**Exploring the eudaimonic game experience through purchasing functional and non-functional items in MMORPGs**

**Abstract**

The consumption of virtual items and other forms of in-game content is rapidly increasing in the Massively Multiple Player Online Role-Playing Games market. While psychological need satisfaction obtained through purchasing virtual items to achieve hedonic game experience remains at the center of the debate, most of these studies neglect the eudaimonic game experience and do not differentiate between the psychological experiences from functional items and non-functional items. Our research employs the eudaimonic game experience perspective to explore the psychological need satisfaction individuals achieve through purchasing functional and non-functional items. From interviews with 25 players, a novel finding is that, while competence, autonomy, relatedness, and purpose in life contribute to one’s eudaimonic game experience, each psychological need has its own unique dimensions for different virtual product types. Competence and purpose in life are needs driven by two factors: inner-directed consumption intention, emphasizing aspiration for authenticity and personal growth; and other-directed consumption intention, focusing on motivations that elicit, for example, positive responses from others and receiving social awards. Such results are only apparent for functional items but not for non-functional items. In contrast, autonomy and relatedness are needs explained by one’s inner-directed consumption intention, across both product types.

**Keywords**

virtual items, functional items, non-functional items, eudaimonic game experience, psychological needs, MMORPGs

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**1. Introduction**

The consumption of games has become a significant economic and cultural global phenomenon (Marchand & Hennig-Thurau, 2013). The game market worth was estimated at over USD 196 billion in 2022 (WePC, 2020), with the COVID19 pandemic conditions potentially accelerating this to USD 170 billion (Simon-Kucher, 2020). This is particularly evident among Massively Multiple Player Online Role-Playing Games (henceforth MMORPGs), with its compound annual growth rate estimated to be 9.5% between 2020 and 2025 (Research and Markets, 2020).

Given the importance and economic significance of the gaming market, game experience has attracted the attention of scholars from various disciplines including marketing, computer science, and media studies (Hamari & Keronen, 2017; Hsiao & Chen, 2016; Li et al., 2019). A key assumption in this literature is that in-game purchases are only used to increase hedonic game experience (e.g., Hamari, 2015; Huang & Hsieh, 2011). As a result, MMOPRGs developers design virtual goods and other forms of in-game content to increase game enjoyment (Badrinarayanan, Sierra, & Taute, 2014; Hamari et al., 2017; Marder et al., 2019). However, Tamborini et al. (2011) propose that game enjoyment only explained about half of the variance in self-reported entertainment experiences. This is supported by recent studies that suggest consumers also seek self-worth (Liao, Pham, Cheng, & Teng, 2020), impression management (Chen & Chen, 2020), and authenticity (Wu & Hsu, 2018) in their gameplay. Indeed, during national and regional pandemic lockdowns across many countries, consumers are said to have played MMORPGs more for socialization than hedonism (D'Anastasio, 2020; Lufkin, 2020). This raises the question of how an in-game purchase may be motivated by the game experience beyond the simple element of hedonism.

Building on the notions of hedonic and eudaimonic well-being in positive psychology (Ryan & Deci, 2001), we differentiate two types of game experience: hedonic and eudaimonic. While hedonic experience focuses on game enjoyment, eudaimonic describes experience that is beyond basic pleasure, for instance self-acceptance and human virtue (Oliver et al., 2018; Possler, Kümpel, & Unkel, 2020). Thus, the main purpose of our research is to underpin how an in-game purchase is motivated by the pursuit of eudaimonic game experience in the context of MMORPGs.

In particular, we compare and contrast such motives between purchasing functional and non-functional game items. Functional items directly contribute to game performance such as weapons, gear, and heroes (Lehdonvirta, 2009). In contrast, non-functional items are appearance-based, such as castle skins that only impact the appearance of virtual characters (Hamari et al., 2017). While extant in-game purchase literature does not differentiate among game item types (e.g., Badrinarayanan et al., 2014; Kim et al., 2015), recent studies find non-functional item purchases to have unique purposes (Marder et al., 2019) quite distinct from functional item purchases (Bae, Kim, Kim, & Koo, 2019). Thus, we focus on both game item types to provide a fuller understanding of how in-game purchasing is motivated by the pursuit of eudaimonic game experience.

To achieve this, we take a phenomenological approach by conducting in-depth interviews with 25 MMORPG players using self-determination theory (Ryan & Deci, 2000) as a guiding framework. We use this framework because the theory is seminal in explaining human motives and has been used in extant in-game purchase literature (e.g., Hamari et al., 2017; Kim et al., 2015). We take a phenomenological approach because our research focuses on theory building rather than theory testing. In other words, by bringing to the fore experiences and perceptions within consumer perspectives, we aim to develop theoretical insights on how in-game purchasing is motivated by the pursuit of eudaimonic game experience (Moustakas, 1994). A central argument of self-determination theory is that human motives and experience are driven by fulfillment (or lack thereof) of the fundamental psychological needs of autonomy, competence, and relatedness (Ryan, Rigby, & Przybylski, 2006; Tamborini et al., 2011). This has empirical support in terms of gameplay motives (Dindar & Akbulut, 2014; Ryan et al., 2006) and game experience (Kim et al., 2015). Thus, our research aims to map this psychological needs approach against the motivations of consumers to purchase in-game items for enhanced eudaimonic game experience.

Our research makes the following contributions to the literature. First, it demonstrates consumers actively use in-game purchasing to pursue eudaimonic game experience. This may extend the literature that assumes consumers purchase virtual items for game enjoyment only (e.g., Hamari, 2015; Huang & Hsieh, 2011). Second, by differentiating functional from non-functional item purchases, our research suggests different virtual items satisfy psychological needs in multiple ways. Thus, inconclusive previous findings on in-game purchasing and game experience (e.g., Kim et al., 2015; Roger, 2017) is perhaps because such studies fail to take item type into consideration. Third, by comparing the purchases of functional and non-functional items, we find psychological needs can be satisfied via *other-directed* consumption (e.g., aspiration for positive responses from others) or *inner-directed* consumption (e.g., aspiration for authenticity and personal growth). Thus, our research provides deeper insights into the various ways in-game purchases satisfy psychological needs. It also contributes to self-determination theory (Ryan & Deci, 2000), which classifies basic psychological needs as autonomy, competence, and relatedness (Ryan et al., 2006; Tamborini et al., 2011). Our research suggests, in the context of in-game purchasing, consumers also seek meaning and purpose in life. Herein, we identify a new psychological need that is beyond the three proposed by self-determination theory.

In the following sections, a theoretical review of game experience and self-determination theory (Ryan & Deci, 2017) is outlined initially. This grounds the empirical analysis by focusing on the impact of psychological needs fulfillment on well-being and happiness. The study contrasts hedonic and eudaimonic game experience. It then details the methodology before deliberating on the unique psychological need dimensions that differentiate functional from non-functional item consumption, using participant narratives on their choices. Theoretical and practical implications are then discussed.

