

Development and empirical testing of a game engagement scale – case r/Stopgaming

Master's Thesis

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# *Table of contents*

1. Introduction.....	4
2. Games and their players.....	9
2.1 Games .....	9
2.2 Players.....	12
2.3 Player motivations .....	14
2.4 Player types and preferences .....	17
3. The player experience .....	21
3.1 Immersion and Escapism .....	24
3.2 Immersion, engagement and flow .....	28
3.3 Laborious and alternative relations with games.....	30
4. Engagement and burnout .....	35
4.1 On being engaged .....	36
4.2. Engagement, burnout and games .....	38
5. Research design .....	42
5.1. Objectives .....	42
5.2 Methodology .....	43
5.3 Execution of survey .....	45
5.4 On research ethics .....	48
6. Analysis.....	50
6.1 Casual and Hardcore .....	51
6.2 Engagement and scale construction.....	53
6.3 Engagement and gaming in the study sample.....	55
Education and gaming.....	55
Social life, work and gaming .....	58
Gaming and engagement.....	58

7. Conclusions and discussion .....	63
Playtime .....	66
Engagement.....	66
Discussion.....	67
References.....	70
Appendix 1 – UWES-9 transformation to GWS.....	78

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## 1. Introduction

Playing video games – or “gaming”, is a dear hobby and pastime for many. Others engage in gaming to pass the time, and others in search of quick relief from other aspects of life. While traditionally partaken in on computers and specific consoles – followed by dedicated handheld consoles, to date games have taken over mobile devices more generally. Time engaged gaming has been steadily rising since 2009, in Finland alone (Finnish Gaming barometer 2018). Over half of Finns harbour positive attitudes towards gaming, but there are those who still contend that gaming is not *cool*, normal though it may be. Games have come to fit well into the existing social contexts of daily lives (Juul 2010, pg. 1; Kallio et al. 2011).

Games such as Minecraft, and more recently Fortnite, have wide appeal across age groups and have wide representation in other media, Arguably new social contexts have also emerged for gaming, such as vast quantities of videos on Youtube, live-streaming on Twitch.tv, and the growing scene of tournaments and electronic competition notwithstanding: E-sports.

Against the backdrop of gaming’s rise and normalisation, it is less necessary to debate why someone would engage in it. Indeed, the notion can be turned on its head: in Asia and the developed Western countries, to play video games has become the norm, and to not the exception (Juul 2010, pg. 7). The rise of mobile games has brought a breed of casual gaming to everyone’s fingertips, whereas in the past the barrier to partake may have been the lack of specified or high-end hardware. A new divide and market have been claimed born.

Games are categorised as “casual” and “hardcore”, for example by target audience segment or design goals (often interchangeably). “Hyper-casual” (Korman 2018) is the newest iteration. While casual games are described as “lighter” and more pleasant – yet challenging enough – hardcore games are often referred to as presenting darker and grittier game worlds, and games more targeted for more experienced players. Likewise, those deemed of the casual gamer variety are depicted as twice removed from the hardcore, though the differences have been shown to be surprisingly small (Juul 2010, pg. 51).

At the other end of the continuum, hardcore players are considered remarkably more dedicated to their activity in “*almost every way*” (Ip & Jacobs 2005, in Hamari & Tuunanen 2017). The apparent casual-hardcore dichotomy could also be seen more reflective of the

industry and design, than of players (Newman 2013, pg. 63). The casual-hardcore could even be conceptualised as a scale of engagement, Hamari and Tuunanen (2017) offer in their meta-analysis – a notion that is explored in this thesis later.

Inspecting in terms of engagement would permit a loosening of categorical focus on games or gamers between opposites, instead bringing interaction to the fore. However, this is not to say that the descriptors hardcore and casual have little application and merit. Contemporary casual games are more popular than the hardcore games said to harken back to the formative era of gaming; the nineties. Further, casual games are crucial in reshaping and broadening conceptions of both game and player-hood. They are culturally reinvented and reimagined possibilities of what gamers and games can be (Juul 2010, pg. 5-6).

Casual and hardcore aside, game content is often depicted by genre categories, such as adventure, action, roleplay or puzzle, to mention a few. Characterisations are not without problems: games tend to mix and combine genre elements to bring about titles with roleplay and puzzle-solving combined. At the turn of the millennium, an early typology covered classifications such as “Action and Adventure”, “Driving and Racing”, “First-Person Shooter”, “Roleplaying Game” and so forth (Berens & Howard 2001, in Newman 2013 pg. 10). As social constructs, genres and categories form and separate at the whims of developers and consumers alike, forming specific niches and strikingly broad supergenres, of which in 2017 the U.S. top-sellers were: Shooter, Action and Sport, together capturing nearly 50% of market sales (ESA 2018).

Taking games as an ever-expanding phenomenon, it does indeed raise the question of the nature of the experience of play, in terms phenomenological, psychological or otherwise. Likened to abstract art or experimental music, games may seem abstract and incomprehensible to those who do not grasp them (Newman 2013, pg. 2). The uninterested have been characterised as lacking understanding, unwilling to invest time, or disinterested (Juul 2010, pg. 12). A pertinent question is the fitting of games into life (Kallio et al. 2011, Juul 2010, pg. 12). In news accounts of leisure and life tipping to disequilibrium – i.e. gaming addiction, the opposite can be witnessed in the extreme. It could be considered whether fitting life *into* games is more concise in these cases. As with many activities, gaming can be engaging to the extent that some develop a pattern of engagement that comes to resemble addiction – a prominent topic in contemporary media.

Holding games outside and beyond life has led to their conceptualisation as detached or even opposite to the everyday, in a dimension separate from the world that does not carry consequence into the real. This is what scholars of game and play (ludologists) refer to as “the magic circle”, invoking Dutch culture historian Johan Huizinga (1950). Whether games can even be held as part of everyday life (see e.g. Malaby 2007, Lindtner & Dourish 2011, Brock 2017, Juul 2010 pg. 12) or beyond is a central question to some scholars. This thesis does not aim to provide the answer, rather it is taken that games slip in and out of social contexts as individuals do and based on the affordance provided to them.

The magic circle has been heavily contested, for example, it is not uncommon for grievances to play out after a game, whether it be Monopoly or Fortnite in question. A counterpoint would perhaps be a grievance to result from institutional and social assemblages resulting in the game’s status, instead of being a direct consequence of the rules and other formal qualities of a game itself. Another hallmark and oft cited thought from Huizinga, is that of a game as a *total activity* – voluntary and in which engagement itself is the goal and aim (Huizinga 1950, in Newman 2013, pg. 17). Huizinga is not the sole proprietor of this concept, as Caillois also refers to play by its totality (Caillois 2001/1961, pg. 175)

A Finnish survey’s (Kallio et al. 2011) key finding was gaming occurring within regular lives of regular people. Not in opposition to normal life, or a world apart, that is. Though this may seem at face-value to unravel the issue, it is used here to scratch some of the rich literature on games. In this thesis two differing stances are recognised, though not debated: a formal or ontological one (games as closed systems) and a social or institutional one (games within social reality). That is to say, events within the magic circle bear meaning exterior to it, though not attributed to it to a conclusive extent, due to meaning being social and cultural.

If still in need, Newman (2013, pg. 3) offers motivation to take games and their research seriously: their popularity, games as computer-human interaction and finally the sheer size of the game industry and market. At global sales figures of nearly £4 billion, the UK game industry alone is bigger than its respective music and film industries (BBC 2019). Significant labour goes into making games but often ignored is the amounts of labour-like effort that transpires withing games. Gamers experiencing frustration with games indeed often liken the activity to work, but increasingly games can even be work, as in the case of e.g. E-sports players or streamers.

Playing games is popular as a hobby, a leisurely pastime and can even serve for some as a source of income via social media or institutional competitive circumstance. Games as labour has especially been brought about by games coming to bear more and more presence in even the lives not engaging with them – games have become normal, especially casual games. The provision of a statistical grounding to casual and hardcore is the second research question in this thesis - the pair taken as a way of interacting and engaging with games is advocated and explored, in addition to the pioneering of a game-engagement perspective.

As games can be likened to work, or even be work, engagement is conceptually a possible starting point. To contribute to this conception of games as comparable to work is core to this thesis - as will become apparent, several prominent figures in the field make reference to games and play in terms of work-like characteristics. These references and thoughts are drawn on to create a credible foundation for an engagement perspective.

Borrowing from psychology, the engagement perspective adopted and developed in this thesis is an attempt to measure how “game-engagement” functions as a starting point. This is indeed the first research question. To date this remains a methodological contribution and a new approach, both in terms of application and approach, to what is often considered a hard to reach -population.

The thesis has three main research questions, the first two of which have been mentioned and the third is derived from a general sociological inclination towards enquiries into the effects of socioeconomic markers into phenomena.

RQ1 Does a constructed game engagement construct mirror its psychological origin (and are respondents engaged with games when measured like so)?

RQ2 Are casual and hardcore statistically scale-able (and would a scale predict engagement)?

RQ3 Where statistically valid, do socioeconomic variables interact with game engagement and casual-hardcore constructs?

In the following chapters of the thesis the groundwork for the engagement perspective is laid out: academic literature on games and players is shown. Players are further explored through findings of their motivations for play, their respective types based on how they play and what they play. Before going into engagement theory, the player experience and relationship with games is inspected. In chapter 5. Research design and methodology are discussed and the

detailing of the analyses are found in chapter 6. Chapter 7 concludes the thesis and discusses in brief its meaning.

## 2. Games and their players

Understanding engagement with games is complex. A large majority of scholarly output is devoted to players' experiences, motivations and other domains, leisurely or else. The emergent field of game studies occupies much of these sub-fields, but much research into games is undertaken from those fundamentally disinterested in games themselves.

Psychological approaches are a particularly prominent branch, especially dealing with effects on cognitive performance or violent tendencies. Rooting out beliefs of gaming effects on violence has been remarkably difficult, even after several critiques and meta-analyses have been leveraged against assumptions of their correlations, as well as notable methodological shortcomings where these links are found (Ferguson & Kilburn 2009, pg. 4, in Newman 2013, pg. 70). A popular topic, more recently, has been that of gaming addiction.

As the focus of this thesis is in the engagement with gaming, a balance is struck between introducing games themselves, and their respective players. As with other media, certain genres, and their respective conventions, attract a certain crowd, but for the purpose of this thesis a genre-less overview is provided, touching on some of the specifics and notable findings studies have found.

### 2.1 Games

Games can be characterised through their stories, rules or spatial terms such as world, whether singular or plural. Games are taken as interactive and have initiative action; outcomes such as victory, loss, concession and compromise. They can have cutting-edge graphics and dramatic musical scores and sound design. For the unfamiliar, an illustrative outline is presented of some of the central concepts and structures of games.

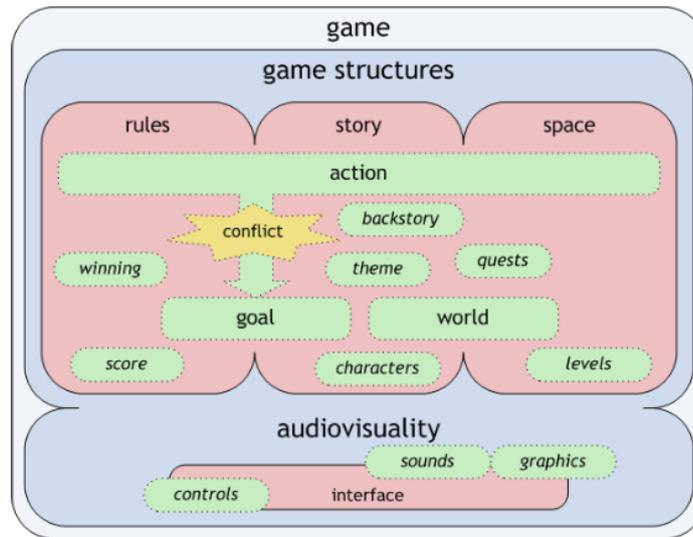


Figure 1 Central concepts in digital games and gameplay experiences (Ermi et al. 2004, pg. 7)

Varieties of genre typologies exist and shall be presented in brief. Adopting a retail categorisation, the most selling video game “supergenres” in the U.S in 2017 were: Shooter, Action, Sports, Roleplaying and Adventure (ESA 2018). Shooter games are somewhat self-evident by name, whereas “action” games are vague, if not an altogether ironic handle. They manifest a variety of features and contents for the player to engage with, as well as melding with other genres to create for example Action-Adventure games. Roleplaying games often feature story-driven scenarios and stories. Quintessential to them is for the player to relate to the character and a sense of progression, presence or *immersion* even.

Genre definitions are thoroughly questioned, as they blend into each other commonly to create Roleplaying-Adventure games, Roleplaying Shooters, already-mentioned Action-Adventures, and so forth. A large and dedicated fanbase also lies in the hitherto unmentioned Strategy-genre. Massively Multiplayer Online games (*MMOs*) are a particularly interesting genre for many a game scholar, bringing the full breadth of social and networked interaction to computer games. Their MMORPG-iteration (Massively Multiplayer Online Roleplaying game) holds a longstanding field of study. Two hallmark features of MMORPGs are heavy integration of social structures, from fostering friendships to small parties to large-scale guilds, and typically a near never-ending world to explore in terms of content. Due to these two key features gaming addiction and related themes are plentiful in their sphere of research.

An abundance of scholarly definitions abounds. As mentioned, many approach games by their rules, cultural status or narrative properties. Some definitions are more sociological, while others are purely formal and insert the essence of computer science or game developers into their assertions. In game studies there is a mix of those holding video games as forms of digital play, and thus summoning ludologists; cultural studies, and those who channel the industry perspectives: those of game developers and publishers.

In keeping with the actual end-product, and not their cultural significance or status, games are e.g.: playing fields for what their players would normally abstain from (Juul 2005, pg. 193), the most common example of advanced human-computer interaction (Newman 2013, pg. 4) and organised continuums of playfulness in a phenomenological sense (Murray 2009). The content of a game is its behaviour (Hunicke et al. 2004), and lastly the classic depiction of games via cultural studies: *a voluntary activity, in which engagement is itself the goal and aim* (Huizinga 1950, in Newman 2013, pg. 17).

Sociological formulations of games are of them as: a serious media form, set apart from film yet possibly as rich, rewarding and socially valuable (Cremin & Boulton 2011). Nearing the above phenomenological take of Murray (2009), specifically roleplay-variants of Massively Multiplayer Online games have been characterised as *systems of social rationality*, akin to capitalist markets or bureaucratic organisations (Grimes & Feenberg 2009).

More to the social and cultural significance of games, Murray (2009) holds a Durkheimian structural-functionalist take of games as both socialising individuals to a new cyborg-order, architecting rituals of mundanity with procedural artefacts. Additionally, games are means to the end of refining and enacting rituals of social order. “Always cultural accomplishments”, totes Malaby (2007), further elaborating games as socially legitimate and semi-bounded domains of contrived contingency, generating interpretable outcomes. That is, games are realms offering remarkable events and situations, whose outcomes are to be deciphered. Even Malaby (ibid.) comes close to a Durkheimian take, in pragmatically rethinking games as social artefacts *sui generis*.

Along a sociological alignment with the Frankfurt School, games can be taken as crudely assembled mass products, for the purposes of profit-maximisation by any means that entice the consumer (Cremin & Boulton 2011). Relenting on their somewhat pessimistic view, Cremin and Boulton (ibid.) do also view games as interactional creators of meaning. Games are also in an important position between the blurring intersections of social, economic and

political spheres, whose exposure ought to bring about understanding of greater trends in a digitally mediated world (Yee 2006b).

Games frame the old in new ways. Within games the act itself can be sought, or its representational value (Juul 2005, pg. 201), again echoing Huizinga (1950). Researcher and game designer Gonzalo Frasca has offered games to be understood as worlds, playing fields for the undertaking of a breadth of activities (Newman 2013, pg. 19), and are to offer intense or exceptional situations to resolve, stimulating puzzles to solve and interesting surroundings to explore (ibid., pgs. 15-16). They offer a continuous stream of a variety of challenges, which in turn demand shifting one's strategy for effective goal-attainment (Granic et al. 2014).

