'ideal self', and can alter how players view themselves. Certainly, it seems that Charlie felt positively about buying skins in a videogame, possibly due to the boost of confidence he got from feeling as though his avatar represents his uniqueness among his peers.

3.3. Superordinate theme 3: obligation to play after purchases

This theme concerned the feeling of obligation that videogame players feel after micro-transaction use. For some participants, this concerned feeling like they needed to get good monetary value from the micro-transaction, and for others it was the feeling of needing to complete criteria to gain the most rewards from the micro-transaction. In both cases, most participants felt like they were playing the game more than they had originally intended to. It should be noted that all participants who discussed feeling obligated to play the game more after purchases referred to the battle pass-style micro-transaction and their experiences with this. James explained how he typically avoided battle pass-style micro-transactions, due to how time consuming completing the tasks for the rewards could be:

> "So I think it does kind of it does kind of operate in a similar sort of way where, and like I said, this is usually why it's like a one-time purchase because it kind of like makes you feel like you ought to be playing quite a lot of the game and maybe like if I'm already kind of in the mood to like … if I'm, if I'm enjoying something and maybe I do like the, like when I did buy the Apex Legends Battle Pass I did maybe, I think I was … I was still, when I was still quite new to the game and I was quite enjoying it. Like I knew that I'd probably spend like, you know, a few hours every night just playing it with friends and stuff. But yeah, after a certain point it just kind of get to that similar feeling of oh I ought to play a bit more. Because I've you know, I've already spent the money on the Battle Pass and if I don't unlock everything then like have I wasted my money because I haven't like got everything out of it as I could"

In this extract, James mentioned that he was still learning to play the game when he purchased the battle pass and felt like he would get more enjoyment and skill from the game by purchasing. In his experience, he had not initially invested a lot of time playing *Apex Legends*, but he planned to invest more time into the game through purchasing the battle pass. However, it was clear that by purchasing the battle pass, James felt the need to complete all the tasks to get the best monetary value, even if he was not gaining any enjoyment from playing. The shift from enjoyment to obligation occurred over time and James could be described as feeling a sense of 'sunk cost' when playing (Arkes & Blumer, 1985). That is, experiencing a negative feeling when not getting as much out of the game as possible, but feeling as though he had already invested too much to stop playing. However, it seems that James' experience was not new to him, as he mentioned the 'familiar' feeling of needing to play more after time. However, for James, the feeling of obligation was natural to experience when playing a game for a long time, making it easier for him to decide when to stop playing. While Nina's experience was similar to James in that she felt like she must complete all the battle pass tasks to obtain the most value from it, unlike James, she did not stop playing the game, even if she no longer enjoyed it:

> "I feel really bad like, I will grind like, the Valorant Battle Pass ended yesterday and I was still like, only halfway through it, and so me and my boyfriend, we both got together and just kind of grinded the last few hours and then I had to go to meetings. So, he finished up a few more levels and we got to almost the end, we still had five levels, and there was this knife at the end of that level that was really good and exclusive and you don't get that again. So, we had to kind of … pay to level that, pay with like virtual currency to level to that level, so we could get that knife"

In this extract, Nina discussed her negative feelings when she did not believe that she would complete the battle pass in time, often calling upon her partner or friends to aid her if she had other responsibilities. Her motivation to obtain a rare and exclusive reward surpassed her need for enjoyment, so much so that she was willing to pay to complete the levels needed. It appeared as though Nina would feel greatly unsatisfied if she did not complete the battle pass, holding a belief that she must finish each goal and gain each reward or there would be negative consequences. However, Daniel's experience was very different to that of James and Nina. For Daniel, his purchasing of a battle pass came after he had already invested a lot of time in the game:

> "So, it's like, oh I, I play it or I might play a bit more regularly, just to make sure I do level that up. But … again, usually, those games that I would buy it in are usually games that I play regularly anyway, so it probably … it does encourage me to keep going back to that game. But yeah, it's normally because I'm playing that game a lot anyway, I wouldn't sort of get a new game and just after playing it for like a very short period, buy it"

In this extract, Daniel described how his purchase of a battle pass typically came when he knew he would be spending a lot of time engaging in a particular game. Unlike James, Daniel typically focused on playing one or two games at a time, allowing himself to fully invest time, energy and potentially money into the games. Daniel did not appear to experience any negative consequences from purchasing the battle pass and did not feel like it was a necessity to purchase and 'level up'. For Daniel, it was a supplementary way to earn benefits in a game he already built XP in and did not feel like it was a responsibility. In this sense, Daniel felt like it was an easy way to earn rewards, especially when he had built his skills and competence in the game already.