**2. Conceptual background**

***2.1 Virtual items and MMORPGs***

Prior studies into in-game purchases examine the effects of various game platforms on which virtual goods are used (Hamari & Keronen, 2017). While free-to-play games (Hamari et al., 2019; Marder et al., 2019), mobile games (Hsiao & Chen, 2016), and virtual world (Guo & Barnes, 2011) dominate the current in-game purchase literature, MMORPGs have received relatively little attention (Badrinarayanan et al., 2014; Jin et al., 2017; Wu & Hsu, 2018). This is surprising given that MMORPGs accounted for 25% of the digital games market in 2017, with the market value reaching USD 196 billion in 2022 (WePC, 2020). More importantly, a unique feature of MMORPGs is that players are required to accomplish game tasks or goals simultaneously (Badrinarayanan et al., 2014). Therefore, it is reasonable to conceive that the game experience not only depends on its design but also on the players’ interactions.

In recognizing the social nature of MMORPGs, existing research into in-game purchases in the MMORPGs context has focused on brand tribalism (Sierra et al., 2016), co-creation (Wu & Hsu, 2018), and social ties (Jin et al., 2017) to explore the implications of social interactions among players on their in-game purchase intentions. A significant number of these studies focus on functional items and assume that in-game purchases are the result of players’ social interactions. However, virtual items are not homogenous (Hamari & Keronen, 2017) and motivational differences in purchasing functional and non-functional items may exist. Further, Marder et al. (2019) claim that players purchase non-functional items from free-to-play games as a means of transferring money to game developers.

***2.2 Hedonic vs. eudaimonic game experience***

Hedonic and eudaimonic elements are two distinct perspectives of well-being (Ryan & Deci, 2001). While hedonic well-being refers to the presence of positive and absence of negative affect, eudaimonic well-being concerns human potential and virtue (Ryan & Deci, 2001). Influenced by psychology literature, media studies differentiate using the same typology in entertainment experience (Oliver & Bartsch, 2010) so, while hedonic entertainment experience captures the enjoyment and pleasantness of media consumption, the eudaimonic experience reflects how life meaning, self-acceptance, and human virtue are sought through media consumption (Oliver et al., 2018; Tamborini et al., 2011; Wirth et al., 2012).

Players have long been perceived as engaging in in-game consumption mainly for hedonic reasons (Hamari & Keronen, 2017; Holbrook & Hirschman, 1982), particularly with functional items (Huang & Hsieh, 2011; Luo et al., 2011; Park & Lee, 2011). For example, Park & Lee (2011) suggest that game enjoyment, together with character competence value, visual authority value, and monetary value, can positively affect consumers’ intention to purchase in-game items. In a similar vein, Luo et al. (2011) report that pleasure is one of the key factors that determines consumers’ purchase intention in the virtual world. Additionally, Chou & Kimsuwan (2013) reveal that game enjoyment is more influential on players’ purchase intentions than other factors such as players’ identities and perceived monetary value. Similar results are also reported for non-functional game items; for example, Marder et al. (2019) suggest that hedonic motivation is one of the key reasons for consumers to purchase game items with no functional value. Indeed, prior research focusing on other types of games (e.g., free-to-play games) often assume that seeking hedonic game experience is the key reason that MMORPGs players interact with each other. However, Oliver and her colleagues argue that games can provide players with an “appreciation of the understanding and insight concerning meaning-in-life questions and issues regarding the human condition” (Oliver et al., 2016, p.3), which is distinct from hedonic enjoyment.

Prior research reports mixed findings on the effects of game enjoyment on virtual goods consumption. For example, while Huang & Hsieh (2011) and Chou & Kimsuwan (2013) suggest that game enjoyment has a positive effect on one’s purchase intention, Hamari (2015) argue that a negative effect also exists. Yet, the hedonic aspect only concerns happiness and pleasure attainment, whereas the eudaimonic aspect is around meaning and self-actualization (Ryan & Deci, 2001), so focusing on hedonic aspects of game-playing alone may only provide a narrow view of the experience, as players also seek self-acceptance and meaning, namely eudaimonic aspects of the experience, from their gameplay (Oliver et al., 2018; Possler et al., 2020; Przybylski et al., 2012).

The literature further demarcates eudaimonic from hedonic experience. For example, Lewis et al. (2014) posits that game enjoyment is derived from an automatic and fast process, whereas the eudaimonic game experience reflects a slow and deliberate process. Players perceive their eudaimonic experience through the social connections with other players and in-game characters whilst achieving their game enjoyment mainly through the game mechanics (Trepte & Reinecke, 2011). Bowman et al. (2016) propose that the recollection of a player’s control over their in-game avatar increases their hedonic experience, but the recollection of identification with and the sense of responsibility for their character increases their eudaimonic experience. Oliver et al. (2018) further argue that hedonic experience is self-focused, while eudaimonic experience is other-oriented, emphasizing interconnectedness and human virtue. In a similar vein, Possler et al. (2020) posit that certain gratification factors (like fantasy) can affect both eudaimonic and hedonic experience, but other factors (like social capital) are linked to eudaimonic but not to hedonic experience. Although the literature concurs that eudaimonic and hedonic experience are separate types of game experience, it also suggests that both are driven by the fulfillment of basic psychological needs.

***2.3 Eudaimonic game experience: self-determination theory perspective***

Ryan and Deci’s (2000) self-determination theory is the dominant psychology paradigm on entertainment experience (e.g., Rogers, 2017; Tamborini et al., 2011) to explain human motives. One reason for this is that psychology (Ryan et al., 2006) and media studies (Tamborini et al., 2011) tend to concur that individuals’ entertainment experience can be fulfilled by satisfying basic psychological needs.

In particular, the quality of game experience depends on whether the game can satisfy a human’s three basic psychological needs: competence, autonomy, and relatedness (Ryan et al., 2006). The need for *competence* is a desire for challenge and effectance (Ryan & Deci, 2000) and, in the game context, it refers to the extent games offer optimal challenges and opportunities for positive feedback (Ryan et al., 2006). The need for *autonomy* includes a sense of volition when doing a task (Ryan & Deci, 2000). Since games are usually played voluntarily, perceptions of autonomy may depend on game design, content, and personal appeal (Ryan et al., 2006). The need for *relatedness* is a desire to be connected with and caring for others (Ryan & Deci, 2000). This is most evident in MMORPGs where players interact with each other to achieve their game goals (Ryan et al., 2006). Other recent research (Rogers, 2017; Tamplin-Wilson et al., 2019) corroborates that optimal game experience is derived from satisfying these basic psychological needs. Indeed, Rogers (2017) claims that games with flexible rules lead to feelings of competence, whereas games with social elements lead to feelings of relatedness. In a similar vein, Tamplin-Wilson et al. (2019) suggest that playing games are an effective way to recover from ostracism, while Castillo (2019) posits that playing MMORPGs leads to feelings of social support and tolerance.