## 2.2 Players

The videogame-player (or *gamer*) stereotype is deconstructed in many publications. In the conducted literature review, many an article begins with the same denial: videogame players were traditionally thought to be geeks and adolescent boys (Juul 2005, pg. 20); young sedentary pale men, socially inept and removed from traditional idols and role models (Williams et al. 2008), and so forth. Games have been considered a children's medium, a phase, a mundane commodity – and many industry professionals have internalised these beliefs, further exacerbating their weight (Newman 2013, pg. 5). That is not to say, that children and adolescents do not play video games, merely the probability and frequency of play often is concentrated on youths (e.g. Borowiecki & Rodriguez 2013). It remains however, that those occupying the lower end of the age distribution, are not the sole practitioners of playing video games.

Game genres have drawn specific populations, such as the so-called Massively Multiplayer Online –games, or MMOs, which are widely found to appeal to players in their 30ies and are one of the most studied game genres. Known from a design standpoint as virtually having no end: there is always more to achieve and labour towards in MMOs, as well as facilitating strong player communities – both found to be particularly important features to players (Griffiths et al. 2004). Indeed, MMO-player research tends to find their players older and more social than allowed for in the stringent and decaying gamer stereotype (e.g. Griffiths et al. 2004, Yee 2006a; according to Williams et al., 2008).

So far it has been detailed for gaming populations to not be as homogenous as the gamer stereotype in popular discourse would have it. Indeed, players of First-Person Shooter (*FPS*) games appear the sub-population most prototypical of the gamer-label of young isolated boys who play (Jansz & Tanis 2007). It must be stressed though, that this remark is only tentative and certainly not mutually exclusive, as first-person shooters are enjoyed in a host of other socioeconomic intersections - playing video games has not been solely a young male's pursuit for a while. In 2018, the U.K had over 37 million players (Newzoo 2018) accounting for half its total population, while in the US little over a decade ago, 97% of 12-17 -aged played games (Boyer, *NPD: 72% of U.S plays games*, 2008). Gaming is thus not only limited to the young and the male, irrespective of genre.

In the past decade, the U.S.-based Entertainment Software Association announced the average player to be 34, of which adult women composed 33%. Of the entire population, 60% played some videogame every day (ESA 2018). This notably detailed 45% of the game-playing U.S. population to be female. The bigger picture is that over three-quarters of game-players in the U.S. are over the age of 18 - suffice it to say, those defending gaming as a valid and popular choice of leisure are legion. In other words, "To play video games has become the norm; to not play video games has become the exception" (Juul 2010, pg. 7).

A consistent finding is games to have found their way into lives of the young, old and all in between. Those previously having engaged in video games have found them anew, in addition to altogether new audiences having found them as well (Juul 2010, pg. 2). This is coupled with the industry's demographic having gone through a decisive shift, explained in part by the embedding of games into social networking sites (e.g. *Farmville* on Facebook) in addition to the average player's age increasing yearly (Newman 2013, pg. 5) .So, though males tend to partake more in video games, it stands that a range of populations have formed consistent engagement patterns with the medium (Sherry et al. 2006).

In terms of additional socioeconomic markers, players in a population tend to be more educated than the country standard (e.g. Williams et al. 2008, Griffiths et al. 2004). Williams et al. (2008) found older MMO-players and females to play more than average. In a nationally representative sample in Spain, older players were found to play with more intensity (longer sessions), though the probability of playing video games was inversely correlated with age (Borowiecki & Rodriguez 2013). Interestingly in their sample, higher educated individuals played less, and the probability of never playing video games was

associated with being female. These findings, especially of older players playing more, intensely interlock with the privacy of a game situation tending to grow with age in Finland (Kallio et al. 2011). A finding of older players tending to engage in videogames alone is in fruitful contrast with typically holding young males as reclusive practitioners of gaming.

### 2.3 Player motivations

In this thesis, the player types and their preferences are treated separately from their motivations, on grounds of player types being constructs derived from gameplay, whereas artefacts of motivation remain attached to actual players. Player types are aggregations, that seal away much of the individuality of human agency and of play. Put in sociological terms then, player motivations are situated into a more Weberian framework of *understanding*. However, this partitioning of type and motivation is not only one of convenience, as the two are used to explain different behaviour towards and within games – though the two can coexist and overlap in studies. In Hamari & Tuunanen's (2017) words, in this thesis the *psychographic* (here considered player type aggregations) and *behavioural* are treated and covered separately, as they do. Lastly, motivations are considered more aligned with the engagement framework and findings later drawn and relied upon. How these motivations become abstracted and detached, is where the player types, covered in the next chapter, emerge.

Games are arguably tied to older cultural media by their execution, and as such the joys they bring must bear fruit from pre-digital games (Murray 2009). It follows then, that much of what elates and exhilarates in card games, board games or games of tag, flows into digital games. A point of contention here: digital games are not more advanced, in a normative sense, but they are different from non-digital – or “analogue” - games. In this thesis what motivates and describes analogue play is not considered exhaustive of its digital iteration, but rather provides orientation and reflection.

Some theory building has sunk into the separation of digital and analogue games., By design or hard-wired feature or trait, i.e. structurally the presentational aspects (graphics, sound) have been found to be very important in video games (Wood et al. 2004). Other features often listed as setting video games separate from their analogue leisure varieties and media such as

films and books, is their interactive nature – though a habit of reading detective stories may be like a game, in attempts to deduce “who dun it” (Caillois 2001/1961, pg. 30).

Interactivity in games allows for continuous challenge and a constant flurry of competitive circumstance – elements enjoyable in presence and less enjoyable in absence (Vorderer et al. 2003). Interestingly simply being bestowed an abundance of opportunities for action, was found to be nearly as enjoyable, as the addition of competition into the same contingency. Having a wide array of activities is itself very enjoyable in video games, and more so if there is a strong reason for action, that is. That video games are highly interactive is but one facet of the structural qualities of video games, considered to make them so interesting to players and scholars alike.

Motivational explanations for videogaming have been consistently found to predict playtime. Recurring categorisations include social, challenge or competitive motivations, and fantastical or escapist uses. More elusive motivations are immersion or arousal-seeking behaviour, that is, wanting to “feel within the game”, or usage of games as an emotional control device. When games are used as an escape or diversion, it is referred to as escapist, which is notably different a motivation, from simply seeking immersion. Challenge and competition orientations are also dubbed achievement or advancement-striving. Educational motivations for gaming exist, though they are often more prevalent in “serious” or educational games. Strictly speaking, Caillois (2001/1961, pgs. 5-6, 167) might denounce this type of play outright, as it is meant to serve other purposes than itself.

Sherry et al. (2006) cite Selnow (1984) as the first to have studied gaming motivations. Approaching the subject from media studies, five main motivations were found: gaming was a suitable alternative for social company, considered to teach about people, offered competitive spirit, something to do, and peace or escape from daily life. Other findings have included fantasy, curiosity or novelty-seeking, challenge and interactivity motivations (Myers 1990, according to Sherry et al. 2006). Here the main motivations are rediscovered: challenge/competition, escapism and the social. The most predictive of playtime across age groups are arousal, challenge and competition motives, though with college-aged populations diversion and social motives were the most consistent predictors (Sherry et al. 2006). This would show the motivations for engagement with video games to change and fluctuate with age.

Being challenged and engaged with a game has also been found to be an important motivating factor. In contrast with Sherry et al. (ibid.), in at least one study students placed the most emphasis on challenge (Hainey et al. 2011). Similarly, players of First-Person Shooters valued being challenged, in addition to inter-player competition (Jansz & Tanis 2007) – though the results were obtained from a committed and stereotypical gamer population (young and male players).

An exemplar of gaming motivation studies is Yee's (2006a) on MMORPGs. Non-exclusive, yet weakly correlated three main motivations emerged: Achievement, Social and Immersion. In the first, motivation centres on in-game advancement, mastery of the mechanisms of the game (*game mechanics*) and competition. The social motivation comprised of socialising, relationship and teamwork subcomponents. Lastly, immersion was formed of discovery of the game world, playing out and outfitting one's character ("*roleplay*" and "*customisation*") and escapism. Variance in playtime was more explained by player age, than gender.

An additional significant contribution of Yee's (ibid.) was in isolating problematic game usage to be predicted by the escapist subcomponent (under the Immersion motive), followed by time spent playing, and scoring highly on the advancement subcomponent (under Achievement). Yet again dispelling the traditional view of gaming being fundamentally solitary, Yee also found men to prize social motives in gaming – though a gender difference was found. Males in the study preferred the socialisation subcomponent, whereas females tended to score higher on the relationship subcomponent. Males also consistently scored higher on the Achievement-motivations. Delivered by way of meta-analysis, Hamari & Tuunanen (2017) note alongside Yee (2006a), that player motivations may not fully be inter-game applicable.

In a conservative review of gaming literature, the most common concepts and topics are found to be Achievement and Sociability, while Immersion is covered the least. Nevertheless, when Exploration and Domination motivations are added, a total of five key motivations are listed as a summary of current studies. (Hamari & Tuunanen 2017).

In sum, in and out of academic literature competition and challenge, achievement, fantasy and/or immersion, socialisation and diverting one's attention from stress or duty by arousal or dismissal of emotion; are constant mentions for play motivations. Observed and abstracted constructs of player types are covered in the next chapter.

## 2.4 Player types and preferences

Researchers have been keen to demarcate between various differing types of players by a variety of criteria. Many authors recognise an inherent interest of game developers and publishers in wielding the results of these studies. In Hamari & Tuunanen's (2017) meta-analysis, four segments to player type research were found: geographic, demographic, psychographic and behavioural. The latter two reportedly have been especially popular, both in conjunction and separation. As an instance of psychographic segmentation, instead of motivations, personality is a common component to be mixed with game choice or enjoyment of game features, in order to create a taxonomy of players. Other authors focus on actual in-game behaviour to form their typologies, while some from a media studies background approach near-motivational explanations often armed with e.g. the Uses & Gratifications paradigm (e.g. Sherry et al. 2006).

As established, games attract a broadening audience. Differing groups have varieties of tastes, some more specific and exclusive, others wide and inclusive. The top five factors influencing the purchase decision of a video game product, in the U.S., were graphics, price, story or premise, the game being a franchise sequel, and online play functions (ESA 2018). Graphics, story and sequel-status are arguably objective and structural qualities of a game, but more detailed examinations have luckily been undertaken to elaborate what makes games appealing to their players.

Players of the highly social MMO-games were found to enjoy the social aspects of a game the most. Implemented social features, included forming coalitions with players and interacting with them e.g. via chat. The possibility of forming lasting groups with players through guilds was also important (Griffiths et al. 2004). Correspondingly the least favourite features of online gaming were found to embody the downsides of high sociality in and out of games: co-player immaturity and selfishness.

MMO-games are prime examples of games, in which many choose to engage with the product as a system of rules and derive great pleasure in pushing the very limits of themselves and the game. So-called power gamers focus on efficiency and instrumentality, which tempers amusement-seeking play with a goal-orientation and rationality (Taylor 2006, in Eklund & Jonsson 2012). Another example, in the MMO-game *Star Wars Galaxies* (2003), two main types of players were found: those focusing on progression and mechanical

gameplay (*power levellers*) and *roleplayers*, i.e. those choosing to embrace the fiction of the game world (Squire & Steinkuehler 2006, in Quick et al. 2012). Essentially, two sources of enjoyment were found: mechanical (if not even rational and maximising) gameplay and the more exploratory and immersionary pleasures – a common and intuitive finding.

Above, types have been used to explain how players tend to play and how they derive enjoyment in gameplay situations. Roleplayers in the Squire & Steinkuehler finding (2006, in Quick et al. 2012) resemble a player type found in another taxonomy: “*Story-driven solo*” players, whose priorities lie in story enjoyment and immersion. Other types covered were gamers averse to gaming alone (*Social gamers*), gamers drawing pride from group membership and attainment of in-game rewards (*Hardcore online*), story and game-character progression emphasising gamers (*Control/identity solo*). Lastly, a type simply enjoying the game at their convenience was found, titled “*Casual*”. (Westwood & Griffiths 2010, in Quick et al. 2012). In addition to the re-emergence of the elusive Hardcore and Casual -labels, it must be noted that Quick et al. (2012) leveraged critique towards the Westwood & Griffiths taxonomy, based on insufficient empirical validation, though they do extend this critique to taxonomies in general to a certain extent.

The “Trojan Player typology” (Kahn et al. 2015) suggests player types to number five: Socialiser, Competitor, Escapist, Story-driven and Smarty-pants. Combining game feature preferences into clusters with personality measures, Quick et al. (2012) found six “player motivation types”. Despite Quick et al. categorising their findings as “motivation types”, here it is argued that their effort veers to *psychographic segmentation* – due to explaining links of preference and enjoyment with personality, not with motivation(s) per se. This is more comment than criticism, however, as Quick et al. also profess a holistic approach instead of an entirely game- or player-centric one.

Outside academia and in the game industry, several player types are recognised, such as *Competitors, Explorers, Collectors, Achievers, Jokers, Directors, Storytellers, Performers* and *Craftsmen* (Klug & Schell 2006, in Quick et al. 2012). Games can then be aimed at very specific types by incorporating exploratory, directorial or collector elements and gameplay. An additional implication here, is that game designers are mindful and even plan for the contingency of their product being appropriated in manners unintended, though still remain surprised by derived occurrences of this – *emergent gameplay* as it were (Newman 2013, pg. 20). The gaming experience can morph into something unintended, that is, even if this were

accounted for. To this point, by way of grounding play as process and practice, Malaby (2007) interdicts formalisations of games to fail; new and emerging effects of preceding play transform their successors, because games are moving targets.

Player types thusly are typically used to explain achievement and progression behaviour in games, as in *Power levellers* (Squire & Steinkuehler 2006) or the *Control/identity solo* and partly *Hardcore online* -types of the Westwood & Griffiths (2010) taxonomy. (in Quick et al. 2012). This player type focusing on mechanical, rational and efficient gameplay was also titled the “power gamer” in MMO-contexts (Taylor 2006, in Eklund & Jonsson 2012).

On the other side of the continuum is immersion and story-focused gameplay, that rejects instrumental and mechanistic approaches. Embracing the game’s world and fiction is paramount for *Roleplayers* (Squire & Steinkuehler 2006) and *Story-driven solo* players (Westwood & Griffiths 2010). (in Quick et al. 2012). Lastly, the importance of social contact and relationships are also present in player typologies, as shown by the *Social gamers* and *Hardcore online* players of the Westwood & Griffiths taxonomy.

The preceding typologies focused on category and boundary construction for understanding player behaviour. The remainder of the chapter presents more interdisciplinary and complex typologies of players that build and elaborate on efforts before.

A relatively new approach to players types, based on cultural studies, is that of *mentalities*: continuums non-exclusive and non-proportional, grouped under three main orientations. *Social mentalities* often exist simultaneously with one of the other two and are characterised by a mantra of “playing together”. Its wielders praise accessibility in games above other features. Instrumental appropriators of games, or the *Casual mentalities*, think of games as “something to do”, and are often non-typical gamers – especially hard to fit into the gamer-stereotype. Lastly, *Committed mentalities* exalted gaming itself as the goal. (Kallio et al. 2011). This itself is held to be an inherently ludological core premise: engagement with a game is itself the point (Huizinga 1950, according to e.g. Newman 2013, pg. 17). Vahlo et al. (2017) echo this common view of play activity as itself the sole aim; inherently rewarding, or *autotelic*, in references to flow researchers Csikszentmihalyi, Przybylski and psychologists Rigby & Ryan.

Keeping with in-game features, Vahlo et al. (2017) grouped activities that players could engage within games, and the act of the player engaging with them, into their concept of “game dynamics”. Players’ preferences were listed under the following headings and short

explanations. In rank order: Journey (fascination of the whole game world), Manage (acquisition and expending of resources for goals), Assault (engagement with dynamics of defeating game characters), Coordinate (“match three” elements of the game, avoiding obstacles) and Care (taking care of in-game characters and relationships). Based on these findings, the authors also found seven distinctive players clusters, in terms of their preferences for the above dynamics. An important offering from Vahlo et al. (2017): player typologies ought to account for preference of game dynamics, in order to shed light on *disliked* game features.

Typologies of players in this chapter have been factored on a number of dimensions: sociality of the game situation (playing alone or socially), by orientation towards achievement or immersion, or by preference for game content (or *dynamics*). Typological variance can be observed in how much agency the player is afforded. Player types may be positioned as somewhat reified entities, that simply happen, as intersected and explained by personality factors. In the last typologies player types were also treated as clusters in terms of preferences for *game dynamics* or as mentalities.