3.4. Superordinate theme 4: guilt and regret

This theme concerned the feelings of guilt and regret that participants reported feeling after using micro-transactions. For some, this was an immediate but small amount of guilt after their purchase, which was

often accompanied by a feeling of excitement. For others, there was a longer-term impact and feeling of regret. Michael's experience with regret was expressed immediately after he made a purchase, although it was paired with the joy he felt about obtaining more items to aid his game:

> "Whereas like, oh I've just bought like four hundred Pokéballs that I'm going to waste trying to catch Rattatas. Like, you know, there's definitely like, you have to process that. So, thirty seconds, I would, I'd say it's probably either, it's fifty-fifty of like, yes, I've got these items, I'm going to use this and also like, I've just spent money I didn't have to spend"

In this extract, Michael expressed the emotional processing that occurred after using a micro-transaction. He discussed the immediate seconds after he purchased a game-enhancing micro-transaction. In this case, he was able to continue playing the game by purchasing an expiration-based micro-transaction, and so it was clear that he felt a level of excitement, especially when he enjoyed the game he was playing. Earlier in the interview, Michael mentioned the idea that he often regretted buying non-physical goods, because he did not technically own the 'non-tangible' items. However, his contradicting feelings were apparent, as he later mentioned a lack of longer-term consideration of his purchases, stating that *"And then once it's done, it's done, you know …"*

In this case, the feeling of regret was minimal, and only immediately after his purchase. It also appeared that this low-level of regret occurred because Michael had previously self-determined his own budget and only spent smaller amounts on the game. Moreover, it is apparent that Michael was accepting of his purchases and by budgeting, was able to control the level of regret he felt through his rationalisation of his purchases and his likening of micro-transaction use to expending money on a hobby. For Daniel, a lower level of regret was also experienced after micro-transactions purchases:

> "I don't know, I don't feel … too bad about it, 'cus I never do it - I'm never spending massive amounts, so … and especially now that I've got a job, so I've got a bit more money, it's like, I don't mind spending those, those bits here and there. So yeah, I don't feel, I never have like, negative feelings or regret stuff when I do it. I just … especially since if, it's normally a game I like so it's not going to be like, oh, well, I don't play that now. Or like, things like that. So …"

Daniel's assurance in his purchases was based on the small amount of money he spent at a time, illustrated by his use of 'bits here and there'. By purchasing smaller amounts, at a lower frequency, he was able to feel comfortable in the choices he made when using micro-transactions. Additionally, Daniel's occupation helped him to change his view on his spending, because he was more secure in his finances, and so felt less negatively about his expenditure on games, especially if it was a game he enjoyed and had invested a lot of time in already. Eleanor's occupation also impacted her perception of her spending, although unlike Daniel's experience, Eleanor's was not so positive:

> "Definitely, I feel like … when I used to purchase micro-transactions, I feel, I'd feel quite good in the moment. I feel like yeah, you know, skip the quest. It's been a, it's been made a bit easier for me but then I'd check my bank account, and I'd be like, why have I spent a few quid on this when I'm a student and I shouldn't be spending money on … a videogame"

In this extract, Eleanor explained her thought processes during a micro-transaction spend, in the immediate moments afterwards and then at a later date. Unlike Michael and Daniel, Eleanor's feelings of guilt and regret impacted her later than the initial moments after her purchase. In fact, she described her rumination about the amount she had spent, illustrated by her repetition about her spending. It was clear that Eleanor did not view videogames as a worthwhile way to spend her limited student income, as seen by her contemplation and pause before saying 'videogame'. She specifically mentioned her student status in her negative thoughts and showed her perception of what was 'acceptable' for a student to spend money on. It may be the case that for Eleanor, her guilt came from her view that students should be frugal and should save money for 'sensible' purchases.

3.5. Superordinate theme 5: feeling tricked or cheated

This theme concerned the feelings of being tricked or cheated by micro-transactions and how micro-transactions are included in games by videogame companies. For some participants, this related to the micro-transactions themselves and the feelings of fairness for those who alter gameplay. For others it was the feeling invoked after purchasing and the length of time the reward feeling lasted for. Nathan's feeling of being cheated had multiple levels, based on his expectations from the game he was playing itself, as well as his perception of specific micro-transactions:

> "I think if I can give a concrete example, there was a game that came out a couple years ago called Shadows of War, um, which is a really fun game. Except for a while, they've since patched out, there was a marketplace where you could buy characters and … use real life money to gain an in-game currency and that completely took the emotion away from me. It's sort of, a … not barrier, it's like a … almost a cheat code for the progression system in the game and it completely takes out any sort of … immersion you have cause it's-you're in this huge fantasy world"

For Nathan, videogames were an investment of time and money and so should provide a positive experience, with immersion being an important factor in his enjoyment. Based on his expectations from the games he played, it appeared that Nathan used gaming as a form of escapism and had a positive experience with a feeling of 'flow'. This was evidenced later in his interview, where he referred to gaming as his 'crutch' for dealing with negative emotions. It is clear that his negative thoughts surrounding micro-transactions stemmed from his inability to escape reality and the consequences of his negative emotions when being prompted to purchase an in-game item with real-life currency. Due to this, he felt cheated out of an opportunity to 'switch off' from his life and reality.