In sum, a central tenet of self-determination theory is intrinsic psychological need satisfaction (Ryan & Deci, 2000). Fulfillment of these needs often results in positive outcomes such as game enjoyment (Kim et al., 2015 inter alia). While the literature to date recognizes the significant effects of autonomy, competence, and relatedness on game experience, it lacks mention of contrasting how functional and non-functional items may satisfy these needs – a question which remains unanswered. Kim et al. (2015) argue that the feelings of autonomy generated from purchasing functional items influence game enjoyment, while the feelings of autonomy obtained through aesthetic customization do not affect one’s game experience to the same degree. Yet, to the best of our knowledge, no research has explored how functional and nonfunctional items may differ in satisfying needs or satisfy the same needs in different ways.

**3. Methodology**

We employ a phenomenological approach to elucidate individual players’ experiences and understand how they perceive the in-game purchases they have made. The phenomenological lens has been fruitful in prior research on consumer identity construction (Azemi et al., 2020), perceptions of one’s own and others’ eating patterns (Randers et al., 2020), personal grooming practices (Liu, 2019), and photo sharing on social media (Pera et al., 2020).

A total of 25 one-to-one in-depth interviews were conducted with current players (14 males, 11 females) of Lords Mobile, in accordance with previous in-game purchase research (Marder et al., 2019). Interviews were conducted by one member of the research team who had detailed prior knowledge of Lords Mobile. We chose this game because it is an award-winning MMORPG (Google Play Awards for “Best Competitive Game” in 2016 and nominee of the “Best Multiplayer Game” in 2017) and has more than 65 million players globally (Pocket Gamer, 2020). Of the 25 interviews, 22 were conducted via video calls and the remaining three via WeGamers (the game chat function). We intentionally selected participants who were 18 years of age or older and current players of Lords Mobile who had bought virtual items in the previous 12 months. An invitation letter was posted on the Lord Mobile forums; 36 players expressed their interest in participating in our research and all were invited for interview. A follow-up email was sent if respondents did not reply. Those who participated were also asked to recommend others who they believed would fit our research criteria.

An interview guide was established for protocols on conducting the interviews. Each started with small talk to ensure that the participants were relaxed and for background information to be elicited. A follow-up question asked all participants to recall the items they recently bought; they were then asked to reflect on their motivations for purchasing those items. Although an interview guide was used for general steering, ad-hoc follow-up questions driven by the actual interviewee responses further encouraged players to reflect on their motivations for making in-game purchases. After undertaking 22 interviews, the data were saturated with no new insights obtained. However, we conducted three more interviews to confirm data saturation, leading to a total of 25 interviews.

Each interview, lasting between 40 and 60 minutes, was transcribed. All online nicknames were anonymized, replaced with pseudonyms. Participants reported their average duration on the game per day. They also showed their active engagement with in-game purchasing, namely of castle skins, special gear, and heroes, as detailed in Table 1.

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| **Table 1. Participant information** |
| Nickname | Gender | Age | Average time spent on the game per day | Virtual items bought |
| Andy | male | 21 | 10 hrs | castle skin, special gear, hero |
| Max | male | 21 | 15 hrs | castle skin, special gear, hero |
| Emily  | female | 42 | 1 hr, but more in the past | special gear, heroes |
| Jacob | male | 30 | 4-16 hrs | special heroes |
| Hugh | male | 28 | 8+ hrs | castle skins |
| Bea | female | 25 | 10-12 hrs | castle skins, heroes, gear |
| Tom | male | 26 | 4-6 hrs | gear |
| Brad | male | 30 | 4-8 hrs | castle skins, gear, heroes |
| Scott | male | 26 | 5-8 hrs | heroes |
| Philip | male | 35 | 10 hrs | castle skins, gear, heroes |
| Poppy | female | 23 | 10-12 hrs | castle skins, special gear, heroes |
| Emma | female | 37 | 5-8 hrs | castle skins, heroes  |
| Alison | female | 20 | 10 hrs | castle skins, heroes |
| Liam | male | 24 | 4-6 hrs | castle skins, heroes, gear |
| William | male | 35 | 6+ hrs | castle skins, heroes, gear |
| James | male | 30 | 5-6 hrs | special gear, heroes |
| Lucas | male | 31 | 7+ hrs | castle skins, special gears, heroes |
| Ben | male | 28 | 10 hrs | castle skins, gear, heroes |
| Oliver | male | 26 | 2-6 hrs | gem packs, gear, heroes |
| Ava | female | 30 | 5+ hrs | castle skins, special gear, heroes |
| Sophia | female | 29 | 8+ hrs | castle skins, special gear, heroes |
| Evie | female | 33 | 10 hrs | special gear, heroes |
| Ruby | female | 25 | 9+ hrs | castle skins, special gear, heroes |
| Clara | female | 23 | 6+ hrs | castle skins, special gear, heroes |
| Hallie | female  | 22 | 10 hrs | special gear, heroes |

NVivo 12 was used to code and analyse all transcriptions, with the coding process guided by studies undertaken by Wetherall et al. (1988) and Spiggle (1994). We engaged in an iterative process in which the literature on well-being theory and self-determination theory enabled understanding and articulation of the eudaimonic experience achieved through purchasing virtual items. We were then able to adopt Spiggle’s (1994) qualitative coding methodology to interpret game players’ perceptions of in-game purchases and explore whether participants’ descriptions of their purchasing experiences exhibited certain commonalitiesfrom which it would be possible to distinguish discrete psychological elements between functional and non-functional items. Specifically, our data analysis consisted of “reading and re-reading, noting patterns and themes in a search for patterns and recurring organizations” (Piacentini & Banister, 2009, p.281), accompanied by a process of categorization, abstraction, comparison, and integration (Spiggle, 1994). Themes and codes were cross-examined and refined by the research team.

**4. Findings**

Our participants described their purchasing decisions of virtual items as meaningful consumption and largely driven by the fulfilment of psychological needs. In Table 2, we show a framework that draws our findings into a coherent whole. More specifically, our data reveals distinctive dimensions for the satisfaction of key psychological needs (competence, relatedness, autonomy, and purpose in life) which are associated with both functional and non-functional items. Virtual item consumption helps players to orient their eudaimonic experiences in games and construct various relations between their self and others socialising in the game. Table 2 demonstrates the key research findings organised by the four psychological needs identified. We also present an exemplar of our data analysis in Table 3 to demonstrate the coding process.