The presented player types are categorisations, by which players are then clustered, whereas motivations are closer to constructs of intent, psychological or otherwise. As stated before, player types in this thesis are considered the *psychographic segment* of game play, where motivations are positioned as *behavioural segmentation* (Hamari & Tuunanen 2017). Motivations and player types are both grounded in empirical research, but types are removed and aggregated from players is the argument here. To clarify, motivations seek more for the reasoning and drive towards and around games, whereas player types tag what and *how* players play.

### 3. The player experience

A fruitful conceptualisation of the videogame play experience can be offered: an agreement, where the player commits their performance in exchange for the game's content and a chance for its rewards (Newman 2013, pgs. 15-16). Alternatively, and admittedly quite similarly, Ermi et al. (2004, pg. 8) set out a framework of a *game contract*, in which the game unfolds between player and game in the act of game playing, which itself is the experience – as below.

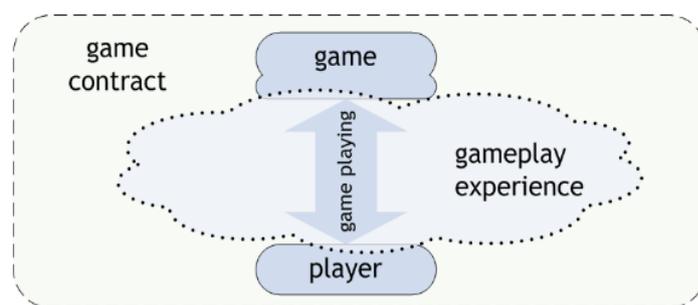


Figure 2 Game contract (Ermi et al. 2004, pg. 8)

From a game-design standpoint a player is engaged with a virtual universe, when playing, which Fabricatore (2007) contends is a cyclical relationship: a player's inputs are interpreted and change the game status. The player gathers this information and acts, which results in either loss, victory or cessation of gameplay. This cycle of engagement is meant to be one of enjoyment, in Fabricatore's view. This foundational gameplay is the key element to gaming. Players can completely disregard the context of a game and its end goal to simply focus on the act of gameplay, in a similar manner to *power levellers* according to Squire and Steinkuehler (2006, in Quick et al. 2012). Juul (2005, pg. 96) even considers, though in passing, that a game's fiction may begin to lose significance, if not upheld by its rules, or through repeated play – even rejected altogether (ibid. pg. 139).

Fabricatore's (2007) statement has not aged well. A variety of "serious", educational and artful game pieces proliferate the landscape, many of which do not even attempt to bemuse the player, and, if played for any other reason than gameplay, would not be games (or "good" playerhood) in ludological perspectives (e.g. Huizinga, Caillois). Yet there is no simple explanation for the enjoyment from gameplay: rising to a challenge may be pleasurable in the moment of completion, but different challenges can be enjoyable for different reasons. As

such a game need not have interesting choices to be made for enjoyment to be had (Juul 2005, pg. 115), unlike famously stated by game designer tycoon Sid Meier.

In addition to Dutch cultural historian Johan Huizinga, another key figure is often referenced in literature on play. French philosopher and sociologist of play Roger Caillois wrote on the pleasures and attitudes of play: *Agon*, *Alea*, *Ilinx* and *Mimicry* (Caillois 2001/1961). *Agon* revolves around competition, probability and chance are prominent in *Alea*, whereas *Ilinx* refers to the pleasures of movement (or “transportation” as Caillois formulates) itself. Simulation, make-believe and roleplay are accordingly accorded to *Mimicry*. A twist on Caillois’ categorisation, is his notion of players reflexively and naturally adding one or several of these elements to their play. That is to say, players have an active role in shaping their own leisure experience, their enjoyment of videogame-play.

Caillois demarcates between two invariable opposite ways of playing the: rule-based and outcome-oriented *Ludus*, and free-play *Paidia* (ibid. pgs. 13, 53) Videogame developer and researcher Gonzalo Frasca has offered games falling under the Simulation-genre to exist for the very reason of player-imposed rules, and also advocates players to be able to switch flexibly between Caillois’ ways of playing (Newman 2013, pg. 19). Game developers naturally pay close attention to what they want their players to experience, these “desirable emotional responses” are referred to as *aesthetics* in the speculative MDA-framework for formal game design, below (Hunicke et al. 2004)

<b>1. Sensation</b> <i>Game as sense-pleasure</i>	<b>5. Fellowship</b> <i>Game as social framework</i>
<b>2. Fantasy</b> <i>Game as make-believe</i>	<b>6. Discovery</b> <i>Game as uncharted territory</i>
<b>3. Narrative</b> <i>Game as drama</i>	<b>7. Expression</b> <i>Game as self-discovery</i>
<b>4. Challenge</b> <i>Game as obstacle course</i>	<b>8. Submission</b> <i>Game as pastime</i>

Figure 3 Taxonomy of formal game aesthetics (Hunicke et al. 2004)

Notably here Fantasy and Narrative, if not Challenge as well, can be presented touching upon Caillois’ attitude of *Mimicry*. Challenge and Narrative could also be placed under *Agon*, as well as the Fellowship aesthetic; Sensation with *Ilinx*; and so forth. Though engaging in play or a game might seem to the outsider as the sole aim (echoing Huizinga’s *magic circle*,

Caillois' *total activity* and Csikszentmihalyi's *autotelic activity*), the efforts to conceptualise play and game activities, even the user-experience, is remarkable.

It then follows, as introduced in chapter 2.3 on motivational approaches to videogaming, that at the very least elements of challenge, competition, sociality and fantasy (whether escapist, immersive or diversionist) are crucially reflected in the actual experience of playing. Often challenge and mastery are laid in opposition to fantastical pleasures of playing, precisely harkening to Squire & Stenkuehler's (2006, in Quick et al. 2012) *power levelling* and *roleplaying* types. There is some evidence to support this difference in preference: in at least one study the most enjoyed game features were Fantasy and Exploration (25% of variance together), while Challenge and Competition enjoyment only explained 15% of variance (Quick et al. 2012). It could even be argued that game elements of Competition and Challenge are simply alternative handles for *Agon* in Caillois' terminology. Likewise, roleplay would well fit into the make-believe and simulation of *Mimicry*, if wanting to extend a sociology of play to videogames.

The experience of in-game mastery has been linked with predictions of future play, enjoyment and tendency to immerse oneself. Higher subjective degrees of mastery predict higher satisfaction with the experience (Ryan et al. 2006). The converse applies: desires of power and mastery in games have been linked with negative aftereffects. In finding "game exposure" to be a draining or fatiguing experience for some, Ryan et al. (2006) suggest competitive tendencies to cause pressure and stress, even in games. Competition need not be against a human opponent: even in single play there is competition with selves past, and with imagined players (Newman 2013, pgs. 86-87). Similarly, it has been theorised traits of worry and nervousness to hinder immersion into games, though gaming has been found to facilitate recovery and enjoyment in leisure time (Braun et al. 2016).

Deep absorption in online games has been found to affect life satisfaction positively, though excess use has negative impact, as well as encroachment on social life with possible connections to escapist behaviour (Wang et al. 2008). It was also found that those considering games as foolish or irrational an object, derive less satisfaction from them, in a sample of Taiwanese adolescents. This is in interesting juxtaposition to findings from Swedish players, whom Eklund & Jonsson (2012) characterise as experiencing videogame play as a rational activity in modern society – playing for fun was still considered rational and the structuring

of participant understanding of their activity reflected this. That is, gaming can be seen as following from, and embodying rationality.

Whether as an agreement, a virtual universe or attitude-driven, gameplay as action or as experience is not conceptualised as passive. Players have an active role in shaping their experience, as advocated by drives towards pleasures in Caillois' (2001/1961) sociological view, but this experience is also moulded by developers of games. Gameplay experience is in flux, influenced by both player-internal and external forces. In the preceding chapter the reader has been introduced to some of these interlinks between players' experiences, games and their developers. In the succeeding sections these will be expanded upon, starting with the elusive experience of immersion.

### 3.1 Immersion and Escapism

Game developer and critic Richard Rouse (2001, in Newman 2013, pg. 15) famously said gamers' expectations and motivations to be challenge, "*doing instead of watching*" and immersion. The concept of immersion is vital to many scholars and gamers, yet the term is vaguely conceptualised. It is a somewhat fitting and encapsulating signifier for the experience: a sense of being immersed in the events unfolding – Ryan et al. (2006) termed it "presence". In the scope of this thesis, a reader understanding of immersion as "presence" is adequate, alternatively it might be understood as a flow-like experience with games.

Immersion is important to all parties, not only because developers tend to encourage immersion and design for games to be engrossing (Newman 2013, pg. 17). The appeal of a game and immersion into it are intimately linked, meaning those enjoying a game will likely immerse, and cyclically those immersed will enjoy (Christou 2014).

The active partaking in the experience is essential. In addition to being engaging like other media, games are an interactive medium, often described by this quality. Incidentally in one study, children self-reported the sense of immersion to be stronger with books than games (Ermi et al. 2004). In the same research effort one of the most comprehensive portrayals of immersion is produced: "*-- a many-faceted phenomenon with different aspects that can appear and be emphasised differently in the individual cases of different games and players.*" (Ermi et al. 2004, pg. 15-16). Three different and interconnected types of immersion are

depicted: Sensory, Action-based and Mental Immersion, and affect the play-experience in their view as in the figure below.

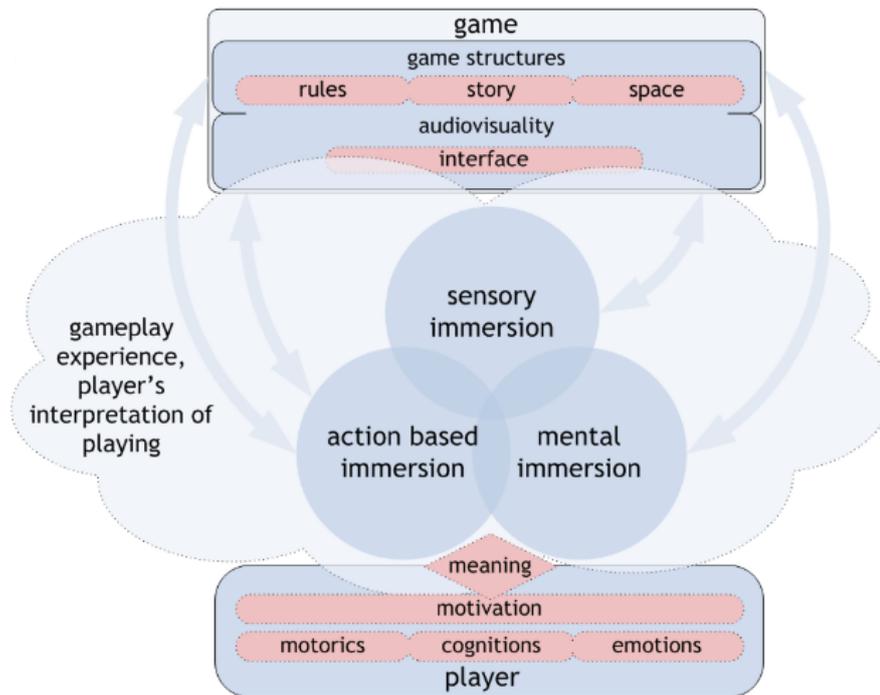


Figure 4 Gameplay experience as interaction between the game and the player (Ermi et al. 2004, pg. 15)

Immersion, and its types, strongly shape the unfolding of the experience to the player. Focus on the gameworld and its stimuli compose Sensory Immersion, while Action-based Immersion is comprised of interactivity, balance of challenge and ability – or even flow outright. Mental immersion is absorption into the game’s story or identification with a character, lastly. Ermi et al. (2004) then seem to assume immersion to occur universally, which is a problematic claim. Nevertheless, some studies, not referenced in their work, may help alleviate their supposition, for example mastery of a game and immersion are posited to be relayed by unity, or identification with an avatar (game character) (Blinka 2008, in King et al. 2010). Additionally, sense of immersion has been linked with intuitive control schemes, (Ryan et al. 2006) – sensible means of engaging with the world, that is. Still, the categorisation of “motorics” into player motivations seems vague (if not tenuous) in Ermi et

al.'s (2004) depiction, though the weaving of motivations close to the player is in line with this thesis' argument.

The claim of mental immersion is also questionable. Playing can be immersive and engaging, even without being taken in by a game's fiction (Juul 2005, pg. 200). In a typical *Super Mario* rescue plot, the princess' salvation bears little meaning post-immersion, rather completing the game level successfully does (Jenkins & Fuller 1995, in Newman 2013, pg. 92). Players do not then only control the game character of Mario, rather they come to inhabit the avatar as an array of techniques and abilities – the character becomes an entry into the game world (ibid., pg. 138). Examination of the relationship between avatar and player is central to understanding possibilities for interactivity and immersion (Newman 2013, pg. 100).

The construct of immersion has also been showcased in the literature review of the thesis as a “motive” on the player side. Arguably it could be questioned, whether immersion is cause or effect, or an altogether illusory experience. As such it is then to be considered, whether immersion functions as a motive in a Campbellian (1996) take on Weber, or simply as an outcome, heretically to the former scholars. Though beyond this thesis, perhaps a cyclical feedback approach may be opted for, where immersion can function as both a cause and an effect, whereby the experience of one can engender the pursuit of the other. The problem of this would be an assumption of immersion by chance or accident, followed by a search akin to what is to be found at ends of rainbows. A recognisable trap of reification bears mention, which if sprung would promote immersion to *sui generis*.

Nevertheless, immersion is an important increment of the experience of play for many whom approach it, whether researcher, developer or player - for Yee (2006a) *Immersion* is a first-order play motive and in the Trojan Player typology (Kahn et al. 2015), the *Story Driven* player-type is likened to Yee's Roleplaying subcomponent, from the *Immersion* motive. In a 16-form taxonomy framework for formal game design (Heeter et al. 2003, in Winn 2011), immersion was listed as a design component, and in Quick et al.'s (2012) six-factor game pleasure taxonomy immersion is categorised under *Fantasy*. This inclusion is defensible, perhaps in moving away from a reification of immersion into a more manageable and designable format – after all, immersion is a multifaceted form of experience, and not a quality of the product. Features of a game can actively hinder immersion, serving as a reminder of the experience being just a game e.g. interface elements or when a logical

solution to a situation is not accepted (Newman 2013, pg. 16-17). In this sense, the design goal of games facilitating immersion is tricky, though important if approached as an experience and not a product quality.

When positioned as part of daily life, gaming binds with existing social contexts. Working life, social values, routines, lifestyles and designated space of play influence the satisfaction derived from play. Changing social circumstances, whether in micro or macro scale, therefore also affect game immersion. (Lee & Lin 2007). The compulsion-nearing motivation to escape from real world situations, whether life-threatening or simply stressful, is then what is framed as immersion of the escapist variety.

*Escapist* was found to be a player motivation type in the Trojan Player typology (Kahn et al. 2015). In their study, the escapist was characterised by play for the sake of being elsewhere or in fugue of problems. Compounding findings and descriptions number plenty: what used to be an activity for pleasure, may become an obsession, eventually spiralling into obligation, compulsion and a source of anxiety (Caillois 2001/1961, pgs. 44-45, and Caillois 2001/1961 in Brock 2017). In player interviews, escapist tendencies - self-reported as core to the playing experience even – are viewed as a bad way of structuring videogame consumption, being labelled as of control lost, or stereotypically nerdy (Eklund & Jonsson 2012). This could be presented in conjunction with findings from MMORPG-game studies, wherein players stated “real gaming” to require sacrifices from other domains – 25% sacrificed another pastime, for example (Griffiths et al. 2004).

A note on the emergent paradox: Swedish gamers both embrace and condemn escapist play, all the while considering it a rational activity befitting the time constraints of modern society (Eklund & Jonsson 2012). This may partly be explained by Caillois’ conception of how games become corrupted: ordinary life encroaching on play may taint it. Further, this could be, as Caillois write, one of the four play attitudes he lists (*Agon*, *Alea*, *Ilinx* and *Mimicry*) becoming side-tracked if not sufficiently disciplined; or when games are not gratifying (Caillois 2001/1961, pgs. 43-45). A lapse in engagement, as it were.