Nathan was also motivated by skill development and his need for competence. Consequently, Nathan felt as though using micro-transactions offered some players skill advantages in the game, based on the amount they paid, illustrated by his use of the phrase 'cheat code for the progression system'. Nathan used the words 'cheat code' to symbolise how easy he perceived it was to progress in the game when not obtaining mastery without monetary input, whereas completing the game without micro-transactions took more time and effort. In this sense, Nathan felt cheated by micro-transactions and the lack of skill they represented to him. Harry's experience was similar to Nathan's, seemingly due to their perceptions of the purpose of videogames:

> "So how the weapon skins work was that they also modified the weapon stats, but when they nerf the weapon, they didn't nerf um this weapon skin in particular. So it was still running around and being the complete menace it was before the nerf. And, and that's the sort of, like, micro-transaction that I dislike, because they just gave everyone a competitive advantage and basically force everyone to, to align themselves with a certain um, a certain loader. Otherwise, you'd be behind everyone"

Much like Nathan, Harry was motivated by gaining skills and mastery. His negative experience with game-altering micro-transactions reflects his goals for competence in any game he is playing. By giving some players a competitive advantage, he felt as though the micro-transactions took away his ability to control the level of fairness, and therefore his enjoyment within the game. This is illustrated by his use of the word 'force', showing how he felt cheated out of in-game autonomy

due to the inclusion of micro-transaction in the games he played and the pressure he felt to purchase. His use of the word 'menace' further illustrated his experiences with game-altering micro-transactions, showing how he felt cheated out of a relaxing gaming session, instead having to play differently to accommodate the effects of the weapon skin and the chaos this reflected in gameplay. Alex and Eleanor also expressed their feelings of frustration with their experiences with micro-transactions, although their reasoning for this feeling differed to both Nathan and Harry:

> *"And I think that kind of model is very predatory. Towards people who you know … have, like more personalities susceptible to that kind of thing"* (Alex)

> *"So, I definitely … I guess, say I did, I have fallen victim to micro-transactions"* (Eleanor)

In these extracts, both Alex and Eleanor expressed their feelings of being tricked by videogame companies and the monetisation methods used in modern games. Their use of the words 'predatory' and 'victim' indicate the lack of agency they felt when interacting with micro-transactions. For both participants, what should be an enjoyable and relaxing past-time had instead left them with a feeling of helplessness. In this sense, it appeared they both felt pressured by the games they played to pay, in order to get the same enjoyment as other players. Eleanor's repetitive use of 'I' illustrates her feeling of ownership over her decisions to purchase micro-transactions, even though she felt victimised by the action. However, Alex referred to others who were susceptible, rather than feeling personally susceptible, even though they had engaged with micro-transactions previously. For Alex, continued engagement with and a vulnerability to micro-transactions was related to compulsive behaviours and an 'addictive personality'.

3.6. Superordinate theme 6: comparing micro-transaction use and gambling

Superordinate theme six focused on participants' sense-making of micro-transaction use in relation to gambling. Two sub-themes were identified during analysis of group experiential themes. These were *similar feelings of excitement and euphoria* and *similarities between loot boxes and gambling*. The sub-theme *similar feelings of excitement and euphoria* discusses the mood boost and anticipation involved in micro-transaction use and how participants directly compared this to forms of gambling. The sub-theme *similarities between loot boxes and gambling* focuses on participants' experiences with loot box micro-transactions, and how surprise-based micro-transactions compared directly to forms of gambling.

3.6.1. Sub-theme 1: similar feelings of excitement and euphoria

This sub-theme explored participants' experiences with micro-transactions and how they felt their engagement mirrored the emotional and psychological impact of gambling. It should be noted that all participants who had self-reported taking part in some form of gambling in the past 12 months mentioned the similarities in feelings and emotions between micro-transaction use and gambling, although this may be due to the ability to recall their experiences in greater detail than those who had not taken part in any form of gambling in the past 12 months. In addition to this, participants who had gambled completed the PGSI (Ferris & Wynne, 2001) before their interviews. It should be noted that of the participants' extracts presented in this sub-theme, Eleanor did not meet the criteria to be considered a problem gambler, whereas Charlie did. Charlie's experiences with micro-transactions were grounded in the rewards he received from opening loot box-style items:

> "So, if you say like, what's the joy from you know, doing that micro-transaction? It's gambling. It's the same joy. Like you go to a casino and you win something. Or like, you know, with the card games, you buy packs. And like, you open it … Oh, I get good cards or bad cards … It's the same feeling"

In this extract, Charlie directly compared micro-transaction use to gambling, as well as purchasing real-life card booster packs, illustrated in his resolute phrasing of *"It's gambling."* Charlie felt a similar sense of excitement in the anticipation period before finding out if he received 'good' or 'bad' loot. For some loot box buyers, arousal levels increase in the moments before a reward items are revealed (Brady & Prentice, 2021), so it made sense that Charlie may have felt this way and that this experience was memorable to him. His feelings after the loot was revealed also imitated that of gambling, through the two potential outcomes – a win or a loss. This was illustrated in the way that Charlie recounted his experience because it mirrored the experience of gambling, through a pause before he says *"… I get good cards or bad cards"*, as though he was reliving the 'rush' he felt after an anticipatory period. However, Charlie's experience was not necessarily always positive:

> "And then, you know, like, with micro-transactions, we are buying you know, a dose of joy. And the dose of … that dose of joy doesn't last long. Just lasts, you know, for quite a short amount of time"

The language that Charlie used in this extract indicated how he related the purchase of micro-transactions to medication, illustrated through his repetitive use of the word 'dose'. For Charlie, a micro-transaction was a temporary remedy to his negative mood, and so for a short time, it fulfilled any needs he may have. The word 'dose' also highlights how temporary the feeling actually was for him and the lifecycle that micro-transactions have. In this case, in order to feel the euphoria for a longer period of time, Charlie experienced a need to continue and increase the frequency of his micro-transaction use, regardless of if he experiences a 'win' or a 'loss'. In this case, it indicated a similarity between those who engage in gambling and loot box purchasing, as those who gamble often continue even when experiencing a loss, in attempt to chase a loss, or based on the assumption that a win will imminently follow a loss (Griffiths, 1990). Similar to Charlie, Eleanor felt a sense of euphoria after using micro-transaction. However, unlike Charlie, Eleanor's urges to purchase micro-transactions were sporadic, and infrequent rather than consistent:

> "Maybe I'll occasionally get a scratch-card or two but it's not something I do, quite regularly because I feel like … it does kind of in the grand scheme of things it does kind of evoke the same emotions as micro-transactions you know, you get this original like boost and excitement but in the long term I feel like it's more damaging"

In this extract, Eleanor outlined the emotional process of using micro-transaction. She described her feeling of immediate gratification and reward, regardless of the outcome, relating it to her experiences with purchasing scratch-cards. Similar to Charlie's gambling experience, Eleanor felt a sense of arousal during the anticipatory period of micro-transaction use. It should be noted that Eleanor typically did not engage with loot boxes, but rather expiration-based micro-transactions and yet still experienced a feeling of excitement in the moments before purchasing. In this case, Eleanor appeared to feel an instant reward through her ability to skip a level, or to be able to continue playing the game, illustrated by her use of the word 'boost', which mimics the feeling of a 'high' that those who gamble experience (Griffiths, 1996). However, unlike Charlie, Eleanor indicated that she perceived gambling to be more damaging than using micro-transaction, potentially due to the type of micro-transaction she purchased. That is, she does not experience a 'win' or 'loss', only an exchange of currency for an immediate win. This highlights a potential difference in the feeling and reward processes involved in both gambling and non-surprise-based micro-transactions.

3.6.2. Sub-theme 2: similarities between loot boxes and gambling

This sub-theme concerned how participants perceived similarities between specific forms of micro-transactions and gambling mechanisms. For most participants, it was loot boxes and the element of surprise and its similarities to gambling that were mentioned over any other micro-transaction mechanism. It is important to note that the associations between loot boxes and gambling have been reported on heavily in popular media and by governing bodies globally (Close et al., 2021; Spicer et al., 2022), so this may have shaped the perceptions and experiences of participants. Nevertheless, most participants had, at some point, engaged with and purchased loot boxes and had an understanding of multiple forms of gambling, even if they had not engaged with any method of gambling before. For James, the similarity between micro-transactions and gambling was distinctly related to the underpinning surprise-based element involved:

> "But like if you're buying like a loot box where you don't know what's actually inside it, you are kind of just buying something which you don't necessarily know is gonna … is going to have anything that you actually want in it. So, and again, that's despite me having bought like, like a handful of loot boxes, just to kind of just to sort of try … try my luck … yeah, I never really … I'd consider that kind of thing … gambling"

In this extract, James recounted his experiences with infrequent loot box purchasing, relating the sense of luck and random reward mechanism to gambling, illustrated through his use of the phrase 'try my luck'. Charlie similarly discussed his experience with surprise-based-micro-transactions, but further mentioned the concept of a 'jackpot' through having an 'ideal' or goal character or item:

> "But when you know, when I first roll it, and then I didn't get what I want, then I, you know, buy another currency, roll it again, if I get one, that'd be good. But not … if not, you know, just roll again. Especially, you know, if you if you really want the item, or the characters in, you know, in that event, or something like that"

In this extract, Charlie's continuous use of the word 'roll' here could be symbolic of the rolling of dice in gambling games, due to the outcome being unknown and the surprise element involved. The use of the word 'roll' could also be Charlie relating loot boxes to some forms of gambling. Loot boxes are suggested to mimic or simulate slot machine gambling through similar graphics, colours, and sounds (Drummond & Sauer, 2018) and so in this case, Charlie was relating his experience with loot boxes through their similar structure to slot machine gambling. Additionally, Charlie's method of purchasing loot boxes in a cyclic nature until a desired outcome was achieved is similar to that with gambling, particularly where players are informed of a larger jackpot (Griffiths & Wood, 2001). It also appears to be the case that for Charlie, a near-miss is a motivation to keep 'rolling'. In relation to gambling, near-miss events encourage increased involvement through re-enforcement that a win is imminent (Parke & Griffiths, 2004). This is illustrated through Charlie's phrasing of *"if not … just roll again"*. Michael's perception was similar to that of James and Charlie. However, in his own experience, there was a distinct difference between loot box mechanisms and gambling:

> "So, to flip the coin, Yu-Gi-Oh Legacy of the Dualist. You buy booster packs in game, but it's only for in game currency that you gain from playing the game. So, it has that element of like, ooh, I don't know what I'm gonna get. But it's purely based on in game currency that you're earn in the game … you cannot buy it, you cannot spend real money on it, that, completely fine"

In this extract, Michael explains his understanding of the surprise element of loot boxes, or packs, in specific games. Previously in his interview, he likened the potential of obtaining 'rare' items to gambling, by way of the potential high reward and the 'stakes' involved in both micro-transaction use and gambling games. However, unlike other participants, Michael highlighted the distinction between paid-for loot boxes and those bought using earned in-game currency. For Michael, there was a level of morality involved based on financial risk. This is illustrated when he used the phrase 'completely fine' when discussing earned loot boxes. In this sense, Michael's association between micro-transactions and gambling is the monetary aspect involved, regardless of the element of surprise.