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| **Table 2. Psychological needs and their main dimensions for functional and non-functional virtual items** |
|  | **Virtual product type** |
| **Psychological needs** | **Functional items** | **Non-functional items** |
| **Competence** This means whether games offer optimal challenges and opportunities for positive feedback (Ryan, Rigby, & Przybylski, 2006). | *Both inner-directed* (aspirations for personal growth) and *other-directed* (aspirations for competent status within the group)-Defense effectiveness-Continuing growth | *Other-directed* (aspirations for competent status within the group) only-Competence signaling |
| **Relatedness**This reflects people’s desire to be connected to and caring towards others (Deci & Ryan, 2000). | *Inner-directed* (aspirations for group affiliation, intimacy, and community support) only-Caring for others-Peer recognition | *Inner-directed* (aspirations for group affiliation, intimacy, and community support) only-Caring for others-Peer recognition |
| **Autonomy**This concerns a sense of freedom of choice in tasks (Deci & Ryan, 2000) and feelings such as self-determination, independence, and the regulation of behavior from within.  | *Inner-directed* (aspirations for perceived personal control) only-Play anytime and anywhere they want to | *Inner-directed* (aspirations for self-actualization) only-Aid self-expression |
| **Purpose in life**Creating meaning and direction in life is the fundamental challenge of living authentically (Ryff & Singer, 2008).  | Both *inner-directed* (aspirations for authenticity and intimacy) and *other-directed* (aspirations for positive response from others to compensate for inferior and/or negative self-perception)-Moral duty of care -Self-acceptance | *Other-directed* (aspirations for positive response from others to compensate for inferior and/or negative self-perception) only-Self-acceptance |

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| **Table 3: Demonstration of data analysis** |
| **Episodes (descriptive comments)**Break down data into chunks of texts, each representing an episode. Each episode includes a descriptive summary of what participants have described (Spiggle, 1994).  | **Abstraction**Develop higher-order conceptual constructs through grouping previously identified episodes into more general, conceptual classes (Spiggle, 1994).  | **Integration**Integrate abstract constructs to produce a theory (Spiggle, 1994).  |
| What Max bought in the game depends on what he needed at that moment. For example, sometimes he needs gems, so he will get a pack that gives him gems. He generally buys a lot of packs when the team goes to burn some hives, because he will have a lot of injured soldiers, so to heal them faster, he has to purchase the gems to accelerate the process. Also, when Max wants to make some troops or increase his strength, he will purchase gems or training packs to train troops. To stay strong in the game, Max felt he has to purchase to increase the number of mights.After some time, gaining might become very slow. The game becomes very slow and you have to wait for buildings or research to finish. But when you buy things in the game, it is easier to progress further. Every purchase counts and affects the way Tom attacks others and interacts.Max claims that castle skins are expensive to buy. It’s like a luxury because it does not help Max to defend. But it makes him feel special and shows his powerful position in the game. Only people who play the game will be able to see that he has a special castle skin. Other players will understand the luxury nature of castle skins.  | Defense effectiveness Continuing growth Competence signalling | Competence  |
| Bea bought speed-ups sometimes as a gift to others. She described her purchases as due to her caring orientation. If she did not care about others in her guild, she would not waste her money. Scott described his guild as very sociable. They care about each other. He was constantly burning, helping out forts, and giving equipment to others during fest events. Therefore, he has to purchase in order to help others. Poppy claimed that she has always been enjoying purchasing. She described her purchases as a way to stand out and to make others notice her. Most importantly, Poppy mentioned that whenever she purchases some equipment then other players will recognize her and she will be perceived as someone who is kind of important in the game.Clara also described her purchases of mights as investment. They gave her the opportunity to help her own guild. She claimed that her guild is her family, so she will definitely gift others if they need it. The purchases she has made have given her a respectful image.  | Caring for othersPeer recognitionPeer recognitionPeer recognition | Relatedness |
| Alison described why her purchases in the game are unique and different from the luxury bag. She claimed that the kind of happiness obtained from the game is constant. She can enter the game anytime she wants to, talk to her friends in the chat, upgrade her buildings and troops, and most importantly she could see her progress through the might she has purchased. Alison described herself as someone who is girly and beautiful in real-life, so the mermaid castle skin fully represents her. Additionally, she indicates that the castle skin purchases will be a perfect gift for others because they can see the virtual gift whenever they log in to the game.  | Play anytime and anywhere they want toAid self-expression | Autonomy |
| Hugh is an R4 player, the strongest in his guild and has spent lots of money on equipment to defend his leadership position in the game. His purchases help other players to grow. Being a leader, he is obliged to help the guild grow and prosper in unity. Most importantly, being a leader, he has to constantly purchase to remain active and assist other players, as well as meeting the expectations of others. Liam described himself as a shy person in real life, but someone who enjoys talking to others in the game. He bought speed-ups and heroes to defend his team and remain strong. He is very quiet in real life. In the game, he feels comfortable to share his experiences and advise others on what to purchase. This is not something he would do in real-life.Max described his castle skin as chosen because it represents his own name. His current castle skin has the Dracula’s theme which can be very scary. But this is not his true self in real life. Interestingly, he claimed that he is a bit shy in real life and does not have too many friends. But in the game, he is very popular and talkative.   | Duty of care Self-acceptanceSelf-acceptance | Purpose in life |

***4.1 Competence achieved through functional items***

*4.1.1 Defense effectiveness*

Many of the participants described how their purchases of functional items allow them to develop their competence in the game. More interestingly, their consumption of functional items is characterised as both *inner-directed* and *other-directed*. The inner-directed consumption is often characterised as concentrating on fulfilling one’s own pursuits, such as personal competence (Liu, 2019). In contrast, other-directed consumption is mainly driven by motivations to elicit positive responses from one’s audience (Liu, 2019). Our data support the finding of Lehdonvirta (2009) that functional item purchases help players defend the team and improve their individual performance. When and what to purchase in the game seems to be determined by the needs of an individual player. Given the collaborative nature of MMORPGs, such needs are guided by both personal and significant others in the team. Therefore, the players were looking for the appropriate functional items that will significantly improve their individual performance and simultaneously demonstrate their positions in their guilds.

*My purchases in the game depend on what I need in the moment. For example, sometimes I need gems, so I will get a pack that gives me gems. But I generally buy a lot of these packs when we go to burn some hives, because I will have a lot of injured soldiers, so to heal them faster, I will purchase the gems to accelerate the process. Also, if I want to make some troops or increase my might, I will purchase gems or training packs to train troops. I love the game, and if I want to keep up with these strong players, then I need to purchase.* (Max)

 For Max, who reports spending on average 15 hours a day in the game, the purchases he made were needed to help him improve his performance. For example, gems were bought to burn hives, heal injured soldiers, and increase his might (the statistical figure that Lords Mobile awards players based on their advancement in the game). His purchases have significantly improved his competence and allowed him to retain a leader position in his guild. Similarly, a quote from Dobby provides further support, expressing that purchases of packs are worth the money given the extra resources (such as speed-ups and troops) associated with the packs; this equipment will improve her chances of winning. Most importantly, heroes represent power, so her purchase of a hero reinforces her powerful image as perceived by others.