As presented before in gamer motivation typologies, studies find and allocate a specific type of motivation and behaviour to tendencies of escapism and diversion. In addition to the *Escapist* player motivation type (Kahn et al. 2016) and *Immersion* motivations and its Escapism component (Yee 2006a), others include: Escape/peace (Selnow 1984, in Sherry et al. 2006) and Diversion (Sherry et al. 2006). Problematic use has mostly been found to be

predicted by Escapist motivation (Yee 2006a), even though immersion itself may negatively predict playtime (Williams et al. 2008). This itself may hint at immersion and escapism being more apart than previously considered.

In discourses popular and academic a consensus seems to be of gaming the simple diversion attributed to it by Sherry et al. (2006). An adamant defence of gaming comes from Brock & Fraser (2018), who instead offer a notion of gaming as a field for displays of craft, skill and experience. Sidestepping a dilemma of games as unproductive, separate and unreal, Pearce's (2006) notion of *productive play* challenges traditional capitalistic notions of productivity versus leisure, as in the history of U.S. hobby culture leisure came to mean a time and space to be productive at one's own wish and towards individual goals.

Considering the presented so far, immersion and escapism are not taken as sides of the same coin. Escapism is arguably more a motive and immersion a multifaceted experience (though possibly also a motivational force). A tendency towards escapism may follow from immersive experiences, but this is not necessarily the case, and the reverse is not to be presumed –in this thesis it is not taken as truth, that immersion – whether experience or motive - leads to escapism. It would be plausible for those with escapist wishes to find themselves immersed, though if worry and nervousness were attributed to escapist desire, contradicting findings exist (see Braun et al. 2016). Escapism is then a certain mode of interaction and engagement with games, whereas immersion is a subjective experience of interactivity – not to be directly equated with motive or by-product. This line of thinking is tentatively reinforced by a suggestion of immersion being a player trait (Christou 2014).

Immersion is often likened to flow, as lightly hinted at the chapter's beginning. The two are often characterised by a degree of deindividuation: of pleasurable loss of self into the activity. Similarly flow and immersion could be likened to *pure leisure*: maximised involvement in a situation may result in a “blending of the individual and the situation” (Gunter & Gunter 1980). In the next chapter it will be argued for a linking of flow with immersion, yet for a separation and difference to exist, when it comes to videogames. Lack of research combining and exploring the two in gaming contexts leaves the argumentation purely hypothetical.

### 3.2 Immersion, engagement and flow

There are grounds to link immersion with the psychological concept of flow. Not only do players reference both interchangeably, but flow is a common referent in both media and game studies. Based on usage, it may seem immersion is more applicable and thusly applied to games, as there often in games exists a virtual space and world to immerse oneself, at least visually. Whereas in the case of books the fictional world is often left to the mind's eye. Nevertheless, both flow and immersion are states of heightened engagement in the leisure experience.

Typically flow theory predicts individuals to feel the most positive experience, when an abundance of skill and opportunity are present (Csikszentmihalyi & LeFevre 1989). Linking to game studies, the abundance of opportunity and reason to act were found to be the most enjoyable combination of a game contingency, though having several opportunities itself was nearly as enjoyable (Vorderer et al. 2003). The challenge posed by tasks supposedly contributes the most to flow, but the balance of skill and situation is key – regardless of whether the activity is construed as work or leisure. Potency of emotions elicited, creativity, and affect (mood) bear the strongest associations to the traits of the experience. (Csikszentmihalyi & LeFevre 1989). With this grounding, games in relation to flow are discussed in more detail.

Games are recognised facilitators of flow and immersion. Media flow theory suggests exposure to be intrinsically satisfactory an experience, in which users reach a highly engaging state: flow as per Csikszentmihalyi (Sherry et al. 2006). If flow is understood as a learned condition of mastery over presented challenges and tasks, when a player is practiced in a game, flow can be achieved (Malaby 2007). Through the course of this thesis, the aim has been to form this conduit between game; player experience, engagement and behaviour; to immersion – flow.

Correspondingly, those characterised as having adopted a “*Committed mentality*” enjoy gaming as the goal activity, emphasising speed of completion and advancement, skill and flow (Kallio et al. 2011). This comes strikingly close to descriptions and accounts of *power levellers* (Squire & Steinkuehler 2006, in Quick et al. 2012) and *power gamers* (Taylor 2006, in Newman 2013) Further, Granic et al. (2014) highlight flow, or “transportation”, as but one positive emotional experience admitted by players: a reduced experience of self-consciousness in an inherently rewarding activity, in which a high sense of control is gained

(Sherry 2004, in Granic et al. 2014). The most concrete interlinking of games with flow is presented below.

Mapping the Elements from Games Literature to the Elements of Flow

Games Literature	Flow
The Game	A task that can be completed
Concentration	Ability to concentrate on the task
Challenge Player Skills	Perceived skills should match challenges and both must exceed a certain threshold
Control	Allowed to exercise a sense of control over actions
Clear goals	The task has clear goals
Feedback	The task provides immediate feedback
Immersion	Deep but effortless involvement, reduced concern for self and sense of time
Social Interaction	n/a

Figure 5 Game literature and flow (Sweetser & Peta 2005)

Sweetser and Peta (2005) attempt to link games literature to elements of flow. The connection is here to present the bridging to be considered viable by scholars, though the mapping itself can be criticised. Simply because games have structure, and situations which illicit flow may share this feature, does not perhaps rend what is fundamentally an experience into modelling. Once more, if immersion were taken as a flow-like phenomenon in the player experience in its own right, it too may be characterised as a “*many faceted phenomenon*” (Ermi et al. 2004, pgs. 14-15)

On a critical note, one can consider the difference between flow and immersion. Based on the unfolding provided, perhaps immersion is more an experience of coming to embrace and embed oneself in the gameworld presented – “presence” as Ryan et al. (2006) described. This would then be understood more as an engagement with fiction, whereas flow may be more descriptive of engagement with a game’s mechanics and rule systems – at least conceptually - as the balance between challenge and skill is core (Csikszentmihalyi & LeFebre 1989). It may be recalled the appeal of a game is to be linked to immersion into it (Christou 2014). Though the two may overlap and coexist, immersion may then be more a case of saving one’s character from certain injury, and flow of pressing the jump button to avoid punishment or aid progression.

### 3.3 Laborious and alternative relations with games

As important as it is to convey the pleasures of play, it is also in this thesis important to consider the possibilities of unpleasurable and mundane play and games. Play itself has been described as “an occasion of pure waste” (Caillois 2001/1961, pg. 5), and videogames are occasionally positioned as playgrounds for unbounded enjoyment or rampant addiction. The inspection of more complicated and less joyful aspects of playing games are illuminating. In other words, it is crucial to also allow for an interpretation of gaming as a rational, less-than-satisfactory - dissatisfactory even - choice of pastime, leisure or labour. As Esports itself comes to manifest the spreading institutionalisation of electronic competition, an additional point of interest is the growing concern of burnout among esports players (e.g. Higgins 2016, Reames 2018, DiChristopher 2014, Smith 2017). Instances of thorough apathy towards video games, in addition to Esports burnout, are also common among those suffering from gaming addiction, though this is not a necessary antecedent.

If taken as an altogether wasteful occasion from a formal quality perspective, it is arguably the case that arrangements institutional, economic and social allow play and games to bring something to this world – if nothing else than as a residual afterimage. Play, though in itself wasteful, in its embedding into social and economic realities may be (un)productive. A range of views and positions exist for this problematisation of play, from the blurring of play and work, to their synthesis in gaming labour (e.g. Esports, game testers or virtual trading) to rationalisation of free time and leisure. “The essence of play, its lack of regulation, its disdain for material outcomes, its exaltation in uncertainty, is the antithesis of the work values of a technological world.” (Goldman & Wilson 1977, pg. 18).

Possible conceptual tools for inspection of working life in the gaming industry include “*degradation of fun*” (Bulut 2015) or *autonomous reflexivity* (Archer 2007, in Brock 2017), and even exterior to a labour relationship with games, there is consideration of the constraints of a *rational time economy* (Eklund & Jonsson 2012) or a *corruption of play* (Caillois 2001/1961, Caillois 2001 in Brock 2017). What seems to connect all these concepts is a penetration of the play realm by a presumed souring rationality belonging to the current age.

It is taken to be increasingly difficult to separate work and non-work in a network society (Castells 1996, in Eklund & Jonsson 2012). The labour undertaken in games is often characterised as trivial and in opposition to work (*wasteful* even), though it may be recalled that committed MMORPG-players elaborate on their play experience as a second job (Yee 2006b). These games can be taken as platforms that educate their players into more efficient

workers, as the labour in games comes to bear increasing resemblance to real work. A central irony of the MMORPG-genre then, is their advertisement as post-work immersible worlds “*but they too make us work and burn us out*”. (Yee 2006b). Yee formulates his claim thusly: a game’s core nature is to teach its player to work ever harder, while enjoying the process. Yee goes so far as to characterise games as a treadmill, and their widespread popularity is testament to its attractive and concealed nature.

Games blur and reshape the dividing line betwixt work and play (Yee 2006b), to which Pearce (2006) adds the boundaries of production, leisure, as well as the consumption and production of media. This enmeshing also comes to blur the “magic circle” (Huizinga 1950) in all its forms. Parties of the game industry, whether producer, writer or player – become victims to holding games as unproductive and “only entertainment” . Again, it would seem that rationality, an ethos of production and efficiency, permeates and corrupts what is for ludologists (esp. Caillois and Huizinga) the very reason and function of play: *to play*.

In empirical contrast, virtual objects in games can have real monetary value, as in the case of player-avatar *skins* (cosmetics) in the game *Counter Strike Global Offensive* – to name one example. This once more ought to be an example of the circumstances being socially generated by games, as even these cosmetic items are only valuable in relation to their rarity and how sought-after they are to those with the appropriate will and means.

Caillois suggested play to possess six essential ideal elements, which working life may come to corrupt: Freedom, Separation, Uncertainty, Unproductivity, Regulation and Fictivity. Indeed, a reading of Caillois suggests modern life to have a natural tendency to rationalisation of play and games, through social and political arrangements. This would then issue a warning: when play and reality blur, formal qualities of play become institutionalised: *Agon* (competition) and *Mimicry* (roleplay, simulation and make-believe) are especially threatening when assimilated by society. *Agon* may be a way to control and order the masses, in an albeit Weberian echo, but is an institutionalisation and systematisation of success no less. (Brock 2017).

Play might also corrupt itself - it must be noted - if too intense. The “play instinct” may itself break its rules, when contaminating beyond its time and place: one must be able to resume responsibilities where play rules are no longer applicable. (Caillois 2001/1961, pgs. 49-50). Brock develops on Caillois in the context of electronic competition: the requirements of modern game culture corrupt play by turning [individual] psychology towards instrumental

rationality – reaching an end with efficient means. Game conventions are related social facts, which have initiating, socialising and order-maintaining imperative power; Caillois wrote about societal structures in a fundamentally Durkheimian functionalist sense. (Brock 2017).

However, some would argue, that upon empirical inspection games are not found to possess intrinsic qualities of safety, fun or separation (Malaby 2007, Eklund & Jonsson 2012). Online games that incorporate market structures often generate those, who begin selling in-game services or goods for real currency. An instance is Chinese gold farmers (Dibbell 2007, in Eklund & Jonsson 2012), whose gameplay is monotonous, instrumental and highly productive - in resemblance of Taylorist organisations of work (Eklund & Jonsson 2012). Much like gold farmers, non-professional *power gamers* show a similar productive style of play, in maximising in-game rewards for their time investment (Taylor 2006, in Eklund & Jonsson 2012; Eklund & Jonsson 2012).

“Real money traders” (*RMT-workers*) are a similar example of workers gaining their livelihoods in video games, MMOs in particular (Lee & Lin 2011). The authors point to these labourers as important exemplars of those who come to blur play and work, and indeed RMT-workers experienced the separation of work-play and leisure play as one of a difference in mentality: play for work came to be instrumentally governed in its necessity, whereas play for leisure took place in a different time and space – and was referred to in different choice of words altogether. RMT-behaviour does not fit into Caillois’ definition of play and games, Lee & Lin reflect, as it is not voluntary, crosses the line between virtual and real, and comes to produce both material and currency. (Lee & Lin 2011).

Caillois can be invoked to answer for some of these claims here. Gold farmers and RMT workers find labour in their play - for play professionals, the play impulse is the antithesis of the relaxation sought from fatigue, oppression and monotony. They turn to other play to serve these functions (Caillois 2001/1961, pg. 45). Caillois has a Marxian twist of alienation here. Notably and insightfully Lee & Lin (2011) mention RMT-behaviour to be exterior to Caillois’ definition of games. Finally, social and financial arrangements around and beyond games are precisely what Brock (2017) defended Caillois against, in how modern life tends towards a rationalisation of play elements in games. This could be elaborated to further lengths; a gamification of work has also been occurring in some occupations and workplaces. However, with regards to counterpoints and criticism, a concession can be made between games and their (un)productiveness.

Networked virtual worlds, such as MMO-games, allow for a mode of production traceable to the real world. They can also be treated as virtual factories, wherein social life is part of the process of economic production, which itself is permeated by social life. Viewed in this light, theories of immaterial production can be leveraged to aid in their interpretation and disentanglement, simultaneously gifting new perspectives on the material world. (Kücklich 2009).

MMORPG-games have been characterised as reified systems of social rationality, which manifests in the exchange of equivalents, setting and organising of rules, and in the optimisation of effort and calculation of results. As a player moves across a process of *ludification* – that is from a generalised playful state of mind, to a specific intent to engage in a certain game – play itself increasingly to adopt the traits of the system. Of social rationality, that is, and vice versa. In other words, MMORPG-players become incumbents and reproducers of the game’s social order, which further engenders rationality: “-- *it is not that social order recapitulates certain features of games, but rather that games have themselves become forms of social order*”. (Grimes & Feenberg 2009).

Recent work into the play-filled lives of play testers show how play and labour blur together, as instrumentalised play and precarious employment produce, what Bulut (2015) refers to as *degradation of fun*. In playtesting the worker plays the game with the aim of finding software bugs that then are expunged to improve the final product. Quantified and repetitive tasks play into the degradation of fun. The logic of capital is at play: rationalisation of the working process and the ensuring of surplus value extraction void the fun of play in and out of the workplace. The meaning of leisure is radically transformed, when work *is* play. Interestingly, non-testers on a project can also exhibit degradation of fun. (ibid.). Naturally the criticised industry practice of “crunch” (extreme hours and workloads pre-release) also mediates extinction of passion.

Given these considerations, it is time to turn towards the methodological choice of studying the game experience through the psychological construct of *Engagement*. The function of the foregrounding thus far, has been to demonstrate how the game experience can be conceptualised as play, as leisure, or even as work. As the engagement construct depicts a manner of interaction with the target activity (usually work), though leisure and more importantly, experiencing something as leisure, would be an alternative viewpoint.

Flow and immersion certainly would offer meritorious starting points for studying facets of game experience, but as the adopted theoretical starting point was engagement, in the context of this thesis - its contribution lies therein: if play were taken as work, what would this bring to light? Is engagement a suitable construct for capturing its nature, and what occurs upon taking this perspective and empirical measurement? These questions hope to capture the nature of engagement (if any exist), and tackle gaming practice through its theoretical lens, rather than explain and quantify immersion or flow within games.

## 4. Engagement and burnout

### 4.1 On being engaged

In psychology, engagement is consistently opposed to *burnout*. (e.g. Bakker et al. 2006, Maslach et al. 2001). For an exploration of engagement burnout must first be introduced, as the two are intimately intertwined. In a hallmark study Leiter & Maslach (1988) proposed burnout to be a counter-response to interactional work-stressors. In a later meta-analysis, it was also presented as a chronic imbalance between individual and (work) environment (Maslach et al. 2001). Three main dimensions of burnout are commonly cited: *Exhaustion*, or “emotional overextension”, a vexing sensation in interaction. *Depersonalisation* or *cynicism* refers to indifference and a narrow emotional scope towards the activity. *Inefficacy*, lastly, signifies a decreased belief in one’s skills and success. Much stake was placed in the “burnout progression hypothesis”, according to which exhaustion develops first, followed by cynicism, which then leads to inefficacy (Leiter & Maslach 1988). Inefficacy has been noted as a complicated phenomenon, which may develop independently or in correlation with exhaustion and cynicism (Maslach et al. 2001).