4. Discussion

The present study explored videogame players' experiences with micro-transactions and in doing so answered the three RQs posed: (i) How do videogame players experience different forms of micro-transactions? (RQ1); (ii) What motivates videogame players to engage with micro-transactions? (RQ2); and (iii) How do videogame players relate micro-transaction use to problems with gambling and problematic gaming behaviour? (RQ3).

The six themes identified from participant accounts were (i) *self-control vs. impulsivity,* (ii) *motivations for use (rewarding the developer, limited time offers* and *peer and social influence),* (iii) *obligation to play after purchase,* (iv) *guilt and regret,* (v) *feeling tricked or cheated* and (vi) *comparing micro-transaction use to gambling (similar feelings of euphoria and excitement* and *similarities between loot boxes and gambling)*. Similarities in the present study's developed themes and the themes found in previous literature can be observed. For example, themes such as impulsivity, rewarding the developer, limited time offers, and peer and social influence and similarities between loot boxes and gambling have commonly been found throughout qualitative studies relating to micro-transactions (Alha et al., 2018; Cleghorn & Griffiths, 2015; Nicklin et al., 2021; Petrovskaya & Zendle, 2020; Puiras et al., 2022). However, by utilising IPA methodology and by discussing a broad scope of micro-transactions, the present study identified several novel themes not yet identified in the extant literature. For example, obligation to play after purchase, guilt and regret, and feeling tricked or cheated. Therefore, the following section elaborates on and analyses theory surrounding previously found themes, as well as discussing the potential psychological underpinning of those not previously identified in literature.

4.1. Frustration with needs and links to motivations and self-control

When assessing participants' experiences with micro-transactions, the underpinning motivations and needs of each participant should be considered. Self-determination theory (Deci & Ryan, 2015) posits that individuals' motivations exist between three interconnected forms. These are (i) autonomous motivations (i.e., for their own interest and personal growth) which are often intrinsic in nature (ii) controlled motivations (i.e., for external reward and the desire for approval from others or themselves), which are often extrinsic in nature, and (iii) amotivation (i.e., a lack of motivation) where individuals feel as though they do not possess the ability to control outcomes (Mills et al., 2021). Self-determination theory also suggests that three basic psychological needs should be fulfilled in order for individuals to function successfully and to foster healthy well-being. These are autonomy (i.e., the feeling of being in control of one's own behaviour and the ability to take direct action), competence (i.e., the feeling of developing skills needed to undertake tasks and to gain mastery), and relatedness (i.e., the feeling of connection to others and a sense of belonging) (Ryan & Deci, 2017). When these three needs are fulfilled, individuals are more likely to be successfully motivated autonomously, rather than through controlled motivations (Deci & Ryan, 2015).

In the case of micro-transaction engagement, it could be that a need for external reward indicates frustration with the three basic psychological needs and that different types of micro-transaction may appeal to each differing need. For example, as suggested by Gibson et al. (2022), battle pass type micro-transactions offer videogame players the

opportunity to earn rewards by earning experience points (XP) in the game. These XP points can then be used to unlock rewards. As the player progresses up each level or 'tier' of a battle pass, the number of XP points needed to unlock the next reward increases, as does the 'rarity' of the reward. In this case, a player who feels like they are not in control of their own choices in real-life or their personal goals, may be more likely to engage with a battle pass micro-transaction, as it could potentially fulfil their need for autonomy. Moreover, the ability to 'level up' the battle pass may appeal to those with a need for competence, allowing for the completion of the battle pass to instil a sense of mastery of the game and skill-building. This is reflected in the present study, particularly when looking at accounts of experience with specific micro-transaction types. For example, Tim's experience centred around pay-to-win-based micro-transactions that aided in his completion of the game and his feelings of being a low-skilled player. When he felt as though he had developed his gaming skill, he no longer felt rewarded by pay-to-win micro-transactions. This could be due to the fulfilment of his need for competence through self-determined growth and development in the game.

Motivations for both gaming and gambling have been identified in previous research (Lee et al., 2007; Yee, 2006b), with each individual motivation linked to either extrinsic or intrinsic forms of motivation (Chantal et al., 1995). Moreover, an underlying link to each of the basic psychological needs can be observed in relation to the design of video-games and player motivations (Ryan et al., 2006). For example, online multiplayer games may be particularly appealing to those who are motivated by teamwork and social interaction and players may experience fulfilment of the need for relatedness, through an increased sense of community and belonging. Similarly, gambling involvement and type are suggested to be related to specific motivations, potentially due to the underlying needs involved (Chantal et al., 1995; Mathieu et al., 2020). As micro-transactions are suggested to encompass the convergence between gaming and gambling (King & Delfabbro, 2020), it would be reasonable to suggest that motivations for micro-transaction use also highlight the convergence between the two, including the underpinning fulfilment of autonomy, competence and relatedness involved. The motivations for micro-transaction use found in the present study illustrate this convergence and can be explained using self-determination theory as a basis. It could be suggested that this needs-motivation connection can be observed when looking at gamers motivated to purchase micro-transactions in order to reward the developer of the game. This is illustrated by Jordan, whose experience with using micro-transactions centred around the sense of support and community they felt when purchasing. In other words, Jordan may be experiencing needs frustration based on relatedness, thereby increasing their motivation to reward the developer and resulting in the fulfilment of his relatedness need.