*It’s the incentive that the packs provide that makes my buy. For example, some packs have special items like troops’ speed-ups or something like that, and they also have a lot of resources. So, I will consider buying these packs as they are worth it, and you will have more chances of winning the battle. If you want other people to see you as someone who is powerful, then you need to purchase a hero.* (Dobby*)*

*4.1.2 Continuing growth*

Many participants were engaging in activities that help them continuously grow in the game. Players feel the need to purchase new items to progress (Hamari & Lehdonvirta, 2010). Some participants have directly associated certain functional items (such as gem packs) with their positions in the game. Emily claimed that the game prevents her from growing in it unless she invests in functional items. Purchases of gear packs such as Queen Bee or Gargantua are the only means to grow more quickly.

*I sometimes purchase gear packs, like "Queen Bee" or "Gargantua", because the game makes it impossible to ever get your gear leveled up any other way. I purchase heroes who are good for colosseum because gems make the game grow faster.* (Emily)

 Poppy explicitly described how her purchases of heroes and gem packs were directly related to her “strong” position in the game. These purchases allowed her to compete with others in the game and to reveal her position.

*I have my own castle, and I have to make it grow, and in this you can actually compete with others to see who is the strongest, or who has more knowledge of the game than others. But obviously, being strong costs money, I have to invest in heroes, gem packs, etc.* (Poppy)

Similarly, Tom considered every in-game purchase as mattering. The game is set up in a way to challenge players, which positively affects their loyalty (Huang & Hsieh, 2011). Extending the work of Klimmt, Hartmann, & Frey (2007), players’ receiving immediate and direct feedback on their purchases seems to increase their enjoyment in the game. In-game purchases allow them to relieve the frustration of feeling slowed down in the game. For Tom, every purchase influences the way he attacks others and his interaction with other players. The progress or growth within the game made players feel that in-game purchases were unique and irreplaceable.

*After some time, gaining more might becomes very slow. The game becomes very slow and you have to wait for a bit longer for buildings or research to finish. But when you buy equipment in the game, it is easier to progress further. Every purchase counts and affects the way I attack others and interact.* (Tom)

Here, the consumption of functional items helps players demonstrate their feelings of competence. Interestingly, this does not only signify self-interest, but also a focus on their social status and positive images of them reflected by others within the guild.

***4.2 Competence achieved through non-functional items***

*4.2.1 Competence signaling*

Non-functional items have become important means of status signaling in the game (Marder et al., 2019; Park & Lee, 2011). Many participants felt that castle skins reveal their level of competence to others. Andy described spending almost 10 hours a day on the game, and the colour and design of the castle skin are reported to signal his powerful position and represent his level of mastery:

*I bought the gold, fancy castle skin to show my power, because the design of this castle is very classy and elegant, and it is all full of gold and it has a crown… so I would say it looks like a king’s throne. I am the leader of the guild. I want to introduce myself in the game as someone who has power, and who is important…* (Andy)

Furthermore, our participants perceive castle skins as luxury products. Despite their aesthetic nature, castle skins carry no functional value but can be used to signal the players’ position in the game. The quote from Hallie exemplifies this.

*I think the game can be equal to a luxury item because this spending is more to show off in the game. I mean, buying a castle skin is purely to show off, because I see no other use in having a castle skin… this is something we don’t actually need. We spend our money in the game, but we don’t receive anything in exchange, apart from joy and satisfaction.* (Hallie)

Perceived hedonic enjoyment affects the purchase intentions of virtual goods (Shukla & Drennan, 2018). However, hedonic enjoyment is only a narrow slice of the game experience; our data provide support for the claim that the eudaimonic experience more accurately depicts the feeling of in-game purchases being meaningful. Our participants further suggest that in-game purchases can be used to satisfy one’s need for competence although functional and non-functional items play distinctive roles in this process. In other words, the feeling of competence deriving from different virtual product types varies. Specifically, functional items allow players to defend more effectively and/or grow continuously as an individual but also to seek social awards and be viewed positively by others. In contrast, purchases of non-functional items also satisfy one’s need for competence but through their signaling ability, drawing focus to social status or interpersonal awards. Thus, the consumption of functional and non-functional items transcend game enjoyment by providing a sense of competence in gameplay (Oliver et al., 2018) but in distinct and particular ways.

***4.3 Relatedness achieved through functional items and non-functional items***

*4.3.1 Caring for others*

Relatedness refers to the psychological desire to be connected to others (Shmargad & Watts, 2016). Many participants revealed that their consumption choices are largely influenced by a caring orientation. This is affected by one’s inner-directed intentions, because players’ drivers are interwoven with intrinsic motivations such as group affiliation, community support, and intimacy (Liu, 2019). The sense of belonging, community, and caring serve to keep Lords Mobile players together, and purchases of virtual items were used as evidence of mutual care and support. The following quote from Scott exemplifies this.

*I feel this guild is very sociable, so we care about each other, we make new friends, and we try to help each other. I am very happy to see the stuff that I bought helps the team to win the game.* (Scott)

Scott experienced delight when his purchases of functional items led to the team’s success in the battle. Consistent with Gummerus et al. (2012), players being able to give and receive help is one of the main social benefits they receive from such visual brand communities. Our data show that the purchases of functional items were used to maintain a close, trusting relationship with others.

*You can give something special to the people you love in this game, because they also like the game and they understand the meaning of these items. Also, with some small gifts like speed-ups or relocators, people feel happy when they receive them, because it makes them feel special or valued.* (Andy)

Andy described his gift-giving behaviour as a signal of love. Not everyone outside the game understands the particular significance of speed-ups or relocators but people within the game community do. Andy cares about other team players’ well-being and believes that giving small gifts makes them feel special or valued. These can be used to sustain important social ties. Indeed, Clara referred to her guild as her family and she perceived her purchases as an investment in family. Gifts were given to other players as a signal of caring, illustrated by the following quote.

*I have been playing this game daily and investing money in it to improve my might. It allows me to help my guild. As I told you, I consider them as family, so I don't mind giving some members gifts such as gem packs and gear packs if they need them. It is mainly because I like them. I cannot give them gifts in real life because I don't know them in real life. So, I think gifting in the game is similar to gifting in real life. It is a way to show them my gratitude. I also like participating in war as this gives me a respectful image.* (Clara)

Despite the importance of functional items, non-functional items such as castle skins were used as an important way of showing Poppy’s concern for others. Other than for visibility and differentiation, a gift is often given with the expectation of enhancing the relationship with the recipient (Davies et al., 2010). The following quote from Poppy illustrates how gifting castle skins demonstrates her great love for and her interest in developing deep friendships with others in the game.

*I often gift my friends some castle skins; it is mainly because I like them. We met in the game, no one knows who they are in real life. It’s the same thing (as in real life). A way to show I like them. (Poppy)*

*4.3.2 Peer recognition*

As important socialization agents, peers transmit consumption attitudes and motives to one another (Chaplin & John, 2010; De Grove et al., 2015). Peer acceptance is an important source of self-esteem, which may significantly influence psychological well-being (Smith et al., 2017). As revealed in the following quote, a key source of meaning for William is peer recognition in the form of promotion, received as a result of purchasing functional items.