Situational factors in burnout include high workload, role confusion (ambiguity regarding one’s tasks) and a lack of supervision and feedback. The latter correlates with all dimensions of burnout – additionally the lack of autonomy is associated with burnout, though weakly (Maslach et al. 2001). Deery et al. (2002) report similarly 72% of variance in exhaustion to be explained by the interaction and its narrow confines in a customer service profession, the pressures of productivity, workload, role overload, routinisation and chances of professional advancement. Connections to the specific dimensions have been reported: workload links with exhaustion and control of the work process along with rewards with (in)efficacy (Maslach et al. 2001). Feelings of unfairness relate to exhaustion, in addition to engendering cynicism via irritation. In-community conflict, or a lack of collegiality, as well as a mismatch between subjective and organisational values have also been found to affect burnout scores (ibid.).

Though situational and organisational factors have been found to correlate more strongly with burnout (Leiter & Maslach 1988), some personality and task structure findings exist. A habit of attributing events to external forces (*external locus of control*), the Big Five -personality

trait of Neuroticism, as well as low self-esteem correlate with burnout (Maslach et al. 2001). Work demands, among which repetitiveness is given special note, as well as obstructions and hindrances are associated with burnout (Volpone et al. 2013) – especially lack of change connects with exhaustion. In other words, a more varied task presents less burnout. It was also found that those with a tendency for emotional instability experienced the greatest exhaustion in the face of increasing job demands (ibid.).

Similar discoveries regarding repetition, or routinisation have been made in conjunction with lack of career prospects, the two have been suggested to be significant contributors to burnout (Gaines & Jermier 1983, in Deery et al. 2002). Others suggest workload to be a remarkable predictor (Lee & Ashforth 1996, in Deery et al. 2002). A positive attitude towards the task and life in general has been found to lower the likelihood of exhaustion, whereas age, education and work status have not been found to correlate (Deery et al. 2002). The presented taken together, a summary can be reached.

High workload, routinisation, ambiguity and overextension in a task, as well as unappealing or unlikely progression all contribute to burning out. Positivity combats exhaustion, whereas neuroticism increases it; while age, education and status at work have not been found to bear associations to burnout. The experience of engagement with a task correlates negatively with burnout scores, further compounding its opposition to the phenomenon (Maslach et al. 2001, Bakker et al. 2006). Here perhaps it bears reminding, that games can manifest a number of these qualities, and players may experience routinisation and progression ambiguity unfavourably.

Approaching the subject from leisure sociology, *disengagement* (Cumming & Henry 1961, in Gunter & Gunter 1980) occurs when an individual is only minutely involved both behaviourally and cognitively with an activity – coupled with a sense of aversion. If institutional work social structures are strong and constraining, and conversely involvement is low, *institutional leisure*, may be experienced (Gunter & Gunter 1980). That is, if the workload is perceived as burdening and overextending one's capabilities. Hypothetically, in games where there are too many tasks and a strong incentive to partake – yet little sense of involvement, institutional leisure may occur. The play testers in Bulut's (2015) study may have experienced a phenomenon akin to *institutional leisure*, in their *degradation of fun*.

A slightly different mode of leisure experience is also possible: when obligations and structural constraints are close to non-existent, and the circumstance is unpleasurable, *anomic*

*leisure* (Gunter & Gunter 1980) may be experienced. This would be similar to ambiguity and role confusion, i.e. uncertainty of what is to be done regarding a situation. In games, this sense of powerlessness may stem from being given too many tools and options to approach a goal, or even when lacking an incentive altogether. Gunter & Gunter (ibid.) characterise the core of institutional leisure “*freedom that is more apparent than real*”.

The positive counterpart to burnout is engagement, a non-specific, enduring and long-term affective-cognitive state. The energised are engaged, focused and committed. As the opposite to exhaustion, *Vigour* describes vitality and a resilience towards a task’s ordeal, *Dedication* as the counter to cynicism marks an orientation towards a task and a derivation of meaning, challenge and inspiration from it. A sensation of being engrossed and concentrated, when time passes quickly and detachment is difficult, is denoted by *Absorption*. (Bakker et al. 2006).

Engagement associates negatively with burnout (Bakker et al. 2006, Maslach et al. 2001), as mentioned before, but interestingly the strongest correlations are between all engagement components and the inefficacy burnout dimension. It has been justly theorised for experienced efficacy to then be more descriptive of engagement, than of burnout. In addition, burnout has been theorised as the “collapse of engagement”, in which formerly meaningful and challenging tasks turn meaningless and cause discomfort - vigour erodes into exhaustion, subjective engagement to cynicism, and lastly efficacy into stagnation and inefficacy. Taking an engagement perspective to burnout peeks at a more complex view of individual relation to work. (Maslach et al. 2001).

This “collapse of engagement” from engagement theory; disengagement, along with institutional and anomic leisure from the sociology of leisure (Gunter & Gunter 1980), as well as Bulut’s (2015) suggestion of the *degradation of fun* provide the points of reflection and consideration, that much of this thesis is found on. Later the study population will be presented in more detail, but describing videogame playing populations in terms of having burnt out may seem too much a theoretical leap at once for what is considered such an engaging activity. For that reason, as well, the starting point here is engagement.

## 4.2. Engagement, burnout and games

Conjecture is presented at this juncture to draw together psychology, sociology and game studies. Engagement, especially its absorption component, maybe linked to the general phenomenology of playing, specifically playing videogames. What is termed engagement in psychology of work, flow in work and leisure, and immersion in games, calls for a unification of perspectives, while keeping each starting points' merits in mind. A connection between flow and leisure can be hinted at, as the concept of "*Pure Leisure*" implies heavy involvement leading to a blending of individual and situation, at least to an extent (Gunter & Gunter 1980). In other words, it may be suggested, that these phenomena (flow, immersion and engagement) may hint at a fundamental mode of experience, which in different structured activities – whether leisure or work - carry different traits and names.

There are some references to burnout and burning out in games literature. The most explicit are in game design, where burnout is considered an exhaustion of game mechanics, that once learnt cease to be interesting (Berlyne 1950, in Fabricatore 2007). Burnout is also a state of depleted learning, in which the player reaches an understanding of the meaninglessness of their actions in the production of meaningful results (Cook 2006, in Fabricatore 2007). Fabricatore suggests burnout avoidance, by making mechanics of games meaningful tools towards ends immediately after their acquisition. Regarding the player experience, especially in MMORPGs, it was presented their quintessential irony to be their positioning as post-work immersible worlds, "*but they too make us work and burn us out*" (Yee 2006b). The "collapse of engagement" (Maslach et al. 2001) in the last chapter is brought to mind, as it too entails a decay in the relationship between agent and target.

In a phenomenological account, Sudnow (1983) concluded a singular focus on a mathematically perfect performance to subtract from the enjoyableness of gameplay. In other words, what may begin as a playful drive for problem-solving, may later be warped into an inflexible pursuit of an optimal outcome. This seems exemplary of the corruption of play Caillois (2001/1961) warned of: play becoming performance. Brock (2017) meritoriously expanded Caillois' sociology of play, as discussed before, adapting the corruption of play to E-sports. In a Cailloisian spirit, Brock notes the blurring of play and work to constitute a "bad player", when one comes to constrict the other. When instrumental decision-making and rationality dominate player behaviour, competitive play becomes a semblance of work. Viewed this way, the proliferation of various match-fixing scandals in E-sports come to the fore as viable options, as contenders depend on financial incentives for their livelihood and identity in an otherwise precarious position. (Brock 2017).

The production processes of games involve mystified exploitation, “soft coercion, cool co-option”, in addition to long hours under physical and mental stress, worker burnout and a pervasive insecurity for lack of unionisation and other worker protection – all the while embodying a “work as play” ethic (Dyer-Witheford 2002, in Kücklich 2009). This is best exemplified in the allusion by the titular game company, to “BioWare magic” (Schreier 2019): the belief that a game will be released ready, no matter how tumultuous the production process is – and especially its final push, or “crunch”. An ultimate proclamation of the means justifying the ends.

In short, though within academia the connection between burnout and videogames centres around professionalised gaming (whether E-sports, streaming or other), burnout-like phenomena are found in other labour-leisure contexts, e.g. *degradation of fun* (Bulut 2015) or alternatively burnout in the sense used by Cook (2006): understanding one’s actions’ futility to procure sought results. Non-work similarities may be conceptually inferred through anomic or institutional leisure or in terms of disengagement.

It can be argued for the burnout-term’s adaptation to games to merely be brought on by popularisation of the term. However, in this thesis the preceding chapters have aimed to show through the blurring of leisure, play and work in and out of videogames, as well as the experiences derived from them, that burnout and engagement as task interaction patterns may be applicable. Then it could be advanced that, if as flow describes an experience and pattern of interaction with a task, burnout and engagement do so as well. The usage may be uncanonical, though for lack of specifically developed vocabulary to apply to games, engagement and burnout seem apt descriptors – though *degradation of fun* (Bulut 2015) is a respectable pioneering effort. Disengagement and anomic leisure would be sociological offerings.

Perhaps the opposing of engagement and burnout is not the most realistic, in which case sociology of leisure may allow for a different interpretation through the leisure modes anomic and institutional. Additionally, perhaps it is more a case of engagement with the game world collapsing into decay in the real: addiction – or a case of the *degradation of fun* (Bulut 2015) spreading beyond working life barriers of video game production. No matter the terminology used, an unpleasurable routinisation of sorts is to be feared in games, i.e. burnout (Cook 2006): when play becomes performance and driven by rationality. That is precisely what is sought in this thesis. Based on these chapters’ deliberations on engagement, whether in

working life or videogames, it is necessary to first verify what are the dimensions of a game engagement scale, in comparison with its tripartite muse – and to see if engagement is even an apt descriptor for players' experiences. These notions were captured in research question 1.

## 5. Research design

### 5.1. Objectives

As outlined in the introductory chapter, this thesis has three research questions:

RQ1 Does the constructed game engagement construct mirror its origin (and are respondents engaged with games when measured like so)?

RQ2 Are casual and hardcore statistically scale-able (and would a scale predict engagement)?

RQ3 Where statistically valid, do socioeconomic variables interact with game engagement and casual-hardcore constructs?

Gaming is often related to leisure, or to work. Here the approach is inclusive, as leisure can be akin to an experience of work, and work of play; a tripartite entity is possible with engagement as its soma. Engagement as the conceptual beginning and measurement tool was chosen due to its depiction of both the task and the labourer, instead of simply a player or game-centric approach (see e.g. Ryan et al. 2006). Additionally, Ryan et al.'s study (ibid.) is importantly a prime example of developing new instruments based on existing theory to adapt to games' research.

Scholars so far have skirted the direct study of games as work, instead focusing on their boundaries with "reality", are videogames different from non-videogames, or are games productive. Outside of labour contexts, that is. As so many have approached the subject of games blurring work and play (such as Yee 2006a, Yee 2006b, Bulut 2015 and others) and games as productive (e.g. Pearce 2006, Malaby 2007), a natural inclination emerges to take the leap: to embrace games as work, if only in a master's thesis, and be done with it.

Games are assumed to be engaging and players in labour contexts experience burnout-like disengagement. To knowledge, neither – engagement nor burnout - has been tested in academic research contexts, as the experience of either is seemingly taken for granted. In grounding this research with literature on players, games, playing and engagement it is the

objective to verify whether games are engaging or draining, when measured appropriately. Popular assumptions are shown warranted or falsified, if nothing else.

The casual-hardcore pairing has been in existence before the casual game boom. Understandably descriptors of commitment are required for differentiating between degrees of taking part. In gaming discourse, the extremes are taken for granted, though here it is put to the test. Whether the two are clearly separable and measure a different breed of engagement (as suggested by Hamari & Tuunanen 2017) is the more general aim. If the casual-hardcore construct were found valid, it paves the way for future academics to develop a construct particular to game studies, though even if invalid its elimination saves others' trouble.

The uncovering of the casual-construct's and engagement's associations with socioeconomic markers is the final objective of this thesis. Though in its scope the socioeconomic and social are approximated by familiar indicators, such as age, gender and education, their addition hopefully may spur others to elaborate on engagement in, both, more general and specific populations as well as socioeconomic indicators. The thesis now displays the methodology adopted to fulfil these aims.

## 5.2 Methodology

A survey study was designed and executed to answer the research questions. Data collection took place on the social media platform Reddit, between the end of December 2018, and mid-February 2019. Literature on e-methodology was consulted, and as expected of the hurdles of primary data collection by e-survey, a rather modest sample size of 198 responses was reached, out of which few are invalid cases. Statistical methods employed are detailed in chapter 6.

E-surveys have been found to be reliable in comparison with their paper iterations, though response rates may suffer; researchers ought to bear in mind sampling hazards and beware instrumentation if changing instruments between rounds of data collection; lastly sampling ethics and generalisability are to be considered (Jansen et al. 2007). Response rates may be as low as 2,3% of the population, of which only a minority may be viable answers (Andrews et

al. 2010). Populations interested in the research subject matter may be more motivated partakers than coerced informants (Galesic & Bosnjak 2009).

Quality criteria presented for E-survey methodology (Andrews et al. 2010) was followed, by implementing the following: participant privacy and confidentiality were extolled both in presentation and data retainment – to that end no identifying information was acquired. These efforts were made and communicated for trust-building and this trust and confidentiality may be reflected in the manner of disclosure many participants came to exhibit.

The survey was designed to be as short yet comprehensive. Shorter survey length is generally connected with more participants starting (Galesic & Bosnjak 2009), though Andrews et al. (2010) call this assumption into question. Responses may grow more homogenous towards the end of the survey and may come to represent data of declining quality (Galesic & Bosnjak 2009). Bearing these in mind, the survey was constructed to ask for socioeconomic and health information last, and questions on the gaming experience were prioritised in the second and third sections. A short pilot testing was conducted, as heavily recommended by Andrews et al. (2010).

Validated and reliable test instruments are vital to the success of a research endeavour. For this reason, various questions dealing with socioeconomic status, social life, work and well-being were taken, in their exact form, from the Swedish level of living (2010) -survey. A single question was taken from Eurostat (2015). Using established questions eased the survey design, as question wording is assumed to be neutral and concise in these recurring surveys.

The hardcore-casual dichotomy was implemented as a continuum (Juul 2010) and posited as a scale of engagement, following Hamari & Tuunanen (2017). Based on these notions, a pioneering effort was made, built on an outline of casual and hardcore game design principles (Juul 2010, pgs. 30-50). Respondents were enquired to indicate their preference for the manifestation of these principles (such as pleasant game worlds or harsh difficulty) on a five-point scale.

The measurement of “game engagement” was conducted by adapting the short form Utrecht Work Engagement Scale - 9 (Schaufeli & Bakker 2006). The created survey was titled “Gaming and Well-being Survey” (*GWS* for short). In most cases of the transposition, the final form was reached by replacing the referent activity, “work”, by “gaming”, like so: “*When working, I feel bursting with energy*” (Schaufeli & Bakker 2006, *UWES-9*), to “When

gaming, I feel bursting with energy” (Stowe 2018, *GWS*). The full list of transposed GWS items is in appendix 1.

The final survey consisted of 48 questions, broken into seven different sections, covering gaming habits and preferences, the “Gaming and Well-being” questionnaire and socioeconomic status questions. The last sections tapped into working and social life, as well as subjective well-being – to control for time usage and problematic gaming markers. In addition, a scale of addiction was also added for elaboration purposes with engagement.

As foreshadowing for the Analysis chapter (6), nearly all numerical variables are discrete and categorical, if not ordinal. For example, all questions related to engagement only allowed integers, thus making the variables ordinal. This design choice was arrived by considering many a respondent filling out the survey on mobile devices, where simply tapping the correct number or box was thought more convenient and faster than having to manually input numbers at every turn. This optimisation for user-experience may have boosted reply rates during data collection, but its implications are briefly discussed as the Analysis-chapter foreword.