Finally, when looking at participant experiences in the present study, participants experienced a varying ability to control their micro-transaction use. For example, Michael's experience centred around his need for competence, reflected in the type of micro-transaction he purchased and his need to continue playing the game to build his skill. Michael often found it easy to spend more money than he originally intended on micro-transactions, leading to greater financial loss as a result of his need to continue playing. In wider gaming research, it is suggested that frustration with needs can also impact the relationship between self-control and problem gaming behaviours in that an individual being frustrated with their basic psychological needs can alter individuals' ability to control their behaviours (Mills et al., 2021). In a gaming context, this can lead to maladaptive gaming behaviours, due to the fulfilment of basic needs overriding the need to inhibit gaming time and investment. In the case of micro-transactions, it could be that greater needs frustration, leading to an inability to regulate behaviour, may result in maladaptive use of micro-transactions, through compulsive buying.

4.2. Speed of purchase and links to impulsivity and the impact of purchase frequency

For some participants, the ease at which micro-transactions could be purchased was a large factor in spending more money than originally intended. In a lot of cases, participants play videogames in online spaces or on consoles, where the norm is to save card and bank details to the system, for ease of purchasing games. The integration of stores and marketplaces into these online spaces allows for faster spending and less disruption to gameplay. Speed of play has been suggested to be a key factor in the excitement and enjoyment of gambling games and can encourage longer game play time and greater monetary expenditure, particularly for those with a propensity for problem gambling behaviours (Harris & Griffiths, 2018). While there is already an established association between problem gambling and loot box buyers (Zendle & Cairns, 2018, 2019), it is reasonable to suggest that a similar reward mechanism is occurring, regardless of the micro-transaction type. That is, the ease and speed of purchase leads to faster feelings of gratification and reward. With less time for individuals to think and make informed decisions about their purchases, it is clear to see how instant rewards may lead to more money spending than intended, which is the case for multiple participants in the present study. This may particularly be the case for surprise-based micro-transactions such as loot boxes, given the gambling-like nature of these and the added arousing elements of potentially rare rewards (Brady & Prentice, 2021).

Additionally, speed of purchase, as well as the speed of the 'effect' of the micro-transaction played a large role in participants perceptions surrounding the similarities between gambling mechanisms and micro-transactions. Namely, Charlie's experience with repeated loot box purchases. His experience centred around his patterns of purchase and the ability to continuously purchase, which he attributed to the short lifespan of the micro-transaction. Charlie also associated loot box buying with gambling through the similar feelings of reward after using a micro-transaction, and his need to increasingly purchase, in order to feel a sense of euphoria and obtain the 'jackpot' skin or item. In gambling literature, it is suggested that the development of tolerance and chasing behaviour increases the chances of experiencing other problem gambling symptoms (Sleczka & Romild, 2021). It should be noted that Charlie met the PGSI criteria (Ferris & Wynne, 2001) for problem gambling. It is therefore reasonable to suggest that his experience with loot box buying mirrors that of forms of gambling, through the structural characteristics of event frequency and opportunities to purchase repeatedly, and as such, experiences similar feelings to those who gamble excessively (Griffiths, 1999).

4.3. Dysfunctional cognitive beliefs and links to maladaptive behaviours

For some participants, the feeling of obligation was a prominent factor in their experiences of using micro-transactions. For example, James felt a need to continue playing the game after purchasing a battle pass, leading to a turning point where he no longer felt playing the game was fun. In this case, he felt an obligation to play in order to obtain the most value from his purchase. Nina also experienced this feeling and continued to play even after she stopped having fun playing the game. Yee (2006a) discusses how for some videogame players, increased engagement can lead to the game feeling like work. That is, it loses its enjoyment value due to the time expenditure needed to be successful. It could be suggested that this mirrors the experiences of both Nina and James. Beyond the feeling of success from the game, it could also be suggested that the sense of obligation comes from the participants' own rule-making in relation to how they play the games, and their own cognitive beliefs. In this case, participants have a distorted perception about the value of the battle pass rewards, and in turn create their own rigid set of rules regarding how they play in order to feel fulfilled from the battle pass (Marino & Spada, 2017). Although no participants in the present study were classified as having internet gaming disorder, it has

been suggested that the cognitive dysfunction associated with rewards in game can potentially lead to higher risk of maladaptive behaviours and internet gaming disorder (Li et al., 2020).

Moreover, some participants felt an emotional connection to their in-game avatar and went so far as to purchase cosmetic-based micro-transactions as a method of self-expression. For example, Charlie felt a sense of attachment to his avatar, likening it to a 'pet dog'. This could be suggested to indicate a level of avatar attachment. In other words, Charlie believed that his in-game avatar was an extension of himself (King & Delfabbro, 2014). This behaviour is suggested to be a form of dysfunctional cognitive belief that could potentially lead to maladaptive gaming behaviours through obsession with in-game characters and the feeling of achievement as though it is real-world achievement (King & Delfabbro, 2016). Therefore, having the potential to lead to risky micro-transaction use, or over-expenditure in videogames (Billieux et al., 2020; Szolin et al., 2022a, 2022b).