*I like helping in war. I am in a war guild so they expect you to burn people every day and to help during battles. And those are the reasons why I play this game; I have fun when I participate in battles. The equipment I bought made me strong so that I can protect them. Eventually, I got promoted at the end. My promotion within the game makes me feel like the guild is recognizing your work, and you feel maybe proud of it.* (William)

In-game purchases are only “visible to members” of the community and become conspicuous only among the players. The Lords Mobile community seems to guide its members on what meaningful purchases are; the perception of meaning is then reinforced by peer recognition. As illustrated by Poppy’s quote below, peer acknowledgment and recognition of her purchases are key drivers of the enjoyment even though no one sees what she purchases in her real-life situation.

*Even if outside the game no one sees what I purchase, it still brings me joy, and it helps me to interact with the people in the game, and that makes me happy. Only those who also play the game understand this type of expenditure and understand the joy and happiness it brings.* (Poppy*)*

Interestingly, players also receive peer recognition through purchasing non-functional items. As demonstrated by Jacob below, giving gifts such as castle skins to other team members is perceived as proof of peer recognition. Individual efforts will be acknowledged and welcomed by the whole team. The findings clearly illustrate that the purchase of both functional and non-functional items may be used to express a sense of caring and elicit peer recognition.

*In our team, some people get promotion and recognition, whilst others receive some rewards, such as castle skins, relocators, etc. People get to know that they are part of the family and if they put in the effort, they will get the rewards.* (Jacob)

While prior research claims that non-functional items are used to demonstrate one’s appreciation towards the game developers (Marder et al., 2019), our findings suggest that, in the context of MMORPGs, the need for relatedness is satisfied through non-functional item consumption by demonstrating care for other players and receiving peer recognition. Besides this, our data further reveal that both functional and non-functional item consumption are marked as inner-directed, generating a feeling of relatedness for players, providing them with a sense of their purchases being meaningful.

***4.4 Autonomy in purchasing functional items***

*4.4.1 Playing anytime and anywhere*

Notions of autonomy can be referred to as “a sense of volition when doing a task” (Ryan et al., 2006, p.349), which increases when players have the freedom to make choices in play – ultimately enhancing their game enjoyment (Kim et al., 2015). Many participants expressed satisfaction with their investments in heroes, packs, and relocators since they can use them anytime and anywhere. The following quote exemplifies this:

*I prefer to spend on the game rather than on a luxury bag, because luxury bags don’t really bring me the same satisfaction that the game provides, and because the satisfaction received from the game is continuous and no two games are identical. I mean, I can enter the game any time I want, and I can talk to my friends in the chat, and I can upgrade my buildings and troops, and I can always see my progress through the might I have obtained. So, it is more like a challenge to myself and irreplaceable. But the luxury bag doesn’t give me any of this.* (Alison)

Alison compared her in-game purchases with the purchase of a luxury handbag. Investments she made in the game give her the freedom to choose when to play, who to play with, and what equipment to use during the play. Ubiquitous technology allows players to enjoy the benefits of in-game purchases without the constraints of physical space, time, and context suitability.

*I love all gem packs and heroes that I bought, so I can log in and play whenever and wherever possible even on the bus to work or in the toilet… (laughter).* (Ben)

*I won’t quit the game; it is an investment that makes me happy. It is not like when you buy something expensive in real life, and you use it sometimes and it brings you joy, but after some time you don’t see the joy anymore as you get bored. But with the game, I feel happy; it is a cool and constant experience as I can use my gem packs and heroes whenever I want to, without thinking about the appropriate context. (James)*

Similarly, Ben and James regarded the in-game expenditure as considerably more satisfactory than expenditure on branded products. The experience of game enjoyment is continuous; they perceive they have full control of the game, including choice over time, location, and team or component composition. Players often seek a unique experience by playing with different team members, using different strategies, or utilizing different pieces of equipment to protect their guilds. Each functional item plays a different role in upgrading and developing the game. The selection choice over appropriate tools during the game offers an experience unique to each player, which seems difficult to replicate and may enable a distinctive type of satisfaction that material possessions cannot provide (Rosenzweig & Gilovich, 2012). Prior research suggests that the sensation of autonomy arises from game control mechanics (Oliver et al., 2018; Ryan et al., 2006; Tamborini et al., 2011). However, our findings suggest that it also arises from the acquisition and usage of in-game items, without social constraints on when, how, or with whom to use them. Hence, we claim that the feeling of autonomy derived from functional item consumption is guided by one’s inner-directed intentions, seeking personal control of the environment.

***4.5 Autonomy achieved through non-functional items***

*4.5.1 Aid self-expression*

Our participants revealed that non-functional items can also fulfil players’ need for autonomy. This is achieved through the open opportunities to express themselves fully or, as Przybylski et al. (2012) postulated, to “try on” their ideal selves. The following quote exemplifies this:

*My favourite movie is the Little Mermaid. One of the castle skins is a mermaid and it is pink and so beautiful. Also, I am very girly, so I think this is the perfect castle skin for me. It represents me fully.* (Alison)

Alison considers the mermaid castle skin to reveals her true self to others in the game. Purchasing the mermaid castle skin contributes to her actual self-esteem and therein may be perceived as a meaningful purchase. In the same vein, Poppy and Andy claimed that they use castle skins to convey who they are in the game.

*I bought a storm fox, who has a very hot body, and sometimes I use her because she looks beautiful, and I want people who don't know me in real life to think that I am as beautiful as my hero.* (Poppy)

*I think all of us buy castle skins to represent our character or our real self. I bought the gold, fancy castle skin to show my power, because the design of this castle is very classy and elegant, and it is all full of gold and it has a crown… so I would say it looks like a king’s throne. I am the leader of the guild. I want to introduce myself in the game as someone who has power and who is important…* (Andy)

The perceived authenticity of players’ virtual experience seems to determine their purchase intentions of in-game items (Wu & Hsu, 2018). In particular, Wu and Hsu assume players are more likely to purchase in-game items when these are perceived as authentic. Our findings suggest that players have developed a sense of autonomy by intentionally choosing a specific skin to reveal who and how they wish to be perceived by others. Such autonomy of choice may raise the perceptions of authenticity from castle skin purchases. This provides additional support to Przybylski et al. (2012), who argue for the importance of expressing one’s “ideal self” in a game.

Furthermore, our data reveal that players tend to develop a feeling of autonomy as a result of purchasing both functional items and non-functional items but both types of consumption are guided by one’s inner-directed intentions, where the emphasis is on authenticity and self-actualization. Specifically, functional items are associated with the freedom of decision on usage (anytime and anywhere) as well as the choice to move closer to desired goals. More interestingly, non-functional items enable players to develop a sense of autonomy, from some degree of achieving self-actualization (Oliver et al., 2018).