### 5.3 Execution of survey

The chosen platform for this study is Reddit: the self-proclaimed front page of the internet, and home to many memes and popular viral channels (Duggan & Smith 2013). Reddit is a “social voting site”, where content is curated by users, whereby the “best”, that is most popular, content reaches the front page (Gilbert 2013) - indeed, the content on the front page often is merely supposed to be better - Reddit is also a collection of smaller communities called subreddits (Ovadia 2015)

The potential for academic study of phenomena on Reddit has been recognised by scholars (e.g. Ovadia 2015). An account can be created without an email address, which may lead to more open discourse both negative and positive. This allows for a near unparalleled anonymity, which has been associated with more open disclosure from behind a dissociative mask of sorts. Especially in the case of e.g. mental health disclosure issues and related subcommunities, Reddit comes to fill an interesting void at an intersection of online health forums, social media and networks (De Choudhury & Sushovan 2014).

Recently it was found that an approximated 6% of all adults online use Reddit, that males are twice as likely to use the platform, and that it enjoys more popularity in larger cities and provinces (Duggan & Smith 2013). Of its users 6% hold a bachelor's degree and of males aged 18-29 15% use Reddit. Female usage in the corresponding age group is 5%. With the above foregrounding the progression of the data collection and interpretation may be more understandable.

The survey was aimed at two subreddits: SampleSize and StopGaming (hence r/SampleSize and r/StopGaming respectively). The former is common for surveys both academic and casual, while the latter is a subcommunity dedicated to its namesake: stopping gaming. From the outset, a pathologising and problematic relationship with games must be recognised for many a survey respondent. At survey launch r/StopGaming had a user count of circa 20 000, and the thesis was more aimed at exploring the game engagement of those wishing to cease their gaming activity, in hopes of shedding light on the phenomenon from a theoretical lack (or *collapse*) of engagement – or even burnout. Therefore, it must be kept in mind, that the results to be presented apply then mainly to a self-pathologising population on Reddit – r/StopGaming – as the survey was only once posted on r/SampleSize.

Survey launch was in the last two weeks of December 2018. The survey was posted on r/StopGaming a grand total of eight times, with the last being in the middle of February 2019. Over 1/3 of responses came within the first two days of launch, after which responses per repost declined steadily. In the beginning of February 2019, the survey was linked onto the subreddit's online chat server on the application *Discord*, in a last attempt to reach possible new respondents. For the last effort, participation and snowballing was slightly incentivised, by offering graphic illustrations of results for select two questions of the survey, if a valid sample size of 225 were reached. This was largely inspired by research showing survey target communities to be interested in results, even if not engaged by the subject (Andrews et al. 2010) – and to show special interest if finding the subject important (Galesic & Bosnjak 2009). This motivation had no discernible effect, and the total number of cases reached 198.

Notably, only 172 answers were received to the open-ended question prompting an explanation or reasoning for why the respondent has, or is interested in, quitting gaming. Taking the final sample of 198, it then occurs that, of a community of 20 000 – at time of survey launch – a rounded-up figure of 0,001% of the population was reached. E-surveys may expect a 2% response rate from the population (Andrews et al. 2010), though fortunately

the amount of usable cases is much higher, than the 30% reported by Andrews et al. (2010). If only the cases that skipped the open question were cast out, a sample size of 172 would remain, which would be 86% of the original viable sample.

Before presenting descriptive statistics on the sample, a reflection on the success and process of the survey is in order. As r/StopGaming at the time of the survey appeared a particularly active community, a harsh reality must be confronted: were the survey not to immediately gain traction and positive user engagement, i.e. votes, it would be lost under the barrage of new content. Especially during holiday seasons many a player may have more time to put into their games and thus build more resentment towards the activity. Theoretically this may have had at least two effects on the survey process: more users may have visited the subreddit, and thus have found the survey, but the second effect may have been an uncommonly large concentration of new user posts contemplating their relationship with videogames. This may have further reduced the visibility of the survey and thus users reached.

This was taken into account at the time of survey launch, and it was considered possible to recruit informal assistants to comment and interact with the survey post online, thereby giving it more exposure. This was deemed impractical due to requiring considerable orchestration to be assumed to have noticeable effects. Additionally, some ethical questions may have been valid in the contingency of such artificial exposure-engineering, as the study was only for a master's thesis, though the benefits of an increased understanding of possible game-engagement were considered. Another matter would have been the dissemination of results on the platform, as a fair amount of visibility would have been required for respondents to reap benefits of their participation. Lastly, survey participants from the community gave wide support to the survey, which was indicated by very open and informal disclosure in private correspondence directed to the researcher's account on the site.

An assumption can be made. Many more members of the community may have been interested in the survey, had it reached them. This would then be more a trouble of using Reddit for independent academic research of this nature, than perhaps of the endeavour itself. As most content on the site is skipped, it is common to simply view the highlights and exit, insofar as 11% of content may be "good", only 5% of posts become popular (Gilbert 2013).

## 5.4 On research ethics

Ethical considerations of the study design were based on literature, though fruits were mainly provided on data management and procurement. The subject matter is not presumably traumatic or of injury to participants but may bring to mind the hot topic of gaming addiction, which is a serious problem and is increasingly covered in academic and popular media in recent years.

During familiarisation with r/Stopgaming in the design-phase of the study a remarkable volume of references to addiction coverage was demonstrated by redditors, which may be an explanatory factor in the prolific self-pathologising vocabulary witnessed. Due to this, a very clean demarcation was attempted in presenting the data gathering, so as to avoid priming subjects' thoughts on gaming addiction more broadly (and skewing results), but also to clarify no answers or therapeutic resolution being provided by the thesis at any turn with regard to addiction. The thesis was aimed as on game engagement and not on addiction.

These attempts have been successful to knowledge. Several participants directly interacted with the researcher account with praise regarding handling and phrasing of the study materials with associations to a delicate subject. A handful of respondents disclosed, in private correspondence, the participation process to have led to some thankful realisation of addictive tendencies. These were responded to thankfully and with respectful caution, with a reminder to seek professional counsel if participant personal integrity were threatened by the revelation.

Thus, in attempting to separate from gaming addiction, participants often made the connection themselves. This could indicate a need for unbiased research into subjective gaming addiction to inform personal struggles – in the scope of this thesis the above considerations of positive community feedback may be interpreted as respectful treatment of participants' experiences and voices. Hopefully these inform future interactions of gamers and the international academic community. The former's possible positive experience of participation may encourage future recurrence, while the latter may reap benefits of the approach adopted in this thesis.

In popular parlance a somewhat vilifying stance towards game developers might be observed as a minority discourse. Their framing takes place as capitalistic profit-extractors with money in mind and hopes of creating lucrative games. Possibly it could be argued for this thesis to

benefit these parties, but a neutral grounded consideration on the possible ramifications of study results is as follows: the development of tools and understanding towards game engagement would be of interest to the industry and players alike, if found valid.

In accordance with sociological intrigues, capturing a modicum of the social of the phenomenon is important. Sociologically disciplined game study is rare; indeed, the thesis is to its majority leaning on interdisciplinary literature. This need not be a hindrance, as to develop a sociology of videogames is not a solitary pursuit and devoid of understanding other fields. The study of engagement in a social grouping in this thesis is not one to cement a theoretical foundation comparable to that of Durkheim or any grand figure, classic or else. Rather, the study may serve to build its maker's own sociology of videogames or deconstruct it.

A conceptual demonstration and testing remain the starting point for this piece, with a possibility to provide a source of self-understanding for certain populations. Realistically reaching the original participants is admittedly unlikely via the method of their discovery and recruitment. This shortcoming may be argued as a design strength to further bolster sample anonymity.

To conclude, this minor piece of research stems from interest and a desire to understand a phenomenon, and perhaps to add to its discussion further. This is not to iterate the end justifying the means – participants have been held in high regard in all phases of the endeavour, from conception, to reporting to data expulsion. It is the researcher's hope this be reflected in the output and any discussions on the topic going forward.

## 6. Analysis

As made mention in 5.1, the analyses were conducted mainly on ordinal categorical variables. Practically this means that instead of Ordinary Least Squares regression, Ordinal Logistic Regression was employed, when dealing with two ordinal variables: say, engagement with education, playtime, employment etc.

A short section will detail descriptive statistics of the sample, including socioeconomic data and player habits. Then the analysis and results are presented as per the outlined research questions: 1. Are respondents engaged, and does the constructed game engagement scale mirror the UWES-9's dimensions; 2 is casual/hardcore a scalable and if so, does it predict engagement. Lastly, 3: do socioeconomic variables collude with either game engagement or the casual/hardcore scale.

The general characteristics of the acquired sample are stereotypical of a game-playing population: 85% are males, respondent ages concentrated in the region of 17-25 (23,5 on average). The largest educational groupings were high-schoolers and those having obtained a bachelor's degree. Regarding habitat, 70% lived with either guardian or partner. Only 10% had children. Half of the respondents had been employed in the last six months or were at time of response. Most had 1-5 close friends, whom the majority saw regularly (once a week or more often), though 1/3 did not. Subjective happiness was generally felt: 1/3 were *fairly happy* and in half of cases life was felt as providing satisfaction at least on an occasional basis.

On game habits,  $\frac{3}{4}$  had played for over 10 years, 1/3 had played for 10-15 years. Of players, 70% engaged with games between 2-8 hours daily, 1/3 played for 2-4 hours. This amounted to a sample majority of  $\frac{2}{5}$  playing upwards of 15 hours weekly. The most popular game genres were by far *FPS* (First-Person Shooter, 56%) and *RPG* (Roleplaying game, 47%). The genres garnering the least favour were Sport (8,1%), Puzzle (8,6%) and Racing (10,1%). Finally, most respondents (over 60%) felt game engagement at least often.

As means of summary, the prototypical respondent in the survey was male, around 20-years of age with aspirations of higher education and lives with their parents. They are likely to have or be in the process of acquiring working experience and enjoy regular social life with close friends. Their engagement with games has started in late childhood, and they enjoy

games on most days and engagement with games is common, with FPS and/or RPG games being the most popular targets.

## 6.1 Casual and Hardcore

The Casual-Hardcore variables were operationalised as a means of testing their scalability with preference for game mechanics casual or hardcore – as loosely conceptualised by Hamari & Tuunanen (2017). Five questions used by Juul (2010), denoting casual and hardcore game design principles were chosen for the survey, in hopes of capturing user preferences. An example of a casual design principle, as mentioned before, would be a game that can be played in short bursts, or has a pleasant world by aesthetic, rules and/or fiction. Conversely a steep learning curve coupled with a game being hard to learn in the first place, constitute hardcore game design principles. To ease reading of results, the “steep learning curve” item was reverse scored for homoscedasticity and is hence called “mild learning curve”.

It must be emphasised that the survey section aims to tap into preference for these design principles, instead of a more general orientation for either genre, or their associated characteristics. That is to say, no attempt to identify and categorise players as either hardcore or casual was made. Put another way, the section was aimed more as an exploration of user preference into what makes games casual or hardcore – in Juul’s (2010) reading – instead of measuring popularity of casual games themselves.

*Table 1: Design principle preference statistics*

<b>Design principle preference</b>	<b>Mean</b>	<b>Std. Dev.</b>
Easy to pickup	3,31	1,09
Flashy presentation	3,28	1,2
Mild learning curve	2,85	1,29
Pleasant worlds	2,78	1,18
Shortburst playability	2,41	1,2

As in the above table, the most favoured design principle was ease of pickup, and it was also the least divisive preference. The least favoured was shortburst playability, though the most divisive principle was the presence of a mild learning curve. Normal distribution was

confirmed both visually, and statistically (Shapiro-Wilk test) for the variables - only the preference for a mild learning curve in games failed to meet criteria.

Measures of correlation were computed using Spearman and Pearson, with an output of short bursts playability and ease of pick up only reaching a modest 0,3 coefficient at a 0,05-significance level. Understandably ease of pick-up had a statistically significant association of mediocre strength with mild learning curve, but with minor exceptions correlations were weak and significant. Internal consistency using Cronbach’s alpha was computed, also resulting in lacking coefficients (0,54 overall alpha), though as hinted before short burst and ease of pickup had the strongest consistency (0,53). Results of alpha computations would suggest a casual-hardcore scale construct to be statistically unfounded, as a general alpha cut-off point in social sciences is 0,7.

Finally, a test of factoring adequacy (KMO and Bartlett) informed and grounded an interpretation of the hardcore/casual orientation variables to not be usefully factorable – these results are in the table below. In the context of this thesis the implication is as follows: in the study sample a casual-hardcore operationalised as such is statistically unsupported, or more precisely data reduction techniques, such as factor analysis would not yield meaningful results. The construct with the gathered sample was of a single dimension: preference for casualness. As such it might be wise to conclude a more apt name to be a “casual factor” or orientation. This itself is no less a finding: instead of casual and hardcore being shown to be different factors for users after all, preliminary verification is thus provided for their scale-nature, though not an internally consistent one.

*Table 2: Casual-hardcore scale results*

	Alpha	Bartlett-test	KMO
<u>Casual-hardcore scale</u>	0,54	p < 0,001	0,57

With this, research question 2 is answered: gaming commitment/engagement (whether as casual or hardcore orientation) does not gain statistical support as a factor in this sample of r/Stopgaming, if implemented as a synthesis of Juul’s (2010) design principle preference - Hamari & Tuunanen’s (2017) offering of casual/hardcore being a scale of engagement remains unverified at this time. As prediction of engagement with an inconsistent scale of casual/hardcore commitment seems ill advised, research question 2.1 dealing with this remains unanswered. However, a generous reading of the KMO and Bartlett results might

point for this construct to have some merit, that should be further tested. Analysis of the engagement components is discussed next.

## 6.2 Engagement and scale construction

In data transformation the engagement variables were transformed into 5-point scales (vs. 6-point scales in the original UWES-9) for heteroscedasticity with other analysis variables. This was done by combining 0 (*Never*) and 1 (*Almost never*). *Never* was confirmed to not hold even a reasonable share of responses pre-combination. For reader clarity, when referring to factors of engagement (both original and latent) they are expressed in italics and with a starting capital letter, like so: *Vigour* or *VI*. Variables of the factors are written in italics without capitalisation, e.g. *pride*, *inspire*, *strong and vigour* – if not written out in full (*pride* vs. taking pride in gaming).

Table 3: Descriptive statistics on game engagement components (mean ordered)

Game engagement component	Mean	Std. Dev.
<i>I am immersed in the game, when playing</i>	3,86	1,06
<i>I get carried away when I'm gaming</i>	3,81	1,31
<i>When I get up in the morning, I feel like I am going to play videogames today</i>	3,39	1,35
<i>I am enthusiastic about gaming</i>	3,37	1,25
<i>When gaming, I feel bursting with energy</i>	3	1,24
<i>I feel happy when I am gaming intensely</i>	2,88	1,41
<i>Gaming inspires me</i>	2,78	1,33
<i>While gaming, I feel strong and vigorous</i>	2,78	1,35
<i>I am proud of the gaming I do</i>	2,11	1,31

As above, respondents felt immersion and getting carried away (both belonging to the *Absorption*-factor), the intent of going to play (*Vigour*) as the most prominent features of their experience, as shown by mean scores. Notably *pride* was the least agreed-upon statement, as well as among showing relatively little standard deviance. With few exceptions the nine variables were skewed, and the following were not distributed normally (Shapiro-Wilk test): *immersed*, *carried away*, *pride* and *going to play*.

The items were positively correlated at a significance level of 0.05 and had very good internal consistency for scale construction (alpha 0.83). KMO and Bartlett -tests indicated the variables to be fit for factoring –two factors were retained when applying the Kaiser-criterion for meaningful factor extraction. This itself is a remarkable finding, which will be returned to. Of note: to deal with the partial issues of normal distribution, all tests (incl. regressions) were conducted on standardised z-transformed factors as well, with near-identical results. Unstandardised results will be presented.

Factor analysis proceeded with two factors and varimax rotation was employed in order to arrive at maximally differing factors. *Dedication*-variables are the most descriptive of the first factor and *Absorption* of the second. Factor loadings for are available below, in table 4. All variables were accounted for with strong and meaningful scores equal to or in excess of 0,6 – with the exception of *VII* and *VI3*. The overall poor performance of the *Vigour* dimension bears mentioning, as this may either be a trait of the respondents’ relationship with gaming, or an artefact of the instrument. Naturally a middle-ground combination is possible.