4.4. Morality and links to self-conscious emotions and social identity

The concept of morality was discussed by participants in relation to 'good' and 'bad' forms of micro-transactions, as well as 'acceptable' methods of engaging with micro-transactions. In the present study, morality was heavily associated with participants' perceptions of community ethics and moral code. When looking at the feelings of being cheated by micro-transactions, both Harry and Nathan expressed emotions of contempt towards micro-transactions that gave competitive advantages. Typically, individuals experience feelings of contempt, disgust and anger towards acts they perceive to be a violation of one or more of three types of ethics (Tracy et al., 2007). These are based on community (i.e., based on social convention), autonomy or divinity (i.e., religious-based values). In the case of both Harry and Nathan, their contempt stemmed from the disadvantages faced by those who chose not to purchase micro-transactions, particularly in the games they engaged with.

In other words, they felt as though the micro-transactions that give competitive advantage violated the ethics of both their communities, as members of a group of players who refrain from purchasing, as well as their autonomy, because they felt as though greater pressure was placed upon them to purchase. A feeling that micro-transactions are unfair has been identified in recent literature, particularly in relation to pay-to-win forms of micro-transactions (Petrovskaya & Zendle, 2021). The contempt experienced from the feelings of unfairness or unethical inclusion of micro-transactions can then lead to an 'othering' and a lower social status being placed on those who chose to purchase, through the feeling of identity among the groups of players who refrain from purchasing (Evers et al., 2015).

In fact, social identity appeared to be a driving factor involved in purchases for participants, through a greater feeling of belonging among peers but also through wanting to feel unique and distinct from peers. For example, Nina's experiences were grounded in her gifting and receiving skins from her peers in-game. She expressed her willingness to purchase when items were a limited edition and when peers and social influence were involved, especially if her friends displayed or wanted a particular rare skin for their avatars. This can be explained by looking at the sense of virtual community involved in multiplayer games. That is, videogame players typically purchase more when experiencing a sense of belonging from their online spaces (Hsieh & Tseng, 2018). With Nina, the giving-receiving nature of her purchasing reflects the sense of community she feels.

Additionally, participants were more motivated to purchase when limited time offers were available. This has been readily discussed in relation to micro-transactions and virtual items, with social identity forming the basis of this motivation. That is, players wish to feel unique and distinct from their peers in virtual spaces, and purchasing limited edition and unique items helps them achieve this (Cai et al., 2019; Cleghorn & Griffiths, 2015; King et al., 2020). This is reflected in the present study by Eleanor, who indicated that feeling special was a key factor in her intention to purchase micro-transactions and that rare items boosted her feeling of being unique in a group of those who purchase.

Finally, participants also discussed forms of self-conscious emotions (other than contempt), such as guilt in relation to the longer-term impact of using micro-transactions. Michael and Daniel expressed minimal feelings of guilt after their purchases, whereas Eleanor expressed a longer-term feeling of guilt. When looking at related literature, it is suggested that women typically feel more guilt and shame towards their gambling behaviours than men do and those who are more guilt-prone in relation to their gambling were more autonomously motivated. This then allows for greater success when quitting gambling (Kushnir et al., 2016). This could also be reflected in Eleanor's infrequent micro-transaction use, as her overwhelming feelings of guilt afterwards may dissuade her to make a repeated purchase. While the present study cannot generalise due to the scale of sample size and the purpose of the study, these are both interesting factors, highlighting potential divergences between those who engage with micro-transactions and their underlying motivations.

5. Limitations and areas for future study

5.1. Limitations of the present study

The limitation of the present study lies mainly within the inherent methodological approach of interpretative phenomenological analysis (IPA). It could be that the interpretative nature of IPA is problematic in the sense that it is subjective (Tuffour, 2017). That is, the present study is an account of the researchers' interpretations of experience, rather than an actual account of lived experiences. However, by ensuring that reflexivity was considered throughout the analytical process, the first author's own preconceptions about the negative impact of micro-transactions were discussed. Even so, it could be the case that even with the consideration of the first author's preconceptions, that this impacted the analytical process. Furthermore, the validity of IPA is often brought into question (Brocki & Wearden, 2006) due to its subjective nature. As such, triangulation methods were used to ensure that all researchers involved in the present study agreed with the analytical approach and personal experiential themes presented by participants. All researchers involved also assessed the final group experiential themes presented in the present study. Additionally, given that IPA is grounded in lived experience, it is crucial that accurate representation be given to the emerging themes found through the analysis of participant transcripts. To ensure that an accurate interpretation of participant experience occurred, representation was not solely based on prevalence in transcripts, rather selected quotes used in the present study were chosen due to their ability to articulate the theme presented, as well as provide nuanced views and accounts of experiences with micro-transactions. Nevertheless, it could be the case that participants' experience was not as well represented as possible.

Additionally, the full socio-economic significance of participants' experiences was not taken into consideration during the initial recruitment process. In other words, participant demographics did not extend beyond age and gender. This was due to the nature of the present study and how participants related their experiences to their own socio-economic status. To this end, the first author allowed for participants to discuss their own interpretations of how their occupation or cultural background may impact their experiences, and as such, the first author did not discuss the relevance of this unless it was discussed by participants themselves. Due to this, it could be the case that important contextual and theoretical underpinnings were not discussed. However, the analyses presented in the present study attempted to represent participants' own accounts as best as possible.