***4.6 Purpose in life achieved through functional items***

*4.6.1 Moral duty of care*

Players of MMORPGs co-create the game experience and “co-experience” it. In-game purchases can be driven by eudaimonic experience, which captures the “meaningfulness” of game experience (Oliver et al., 2018; Possler et al., 2020). For eudaimonic experience, one of the fundamental changes is the ability to create meaning and direction in life (Ryff & Singer, 2008). In MMORPGs, in-game expenditure can help players attain self-realization and human virtue via their sense of community or tribalism (Badrinarayanan et al., 2014; Sierra et al., 2016). Hence, showing a greater sense of duty to other players tends be characterized as both an inner-directed and other-directed intention, providing direction as to what a meaningful life should be. As illustrated by Lucas below, gifting other players and helping them to grow are perceived as meaningful expenditure. He felt obliged to be active and collaborative and he received rewards for complying with the group norms.

*In the game, you have to be active and collaborate in wars and help other members to grow. For example, I used to give gifts to people in my previous guild to help them grow. I think that's how I gained their trust, respect, and love, and that is why they chose me as co-leader.* (Lucas)

Brad associated the leadership position with dedicated responsibilities. One of the main ones, he considered, was to help others grow so that they can defeat other teams. He applied some real-life leadership skills to ensure the unity and growth of his team. More importantly, such transferable skills add authenticity – “a taste of real” – to the game so that players tend to use real-life terms (such as home or family) to describe the virtual guild.

*I attained r4 status in most of the guilds I’ve been in, mainly because I know the game well and know where to focus time, so, I help a lot of new players to grow. I also enjoy the leadership role because it allows me to use my real-life leadership and training ability to help families grow and prosper in unity. Special roles include recruiting, training, rule enforcement, being well-versed on in-game mechanics and, most importantly, diplomacy.* (Brad)

Our participants asserted that in-game purchases are mutually beneficial to all team players who aim to co-create a pleasurable shared experience. Players have the responsibility to support each other and create a positive experience. Eva described how her purchases of gem packs not only benefited her, but more importantly benefited the whole team, consequently shaping the outcome of the play – to win or lose. Liam assigned his purchases to the “leader” role he holds within the guild. Leaders carry greater responsibility to protect other players and are obliged to invest in items to maintain their leadership position.

*I have been playing for one year so far, and I enjoy it. Besides, I feel this is a good investment for me, because for example, when I buy a gem pack, I can see my might going up very quickly, and everyone in the guild can see it as well. My growth also benefits them and helps us win the game. It is very cool if they congratulate me; that’s why I am constantly making purchases.* (Eva)

*Free to play (F2P) heroes are strong, but they aren’t strong enough. And I am the leader; I lead my members for wars. So, I must get these special heroes to be able to stand as a leader. Otherwise, I would stay as an R4, or as a low-rank player. I bought these heroes not only for myself but for helping out my friends in my guild. I think because I am the leader of the guild, I have to show that I am the strongest person in my guild, and be able to protect my friends when we play. I cannot let them down. That is why I purchased the skins and bought the special heroes.* (Liam)

***4.7 Self-acceptance achieved through functional and non-functional items***

 Individuals consume compensatory products to address any discrepancies between their *ideal* self and *actual* self (Higgins, 1989). Such discrepancies may have negative impacts on well-being (Kelly et al., 2015). However, pursuing goals that help individuals achieve their psychological needs and satisfy their motivations may indeed promote well-being. Individuals may, for example, engage in self-acceptance activities that raise awareness of their personal strengths and weaknesses, and thereby live more meaningful lives (Ryff & Singer, 2008). The consumption of functional and non-functional items is marked as other-directed, focusing on the motivational need to elicit “positive response to compensate for a perceived lesser, inferior and/or negative self in situations” (Liu, 2019, p.1028). The following quote illustrates this:

*I got attacked a lot when I first started the game, probably because of my size and my weakness. Then I decided to be the strongest guy so that no one could “bully” me. That’s pretty much why I bought the heroes and packs.* (Andy)

 Consumers often engage in symbolic consumption to compensate for threatened aspects of the self (Gao et al., 2009). Gamers’ identities are socially constructed via interactions with other players (De Grove et al., 2015). Andy felt that the valued items – heroes and gem packs – could symbolically make up for the weakness in his identity. His emphasis on this was to mitigate any discrepancy between his actual and ideal selves.

 In a similar vein, Max also reported that his castle skin purchases were used to mitigate discrepancy in self-perception. He felt that his purchases could be used to protect his true self and conceal any weaknesses in his actual self. He purchased castle skins that he considered might represent his ideal self: a cool and respected person.

*In the game, no one knows your true identity, and no one knows what you look like. So, even if you have any weakness, or even if you are shy, it doesn’t matter, because nobody knows who you truly are. I feel my castle is different from who I am in real life. So, I want this character, or my other self, to be like the cool guy, and the guy who everyone admires, even if it is just in the game.* (Max)

Both functional and non-functional item purchases help players to understand their strengths and protect or mitigate their weaknesses. Our participants felt that they could secure a more meaningful existence from in-game purchases.

**5. Discussion and conclusions**

***5.1 General discussion and contribution to literature***

Drawing on conceptualizations of hedonic and eudaimonic well-being in positive psychology (Ryan & Deci, 2001), our research findings reveal that players pursue eudaimonic game experience through their in-game purchases. Furthermore, we show that relatedness and autonomy are affected by *inner-directed* intentions as players purchase functional and non-functional items to fulfil intrinsic motivations such as intimacy, group affiliation, and community support. In contrast, feelings of competence and purpose in life derived from functional item consumption are both affected by *inner-directed* and *other-directed* intentions*,* whereas non-functional item consumption is driven by *other-directed* intentions. Purchases of functional items are more clearly linked with satisfying social demands in obtaining social and interpersonal rewards and benefits as well as fulfilling personal growth needs and self-actualization. To illustrate, our participants demonstrate this directionality and quest for meaning in life through in-game consumption, notably in highlighting moral duty to help others and gain self-acceptance as a result. Finally, our findings provide some support to Oliver et al. (2018) who argue that eudaimonic experience is *other-oriented* but also suggests it can be *self-oriented*.

Next, we present three theoretical contributions, as well as important practical implications for businesses and future research directions. Our research contributes to the game experience literature, suggesting that players are looking for meaningful purchases that move beyond simply triggering hedonic enjoyment. Much existing research tends to focus on the hedonic game experience (e.g., Hamari, 2015; Huang & Hsieh, 2011), which appears to represent a narrow perspective of the overall game experience. Consistent with Kim et al. (2015) and Rogers (2017), our findings reveal that players are actively looking for eudaimonic experience and engaging in-game purchases they consider meaningful. In other words, beyond the intensity, pleasure and joy, players pursue psychosocial meaning attached to their in-game purchases.