Table 4: Varimax-rotated factor matrix for engagement statements (by loading)

Statement	Dedication (DE)	Absorption (AB)
<i>Gaming inspires me (DE2)</i>	0,74	
<i>I am proud of the gaming I do (DE3)</i>	0,68	
<i>I am enthusiastic about gaming (DE1)</i>	0,67	
<i>I feel happy when I am gaming intensely (AB1)</i>	0,66	
<i>While gaming, I feel strong and vigorous (VI2)</i>	0,61	
<i>When gaming, I feel bursting with energy (VII)</i>	0,52	
<i>I get carried away when I'm gaming (AB3)</i>		0,8
<i>I am immersed in the game, when playing (AB2)</i>		0,67
<i>When I get up in the morning, I feel like I am going to play videogames today (VI3)</i>		0,59

According to the presented, r/Stopgaming respondents’ in the sample feel engaged with games especially in terms of *Dedication* and *Absorption*, when measured with GWS. A possible hallmark of the study population in the scope of this thesis is *Vigour* being a secondary component of the experience for these players – or literally not a component at all. A sense of absorption and a semi-conscious dedication to games may characterise their experience overall, rather than the intensity of the emotions derived therein per se. That is not

to say that vigour is absent, *Dedication* and *Absorption* rather encapsulate feelings of *Vigour* in this sample.

In the study sample it is statistically justified to say that game engagement measured with the adapted *Utrecht Work Engagement Scale - 9*, is different a phenomenon than work engagement. Traditionally the UWES-9 is composed of the three main components *Dedication*, *Absorption* and *Vigour*, whereas in the conducted survey *Dedication* and *Absorption* override *Vigour*. The pioneered Gaming and Well-being Scale then does not have identical dimension composition to its muse. With this consideration research question 1.1 is answered.

### 6.3 Engagement and gaming in the study sample

Results are discussed by topic, for reader clarity and to aid readability only weekly playtime will be discussed.

#### **Education and gaming**

The intersection of the game habit variables and socioeconomic status bear mention. Agreement with gamer identification correlated weakly (0,3) though significantly (0,05) with weekly playtime. Strangely, parental education and playtimes similarly correlated significantly (0,05), though very weakly. Variance of playtime was insignificant with age and educational variables.

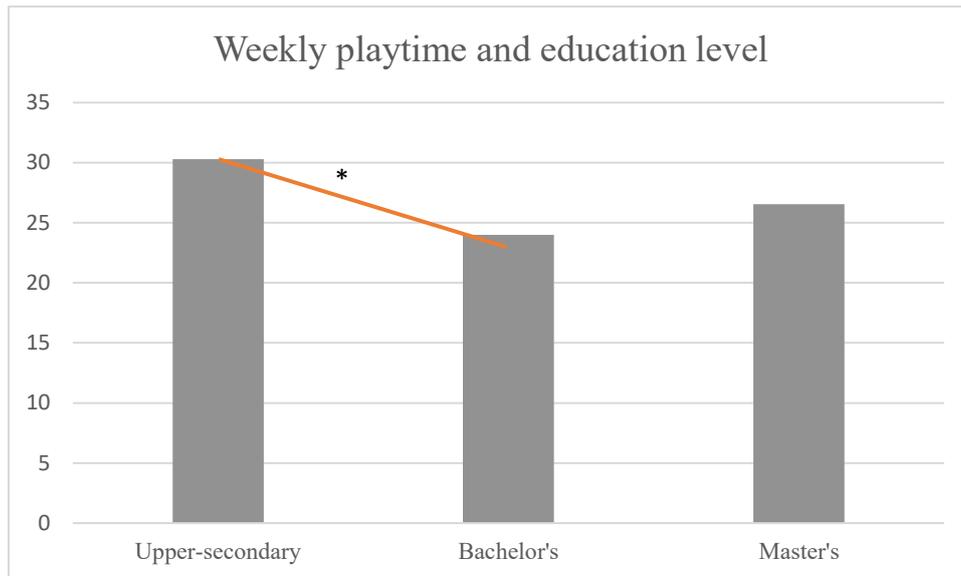


Figure 6 Mean engagement and education (\*= $p < 0,05$ )

Weekly playtime mainly increased with educational group: those with master's level qualifications generally reported higher categorical playtime, but while bachelor's and master's degree-holders played more on average, upper secondary-educated displayed the highest frequency in the most hours played. The difference in mean weekly playtime was significant ( $p < 0,05$ , power 0,99) by comparing means of upper secondary and bachelor education holders, as illustrated in figure 6 (above). Interestingly it bears mentioning, that though mean playtime was statistically insignificant between bachelor's and master's degree groups in this sample, statistical power (0,4) hints that with a slightly larger participant pool the difference would have reached significance. Next the analysis turns to engagement once again.

Engagement was found to rise steadily with educational background, Correlations are weak and insignificant once more, though differences in means and variance reach significance – engagement differs by education. Especially the upper secondary educated of the sample had significantly differing ( $p < 0,05$ ) variances and mean differences in engagement from those with a post-secondary (though non-tertiary) education. The same significant difference in engagement was observed between bachelor's and master's degree-holders. These are graphically illustrated in figure 7, on the next page. Statistical power is not reached in this sample, though it would have been with a moderate increase in group size.

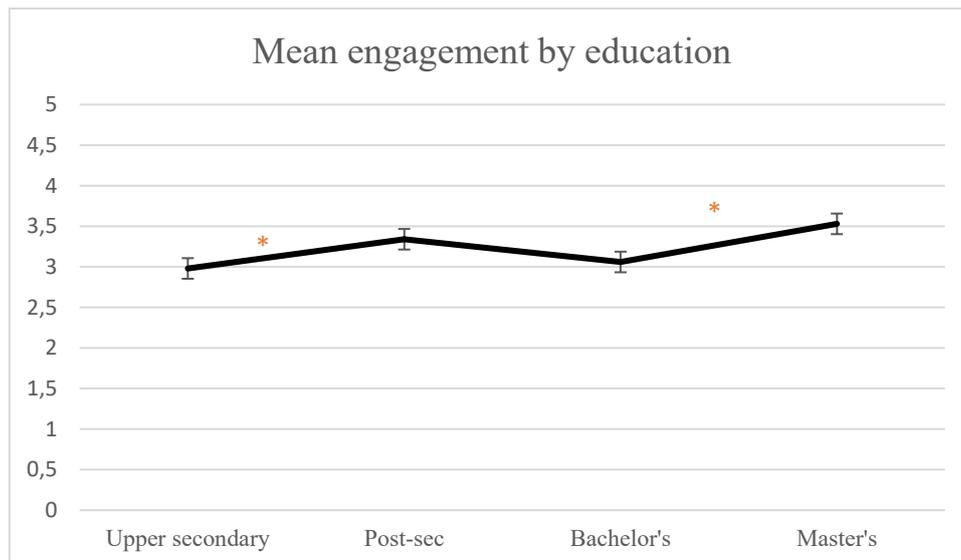


Figure 7 Mean engagement by education (\*=  $p < 0,05$ )

Overall, education predicts engagement with a coefficient of 0,32 ( $p < 0,05$ ), though with practically no explanatory power. It can be stated that in the sample the less educated displayed more uneven playtimes and the most playtime was mainly reached by their kind. Education-specific regressions confound this finding, as significance barely falls short ( $p = 0.09$ ,  $R^2 = 0.01$ ) in the case of post-secondary education predicting engagement with a coefficient of 1.47. Strikingly a master's degree in the sample predicted nearly two whole points of engagement ( $p < 0,05$ ,  $R^2 = 0,01$ ). This raises the question of whether IT-field professions were over-represented in the sample.

Play habits also differed statistically from those having lower and higher education. Nevertheless, playtime and engagement generally rose with education in the population, but not with age. Notably the variance of playtime also seems to show an ascent alongside education. Taken together to answer research question 3: education and engagement affect one another. Variances and mean scores showed some statistically significant differences, and specifically a difference in engagement between those with bachelor's and master's degrees may exist in the population of r/Stopgaming, according to power calculations. Education does predict engagement significantly, though this may be more descriptive than real, as variance explained is exceedingly low. Next discussed are game habits with social and work variables.

## **Social life, work and gaming**

Descriptive analyses indicated respondents' social lives to be disparate from each other: both number of close friends and the frequency of meeting them were abnormally distributed. Research shows gamers to be more social than often presumed (e.g. Braun et al. 2016, Griffiths et al. 2004, Yee 2006a), both in and out of games. However, in the gathered data, playtime correlated negatively, though very weakly, with seeing and having friends ( $p < 0,05$ ).

Those with less friends reach higher playtime categories: differences in variance and means were significant ( $p < 0,01$ , power 0,98) – these only remain true and significant when comparing having 1-5 close friends versus having 5-10. Findings are not replicated or significant between having close 5-10 friends, and more than 10.

The unemployed played more hours in a week, but also with a statistically significant difference in variance ( $p < 0,01$ , power = 1) when compared with those in employment. Employment status also predicted time spent gaming: a 1,5-category decrease in weekly playtime (about 5 hours) was predicted, when contrasted with unemployment. Variance explained is only 7% ( $p < 0,001$ ). However, employment status does not predict engagement.

Finding unemployment to predict gaming is not itself a revolutionary finding. As an accustomed pastime, understandably more free time allows the increased allocation of weekly hours. A larger increase in unemployed playtime may have been expected, as 5-hour weekly increase is a surprisingly small figure. That is to say, predicting playtime by employment status in the sample is interesting no less. Interestingly engagement did not differ or lend itself to prediction by employment status. The thesis then precedes into a more elaborate delve into how engagement interacts with game habit variables, social life and socioeconomic status of the participants.

## **Gaming and engagement**

Engagement shows a slight increase per years played, though the association is not strong or significant in terms of correlation. However, the experience of a gamer identity has effects on engagement, as shown by tests of variance reaching very strong significance ( $p < 0,001$ ).

Probing with regressions shows those holding a gamer identity strongly descriptive of their

self to significantly predict engagement with games ( $p < 0,001$ ), though variance explained is very low ( $R^2 = 0,03$ ). Low explanatory yields remain common throughout the following.

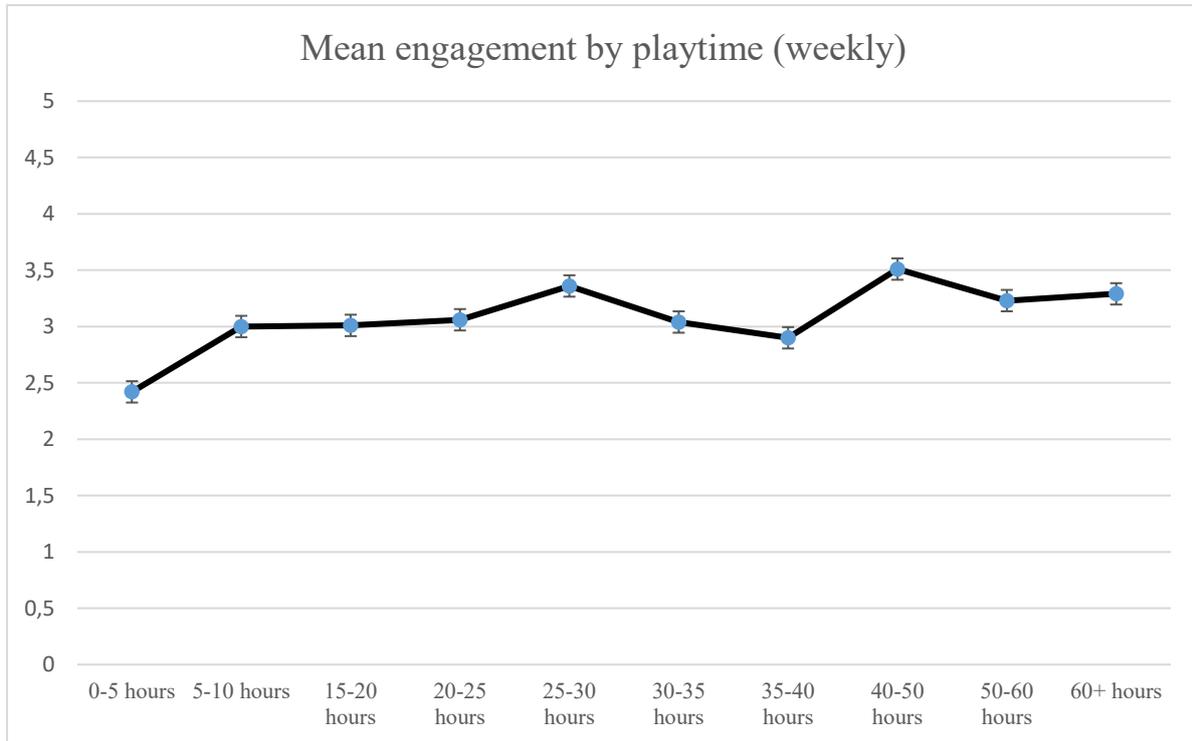


Figure 8 Mean engagement by playtime

Game engagement generally increased with playtime and the highest engagement scores (3,5) were reported when playing 40-50 hours, as in the above figure 8. Peak engagement at 40-50 hours surpassing that of engagement at 60+ weekly hours may be worth consideration, as returns diminish in certain categories, though to rise again. Once more weekly play and engagement do not correlate strongly (0,15), though they do significantly - tests of variance fall short of significance. Engagement scores begin to rise after reaching 15 hours in weekly playtime, though engagement also decreases between 30 and 40 hours.

Overall, playing more on a weekly level predicts higher scores of engagement at a rate of 0,35 per increment ( $p < 0,05$ ,  $R^2 = 0,001$ ). Only after reaching into the 25-30h per week category, do players' engagement mean scores differ statistically significantly (by 1,3 points) from those playing 0-5 hours per week ( $p < 0,05$ ). To account for this lowest category also including those who do not play altogether, analyses proceeded to tease out the difference between those playing 5-10 hours and the rest of the categories.

After reaching 25 hours in playtime, the experience of engagement remains statistically different from category to category thereon. The only exception is between increasing to 40-50 weekly hours, from the original weekly 25. An explanation of engagement variance between 15 and 30 percent is reached between other categories in excess of 25 hours and itself.

To clarify and sum the findings on engagement and playtime: weekly playtime is a consistent and significant predictor of engagement. In the sample a five-hour increase in weekly playtime yielded a 0,35-point increase in engagement, yet variance explained by weekly playtime is non-existent. It was noted those playing less than 25 hours feel significantly more engaged than those playing the least in the sample (0-5 hours), at least where statistics are concerned, yet at 25+ hours playtime engagement gains seemingly change.

So far it is not surprising that those putting in more playtime feel more engaged, though those playing the weekly max were not the most engaged. Engagement does not rise steadily in the sampled population with playtime (except if playing more than 25 weekly hours). Perhaps contrarily to common assumption, returns for playtime investment are not linear, rather the connection seems to trail off or be more complex. The phenomenon is not straight-forward, as even when reaching higher playtime categories some predictions do not reach statistical significance. These points may be a feature of the population, rather than of playing videogames or engagement itself in this measurement.

However, it is important to elaborate on the respondents' identification of gamerhood. Gamer identification has not so far been treated at length, meaning that even those in disagreement of identification as a player of videogames may have had different views and experiences in terms of engagement. As a point of interest, it is then presented how experienced neutrality or agreement of gamer identity affected engagement and weekly play. The differences are summarised in the table on the next page.

Table 5 Main differences between gamerhood identification and no elaboration

Engagement and weekly playtime			
		Condition	
		No elaboration	Gamerhood
T-test	25-35	insig.	sig.*
	35-40	insig.	sig.*
OLR-coeff.	25-35	-0,7	-1,1*
	35-40	1,1	1,4

Elaborating gamer identification to non-disagreement, mean differences in engagement become significant in between the shown categories, with a  $p < 0,05$  for both. Of note: the T-test between 25-35 skips a category. A statistically significant decrease of engagement by 1,1, with 13% explanation of variance is observed in regression between the categories, whereas without the elaboration the constriction is not statistically significant. The latter elaborated regression (35-40) reaches a 0,06 significance, with a 1,4-point increase in engagement predicted and 12% in variance explained. Slight increases in sample size would be needed cancel out margin for type II error. Additionally, engagement regression with playtime and the mean difference in engagement in categories 0-5 and 25-30 weekly hours lose significance, though power indicates a very modest increase to provide restoration in the latter.