Finally, it should be noted that there are limitations in the sample of participants themselves. While the sample of the present study consisted

of all adults, it may be the case that motivations for the purchase of and experiences surrounding micro-transactions may differ among younger populations. This is particularly the case with populations who are not as financially independent as adult populations of videogame players. Additionally, participants self-selected when taking part, and were made aware of the nature of the study. As such, the possibility of self-selection bias should be considered. That is, participants may have chosen to take part as a result of their micro-transaction engagement and the perceptions surrounding this.

5.2. Research implications

The present study has identified several novel themes associated with the experiences of videogame players who engage with micro-transactions. As such, there are a number of psychological impacts and implications. Firstly, further associations with gambling have been identified, with particular links to speed of purchase and play. This has a number of implications for policy regarding event frequency in videogames and the availability of micro-transactions. In this sense, governing bodies should consider the role speed of purchase has on the development of problematic behaviours and the ability to reduce harm. Secondly, the role of cognitive beliefs and the potential for these to lead to maladaptive behaviours in regard to expenditure and investment in micro-transactions was identified, particularly in the case of battle pass micro-transactions and a sense of obligation, as well as beliefs regarding social status and contempt. It is therefore recommended that healthcare providers utilise cognitive behavioural therapy methods when addressing cognitive beliefs relating to problematic use of micro-transactions. Finally, it is suggested in the present study that a frustration with needs plays a vital role in micro-transaction engagement. To this end, when looking at harm minimisation tools, support with a focus on psychological well-being should be provided to those who engage with problematic use of micro-transactions.

5.3. Areas for future research

The present study aimed to fill a research gap by producing novel themes related to videogame player experiences with micro-transactions, taking into account multiple micro-transactions forms and the perceptions, experiences, and emotions involved with the use of these and has used self-determination theory (Deci & Ryan, 2015) to explain the prevalence of these themes. Therefore, future research should explore the relationships between needs satisfaction and micro-transaction engagement.

Causal research with more representative sample sizes should be conducted to identify directions and strengths of relationships of the potential contributing factors in micro-transaction use. Longitudinal research would also be beneficial in exploring how videogame player experiences with micro-transaction may change over time, particularly when looking at changes in motivations and needs fulfilment and divergences between youth and adult experiences.

Finally, it should be noted that only one participant in the present study was identified as a problem gambler. Although this did enable the present study to discuss micro-transactions and their relationship to problem gambling, further qualitative research utilising a larger sample of problem gamblers should be conducted. This would allow for a more robust analysis of the experiences of problem gamblers who use micro-transactions and a greater understanding of any differences in experiences with micro-transactions between those who are problem gamblers and those who are not.

6. Conclusion

The present study addressed the qualitative research gap concerning videogame player experiences with multiple forms of micro-transaction. The present study also contributed novel findings to the body of literature by utilising IPA methods to identify six themes involved in videogame player experiences with micro-transactions. These were (i) *self-control vs. impulsivity,* (ii) *motivations for use,* (iii) *obligation to play after purchase,* (iv) *guilt and regret,* (v) *feeling tricked or cheated* and (vi) *comparing micro-transaction use to gambling.* For the participants in the present study, experiences with micro-transaction use were explained using self-determination theory. In particular, by participant needs for autonomy, relatedness, and competence. It was found that micro-transaction use can bring about conflicting feelings. Some videogame players may take positive benefits from their micro-transaction engagement, such as feelings of community and belonging or a connectedness to their peers and game developers. Others may experience negative consequences, such as feeling guilty or feeling an obligation to continue playing the game after purchases. Perceptions of micro-transactions varied across participants, but some felt as though their inclusion in games is unfair, which may lead to less engagement with specific videogames. Findings from the present study may be useful for videogame developers wanting to understand their player base and their perceptions to and experiences with in-game monetisation methods. These findings will also aid in the development and validation of motivational measures for micro-transaction use, as well as policy, regulations and harm-minimisation tools relating to in-game micro-transactions.

Credit author statement

Erin Gibson: Conceptualization, Investigation, Formal analysis, Writing – Original draft preparation, Writing – Review and editing **Mark Griffiths:** Supervision, Validation, Writing – Review and editing **Filipa Calado:** Supervision, Validation, Writing – Review and editing **Andrew Harris:** Supervision, Validation, Writing – Review and editing.

Declaration of competing interest

The second author's university currently receives funding from *Norsk Tipping* (the gambling operator owned by the Norwegian Government) for research evaluating responsible gambling tools in Norway. The second author has received funding for a number of research projects in the area of gambling education for young people, social responsibility in gambling and gambling treatment from Gamble Aware (formerly the Responsibility in Gambling Trust), a charitable body which funds its research program based on donations from the gambling industry. The second author also undertakes consultancy for various gaming companies in the area of social responsibility in gambling.

The fourth author has previously worked for the Responsible Gambling Trust (now GambleAware), a charitable body which funds its research program based on donations from the gambling industry. The fourth author received a small research grant from GambleAware in 2017. The fourth author has also previously received payment for consultancy work in the area of social responsibility and gambling harm-minimisation for a major high street and online bookmaker.

Data availability

Data will be made available on request.

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