Our research has taken an initial step in understanding what psychosocial meaning functional and non-functional items may carry. Past research has shown that competence, autonomy, and relatedness are the basic psychological needs that steer players’ intentions to play (Mitchell et al., 2020) and experience games as they do (Rogers, 2017; Liao et al., 2020). Our findings corroborate that competence, autonomy, and relatedness serve as psychological drivers for in-game purchases. More importantly, we contribute to this stream of research by adding *meaning and purpose in life* as a significant psychological need to be satisfied. We find our participants are generally using virtual items in the game to provide meaning and direction in their lives (Ryff & Singer, 2008).

Our research advances the in-game expenditure literature by differentiating the patterns of psychological need satisfaction between the purchasing of functional and non-functional items (Hamari et al., 2017; Kim et al., 2015). Ryan & Deci’s (2000) self-determination theory which proposes competence, autonomy, and relatedness as basic psychological needs that affect satisfaction and mental well-being, is widely adopted in scholarship on game experience. Notwithstanding the predominance and recognition of self-determination theory (e.g., Rogers, 2017), existing research has largely failed to investigate whether the impacts of psychological need satisfaction on game experience diverge between different virtual product types. This research gap echoes the call by Kim et al. (2015) call to investigate whether and how consumers’ feelings of autonomy and control differ between functional and aesthetic items. In particular, the impact of a need for autonomy on game enjoyment might differ, depending on whether customization is at the aesthetic level or functional level. Highlighting distinctive psychological experiences generated by different virtual product types is increasingly relevant, as explained by Marder et al. (2019), who demarcates the motivations for purchasing non-functional items in free-to-play games.

Addressing this gap is important because previous studies into psychological needs satisfaction impacting game experience being driven by different virtual product types seem to be inconclusive. Our findings demonstrate clearly that the consumption of functional and non-functional items can satisfy key psychological needs – competence, autonomy, relatedness, and purpose in life – but each item type associates with a distinctive psychological pattern. For example, our participants purchased functional items in order to improve defense effectiveness and demonstrate their self-growth. They do so to achieve benefits to themselves but most importantly to receive positive responses from team members. Yet, non-functional items such as castle skins are perceived as social products and expected to be used by others in evaluating one’s projection of competence.

Finally, our research extends Ryan & Deci’s (2000) self-determination theory by highlighting the consumption orientation and intentions associated with functional and non-functional items. In-game purchases help players to orient their game experiences and construct differing relations between self and significant others in the game. *Other-directed* consumption orientation focuses on aspirations for social and interpersonal rewards and for positive responses from others (Liu, 2019). Meanwhile, *inner-directed* consumption orientation captures aspiration for intimacy, group affiliation, community support, authenticity, personal growth, and self-actualization (ibid.). We provide a dynamic picture of how game players perceive both functional and non-functional items to satisfy psychological needs within self-other relationships. Liao et al. (2020) examine the impacts of competence, autonomy, and relatedness on loyalty, but extended this by adopting the *inner-directed* orientation perspective to emphasize aspirations for self-worth. In fact, we illustrate that competence and purpose in life are driven by both *inner-directed* and *other-directed* orientations for functional items, while just *other-directed* consumption orientation is identified for non-functional items. In contrast, the feelings of autonomy and relatedness are guided by *inner-directed* consumption orientation for both functional and non-functional items. For example, players develop a feeling of autonomy through functional item consumption, which allows them to grow and defend more effectively and thereby achieve social rewards from others and personal growth. The non-functional items serve as competence signals for projecting social status or the achievement of interpersonal awards. Satisfying the need for relatedness is driven by one’s *inner-directed* intention, emphasizing players’ sense of caring for others and peer recognition. Indeed, we find that our participants often felt obliged to purchase functional items to demonstrate their moral duty of care, which reflects the pursuit of self-realization and human virtue through a sense of community or tribe (Badrinarayanan et al., 2014; Sierra et al., 2016). In demonstrating such duty, players may perceive their purchases to be meaningful as the items may help them evaluate their strengths and weaknesses in the virtual environment.

***5.2 Practical implications and future research directions***

Our findings on varying psychological experience derived from functional and non-functional item consumption shed some light on game experience. The findings provide marketers, game designers, and developers with rich narratives and insights that move beyond assuming the drives to fulfil psychological needs are homogenous during the purchase of all virtual product types.

We, therefore, recommend that game designers and developers consider emphasizing how meaningful virtual items may be to players, highlighting the specific psychological needs associated with different virtual products. For example, game designers could underscore how functional items allow players to develop a feeling of self-competence through continuous improvement and effectiveness in defending, or more importantly, how functional items could help players fulfil their aspirations for personal growth as well as be viewed as competent by other team players.

Furthermore, our recommendations for marketing communications include promoting non-functional items as highlighting, for example, how castle skins can signal competence and elicit positive reactions from other players. Crucially, we demonstrate that players are purchasing in-game items to fulfil their need for autonomy and relatedness. Marketing managers’ communications would not need to differentiate between functional and non-functional items when highlighting the potential feelings of autonomy and relatedness derived from in-game consumption. All virtual items are affected by players’ *inner-directed* consumption intentions, namely the aspiration for intimacy, group affiliation, and self-actualization.

In closing,our research has some limitations that offer insightful directions for future research. Firstly, it was conducted with players from a single MMORPG – Lords Mobile. Future studies may consider replicating our research in dissimilar game settings. MMORPGs emphasize team collaboration so future research could usefully explore whether psychological motivations for one-player games differ from those of MMORPGs. Moreover, it is worth exploring the finer differences among virtual product types more forensically to understand the degree to which game experience depends on the game platforms players use. Yet, the distinct psychological drivers identified between purchasing functional and non-functional items may shed light on the future research directions proposed by Kim et al. (2015), highlighting that different approaches to game customization might generate distinct psychological experiences. Importantly, more considerations should be given to the classification of virtual product types. The non-functional items in some mobile MMORPGs may associate with additional bonuses in the attack. The type of devices the game is dedicated to may play a role in influencing game experience.

Secondly, Adams & Ip (2002) contrasted the attitudes of casual, moderate, and hardcore players towards gaming. Future researchers may wish to explore whether the motivations for in-game purchases also differ across attitudinally defined gamer groups. Thirdly but in a similar vein, our research does provide useful insights on in-game consumption drivers, but not all interviewees bought both functional and non-functional items; accordingly, future research may consider exploring why certain players are interested in a particular virtual item type rather than another.

Further, although we show that spending on in-game items can enhance a player’s eudaimonic game experience through psychological needs fulfilment, the level of expenditure could also undermine certain players’ experience and even generate game resistance (Ravoniarison & Benito, 2019). Future research may also explore the psychological motivations behind such resistance behaviour, to identify and demarcate the range of perceptions that exist between those who are spending and not spending.

Finally, we limited ourselves to a qualitative, phenomenological approach to discover how in-game purchases help game players achieve a more eudaimonic game experience; perhaps a methodological shift could enable future researchers to determine, for example, the moderating role of a virtual product type on the relationship between psychological need and game experience, on a larger scale.

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