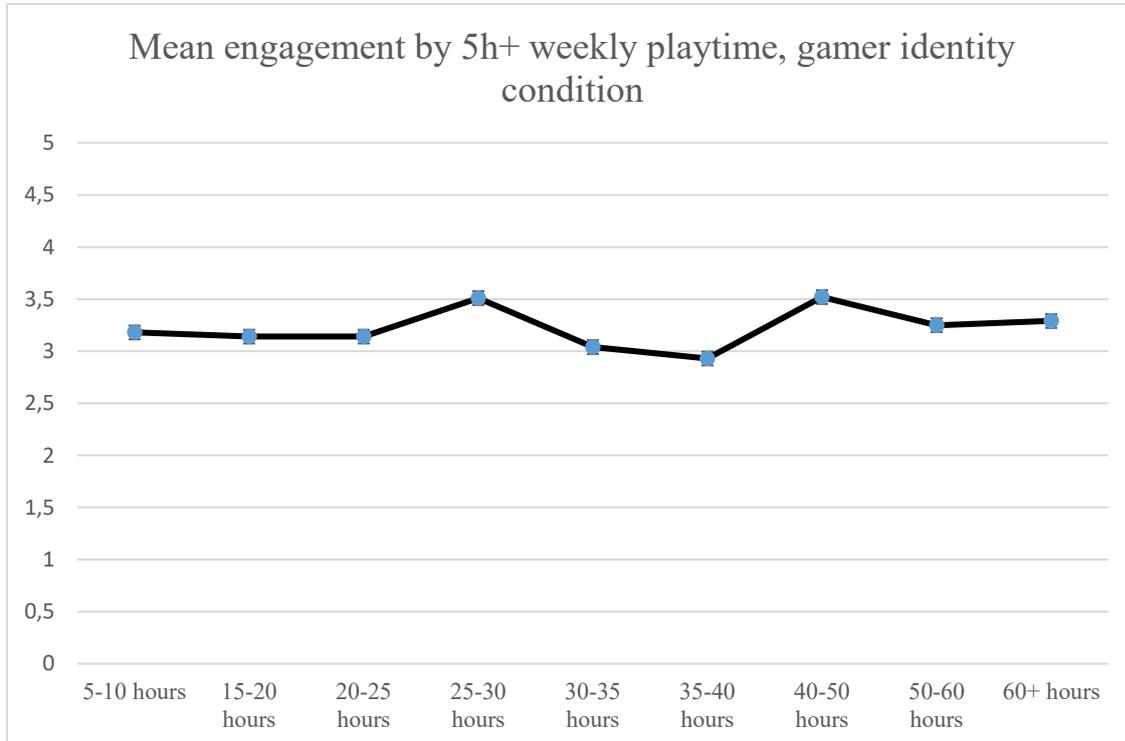


Figure 9 Mean engagement of gamer-identifying (5+ hours)

Decrease in engagement aside, engagement differences within adjacent categories emerge closer statistically significant in the elaboration condition, though the pattern of engagement is similar, as viewed in figure 9.

In reflection, those accepting of a gamer identity seem a sub-population of the sample, though the trend of engagement dipping at 25h+ is in both Figure 8 and 9. Nevertheless, mean differences in engagement come to light between consummate play, by proxy of gamer identification. Though significance is not reached, a slight increase in sample size would sway significance. The elaboration shows this sample subset to have more pronounced differences in engagement, that come into play between those playing between 20 and 40 hours in a week.

In the sample and where means are concerned, significant weekly investment into games is required for more engagement to be derived overall. Regression models showed those playing more than 25h/week to show more engagement, than those playing less than ten hours, though low explanation of variances plague results. When gamer identity was constricted to neutrality or agreement, more nuanced differences in adjacent categories emerged, indicating that a difference of five weekly played hours may predict significant differences in engagement, but only when already having invested 20 hours per week.

## 7. Conclusions and discussion

It was found that the game engagement construct captured feelings of engagement in terms of two factors: Dedication and Absorption. In psychology engagement manifests with the addition of the Vigour-factor, which was consumed by Dedication and Absorption in the game engagement of r/Stopgaming. Of socioeconomic markers, education predicted differences in engagement, and of game habits, playtime also predicted engagement. A stronger sense of gamerhood was noted to show larger differences in engagement predictions with playtime, though its pattern was complex due to engagement fluctuation between categories. Game engagement had more statistical support, than the casual-hardcore design principle preference, which did not reach internal consistency, nor was its factoring advised.

The thesis has attempted to pave the way for a concept of game engagement, by a pioneering scale adapted from work-engagement theory. Gaming has been highlighted as a complicated activity in the post-modern era, with which one might be employed, engaged with leisurely or wholeheartedly disinterested in. Differences and similarities between casual and hardcore play and players were shown and most importantly conceived of as itself a form of engagement, as Hamari & Tuunanen (2017) offer.

Players and games were discussed with respect to research undertaken: games, genres and their typologies were briefly presented as well as critiqued in a review combining insight of sociological and game scholarly nature. The gamer stereotype was examined in terms of research on players and their behaviour, and then players were generally inspected in light of motivational and typological taxonomies. Competition and challenge, achievement as well as fantastical and immersionist motivations are often studied, as well as social and escapist motives. Typological taxonomies on the other hand include more detailed and concrete accounts, of which the contrast between mechanical and performative play versus immersive and narrative gameplay was held important in a postmodern context of rationality and labour, wherein play is taken at face-value as a fundamentally leisure-filled or *wasteful* activity.

The concepts of flow, immersion and engagement were considered in conjunction with each other. Games have been recognised as facilitators of flow and immersion. Flow has typically been measured in both work and leisure contexts, engagement in the former and immersion has been offered as not too far removed from the two in games. In this thesis it was suggested that flow in games may be more a matter of interacting with the game system via the

controlling apparatus to change the game state (in a manner akin to “press F to pay respect”), whereas immersion is a sensation of presence in and relating to the game world.

Through framing games as sites of work, play and leisure the engagement perspective was justified. Engagement as a form of interaction with an activity opens the possibility for leisure to be studied as engaging, similarly, to flow and immersion. These phenomena often being applied to gaming in lay contexts has been recognised, and though these concepts provide fruitful starting points, the pioneering and testing of an engagement measure was chosen.

An engagement perspective allows for its counterpart: burnout. In sociological literature *institutional* or *anomic leisure* (Gunter & Gunter 1980) have been theorised to exist, wherein leisure does not provide its namesake sensation due to social and/or institutional circumstance. In the game industry, Bulut (2015) coined the term *degradation of fun* to describe the erosion of enjoyment, when playing is ruled by labour conditions and the “logic of capital”. These experiences in *playbour* (Kücklich 2009, Kücklich 2009 in Bulut 2015 & 2018) come close to findings in burnout-related factors, such as high workload, task routinisation, role and task ambiguity and extension, as well as lack of career progression (Maslach et al. 2001, Bakker et al. 2006).

Not only those working in game development experience the imposition of rationality on games: those working virtual markets in online games have shown signs of identity struggle, let alone struggles between recreational and professional play. Play becoming subservient to aspirations of production and rationality goes against both ludological theory (Caillois 1961/2001, Huizinga 1950) and player enjoyment (Eklund & Jonsson 2012, Sudnow 1983 in Brock 2017, Brock 2017).

Degradation of fun, disengagement in leisure (whether institutional or anomic) and burnout are suggested to have conceptual link, which has been used to argue the interdisciplinary mix of theory. Engagement is canonically considered the opposite of burnout (Maslach et al. 2001, Bakker et al. 2001), which has even been suggested as the collapse of engagement.

The population for this perspective to be tested on was r/Stopgaming, a community on the social media platform Reddit. The adapted gaming engagement scale was employed for testing purposes and to see if (lack of) engagement was felt among a population with a troubled relationship with games. It was held that a motivational grip is more in the aims of the thesis, in hopes of a more elaborated and explanatory piece of understanding game

engagement. In contrast to a player typological attempt, that is. Due to the specific nature of the population (being of r/Stopgaming), the results speak mainly to its members, though others questioning their gaming might experience game engagement in similar terms.

The sample gathered was stereotypical and homogenous of gaming populations: males, educated, young. Most did not live alone, had a social life and generally experienced life satisfaction. History of playing games spanned over 10 years for most, respondents played a fair bit (2/5 over 15 weekly hours) and were engaged. Action games, like FPS and RPG were favoured.

To answer RQ2, that is whether preference for hardcore/casual game principles would make an adequate gaming commitment (according to Juul 2010) scale, an outline for casual/hardcore game design preference was operationalised. The scale was not internally consistent or factorable, in addition to leaning towards answers of casualness, indicating unidimensionality instead of a more complicated construct required to capture the experience of players. This may be a feature of the population, measurement or operationalisation, but the perspective of this thesis it seems more descriptive to write of a “casual factor” or orientation, than of hardcore versus casual in separation of one another. To answer research question 2 summarily: gaming commitment in this factorial form does not have statistical grounding.

Whether casual design principle orientation might make a scale of engagement (as lightly suggested by Hamari & Tuunanen 2017) remains unknown, though another measurement instrument may be recommendable. For the future: perhaps a more elaborate/grounded attempt at a preference measurement is warranted, as well as less specific a population would be advised. If a construct were valid, measurement of game engagement may help understand how preferences and their fulfilment associate with engagement. Though this thesis’ attempt at a casual-hardcore measurement is quite possibly the first, Juul’s (2010) outline ought to still provide a valid starting point, with the addition of more questions possibly arrived at through empirical work on player preferences.

To answer RQ1 the adapted GWS was deployed to measure game engagement in a pioneering effort. Respondents were found on average to be engaged with gaming. The scale was found to have good internal consistency (0,83) and be fit for factoring. In comparison with the original engagement construct and its three factors, only two factors emerged in the r/Stopgaming population: *Dedication* and *Absorption*. Both factors achieved meaningful

variable loadings, meaning traits of engagement to clearly belong and load on their respective factors. With this research question 1 was answered.

In praxis, the engagement construct describes its constituent respondents to be more dedicated to and absorbed by their videogames, than invigorated by them. This was witnessed in the *Vigour* components loading on the two other factors (weakly it might be added), instead of their own respective factor. A conclusion was reached: in the gathered sample the adapted game engagement construct differed from the work-related engagement construct.

This may partly be explained by the population being in hopes of ceasing or having ceased their gaming activity: a disengagement from a possible energising sensation provided by games may have occurred, leaving an awareness of their absorbing capacity and propensity to compel dedication, with insufficient returns, in their respective experience. This is somewhat supported by the *Absorption* factor predicting quitting intents by 0,25 points ( $p < 0,001$ ,  $R^2 = 0,14$ ), though only a descriptive remark - Schaufeli & Bakker (2006) warn against using Engagement-construct subdimensions in regressions.

## **Playtime**

Gamer identification correlated weakly and significantly with weekly playtime. Playtime did not interact significantly with age or education, though playtime means differed significantly between those educated at the upper secondary and bachelor's levels. With a slightly larger sample, bachelor's and master's holders would have also differed in means of playtime, as power calculations hinted. Less-educated participants were found to be different to the higher educated in the sample: the lower were more heterogenous in terms of playtime, whereas the higher spent more time playing on average.

## **Engagement**

Engagement was found to not explain much variance in models, though statistical power was reached in many cases. The more closely videogame playing was held to respondents' identity, the more engagement was found to rise.

To answer RQ3: Engagement was found to differ by education in terms of variance and means, specifically between upper secondary and bachelor's level, as well as bachelor's and

master's. Of other socioeconomic markers, engagement seemingly rose with age, though insignificantly. Education was also found to predict engagement by a per-educational level rise of 0,32 points, though with 1% explanation of variance in regressions. Interestingly, age therefore did not impact engagement in this sample, whereas the opposite was noted for education. This would point to education being of more importance in game engagement than age, though this result may be due to sampling bias as many a well-educated respondent may work in IT or related fields.

Regarding social life, findings further reinforced those of other studies: gaming does not hinder social livelihood, in this sample, or the way around.

Intriguingly engagement was not found to grow linearly in the sample per hour played. In reaching a weekly playtime of 25 hours players felt more engaged than playing very little to not at all. To account for those rejecting a sense of gamerhood, analyses also elaborated on engagement within a subset of those neutral or accepting of a sense of playerhood. The sub-population was found to experience engagement slightly differently. Differences in engagement means were discovered between more dedicated playtimes (categories spanning 25 to 40 hours). A difference of five hours per week was found to differ in engagement means and as well as predict the rise (and fall in one case) of engagement.

Taken together, those not holding games dear to them may require substantial investment increases to reap adequate increases in engagement, if playtime is low. However, those showing a committed orientation towards gaming (in terms of subjective gamerhood and hours played) showed marked differences in engagement per incremental increase in playtime. It must be kept in mind that these results are mainly descriptive, as variance explained by the regressions was low. This provides an intriguing avenue for future studies: if engagement were not to explain playtime (or vice versa) in a more general population, what would?

## **Discussion**

It must be noted that this specific population may exhibit a niche relationship with games, that may manifest in high engagement and playtime, while experiencing both as problematic and unwanted. Complex alternatives also exist, as participants may have felt more engaged in relation to their playtime, than a less specific sample of participants would, though the

opposite is possible as well. It would be reasonable to assume, that membership in a cessation-oriented community indicates a self-narrative of gaming problematisation – if not addiction. This recognition may impact game engagement negatively, though in the data it did not at the 0,05-significance level ( $p = 0,1$ ).

The contribution of this thesis has been in the conceptualisation of gaming from leisurely and labour-like starting points and both measuring and developing this perspective with game engagement. Putting forth this perspective has been grounded by appeals to burnout in and out of professional contexts in the videogame industry, ludology and research on player experiences. These views coming together prompted a need to verify whether games are to be normatively held as engaging in only popular belief, or verifiably so in actuality. In so doing, both methodological and theoretical insight has been provided.

For the future, it would be important for game engagement to be studied in a more general sample of players. An undertaking not in the span of this thesis would be to attempt to link disengagement of games with the collapse of engagement, and the hypothetical magic circle with rationalisation. A number of proposed avenues are listed.

Adopting a player-game approach and combining insights of mechanical and rational player-mindsets to games – e.g. *power levellers* as Squire & Steinkuehler (2006, in Quick et al. 2012) refer to them – with a game's fiction beginning to lose importance or being disregarded completely with repeated play (Juul 2005, pg. 139). This might be equated to burnout, or simply boredom and moving on. A more abstract approach would combine the preceding with sociological and ludological offerings.

For example, findings of playing being considered within the sphere of rationality in modern society (Eklund & Jonsson 2012), with changes in work, hobby or leisure culture would provide interesting takes. MMO-games as social rationality systems (Grimes & Feenberg 2009), intense play becoming to corrupt itself and modern game culture advocating instrumental rational approaches (Brock 2017) – all would provide cause for a delightful synthesis.

As Stebbins (2009) writes on highly engaging activities crossing into the other, whether work or leisure, perhaps instead of *spillover leisure* (Kando & Summers 1971, *ibid.*) the opposite might be suggested: *spillover work*, wherein work values corrupt values of leisure and play. Gamification has been described as the introduction of playfulness in the workplace – “playing at work” - to enhance productivity; indeed e.g. Yee (2006b) wrote of games as akin

to work and teaching to work. As Brock (2018) offers Sennett to have thought of child's play as the educator of working values, and Gelber (1999, in Cremin & Boulton 2011) offered games to draw on and recreate social values, these are held true for online gaming by Eklund & Jonsson (2012). I question whether work values have become play values, or values in general (see Fuhrer 2010, in *ibid.*). Are the values of play missing or too constraining, whereby after Gunter & Gunter (1980) play could be anomic or institutional?

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## Appendix 1 – UWES-9 transformation to GWS

<b>UWES-9 (Schaufeli &amp; Bakker 2006)</b>	<b>GWS (Stowe 2018)</b>
<b>1. At my work I feel bursting with energy</b>	1. When gaming, I feel bursting with energy
<b>2. At my job, I feel strong and vigorous</b>	2. While gaming, I feel strong and vigorous
<b>3. I am enthusiastic about my job</b>	3. I am enthusiastic about gaming
<b>4. My job inspires me</b>	4. Gaming inspires me
<b>5. When I get up in the morning, I feel like going to work</b>	5. When I get up in the morning, I feel like I am going to play videogames today
<b>6. I feel happy when I am working intensely</b>	6. I feel happy when I am gaming intensely
<b>7. I am proud of the work I do</b>	7. I am proud of the gaming that I do
<b>8. I am immersed in my work</b>	8. I am immersed in the game, when playing
<b>9. I get carried away when I am working</b>	9. I get carried away when I'm gaming