

How loot-horny are you? Personality, self-esteem and rewards in World of Warcraft

Thesis submitted as partial fulfilment for the MSc. Cyberpsychology at the

Dun Laoghaire Institute of Art, Design & Literature

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Acknowledgments

My gratitude, for their contributions during this project goes to:

~ My wife and best friend Claudia for her unconditional love;

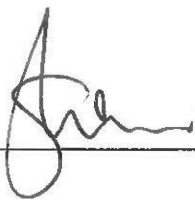
~ My supervisor Hannah Barton for her insight and advice regarding Psychology and research;
and

~ The loot-whores, ninjas and noobs in Azeroth, Outland and Northrend (on Nordrassil - EU).

**This dissertation is entirely my own work (unless referenced and stated so in the text), and
has not been previously submitted to this or any other third level institution.**

Total word count: 11,038

Signature: _____



Date: _____

27/03/2009

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Abstract

In order to study some of the effects of intrinsic rewards within MMORPGs, a correlation design study was performed to determine the relationship between introversion / extroversion and loot-horniness, self-esteem and loot-horniness and the effects of loot on player decisions and behaviour within World of Warcraft. One hundred participants completed an online questionnaire. Players with high self-esteem were more loot-horny than those with lower self-esteem. High levels of loot-horniness strongly correlated to the degree of how much loot affects player decisions and behaviour. No relationship was found between introversion / extroversion and loot-horniness. Loot as a reward mechanism within immersive environments significantly affects player behaviour and decisions within the immersive game environment. Causes of loot-horniness remains to be studied further.

Introduction

Millions of people worldwide willingly plunge themselves into digital worlds on a daily basis where they find themselves being born, dying, and reborn countless times in a world rich and varied, where they can switch between being a shadowy underdog who is admired for and excels at vileness and cunningness, a champion sword-master known for his honourable ways, a charming seductress, enchanting and enchanted, moving in and out of dimensions and genders, races and purposes, bent on overthrowing governments, collecting vast quantities of treasure of incalculable wealth, immersed in a reality which is remarkably similar to the physical reality we are all born into. Players immerse themselves in MMORPGs (Massively Multiplayer Online Role-Glaving Game) where they create and control characters called avatars.

“On our computer monitors we may be just beginning to see a reflective surface that looks increasingly like a mirror. In the virtual world that exists on the other side of the mirror’s surface we can just barely make out the form of a body that looks like us, like another self. Like Narcissus looking into the pond, we are captured by the experience of this reflection of our bodies.”
(Biocca, 1997).

According to Lewis, Weber & Bowman (2008), whilst immersed in a game universe there exists a very real, actual and tangible connection between the player and a fully functional, completely controllable avatar. This study is about how people perceive themselves online within the game universe through their avatars and how loot as intrinsic rewards affect that image, its projection and player’s behaviour. It considers loot as a significant decision and behaviour modifier and considers its negative motivations in effect as loot-horniness.

1.1. Games and the internet, a new paradigm

With the advent of distributed computing which relates to multiple computing nodes connected by networks, and more specific the Internet which brought cost-effective networking to commercial and consumer markets, came online games. The internet enabled smaller software

providers who previously relied on media distribution including the likes of CD-ROM to increasingly mass-distribute and manage products from central locations, providing up to date games in almost real-time. The internet ushered in truly shared global communities, in that players of online games simultaneously occupied a common space. Previous local boundaries were replaced with the pseudo-infinity of cyberspace; smaller communities e.g. colleagues in the office or students in university LANs (local area networks) became part of larger community-domains. With the internet and its new communities came new ways of having fun and inevitably the rules and regulations of ways of doing things, imposed on all players. Each game and community has their own rules, especially when it comes to rewards. This study considers some of the ways players may interpret these rules and its potential motivation.

MMORPGs are typically games which are installed on a player's computer. When the game is executed by players it runs the game software locally from the player's computers and periodically connects to and updates a central game server located somewhere in the real world. The central server controls what happens in the game universe as it receives requests and sends responses from millions of player computers around the world twenty four hours a day and each day of the year – in effect it acts as the central brain and database of what is happening in the game universe and its job is so to keep everyone playing the game updated at all times.

MMORPGs are persistent that continuously exist and evolve meaning that the world and events in it keep going even when players are logged off. Most MMORPGs require an internet connection to work; some provide the connection service for free but the majority requires some sort of regular subscription fee. Players can execute and access the game with a unique user account from any computer which has the game software installed.

Cole and Griffiths (2007) confirmed that games appeal to not only children and adolescents, their study on the social aspects of MMORPGs found the mean age of players to be 23.6 with 28.2% of players being over 25 years old and that although males still dominated the gaming culture (71%), a noticeable increase in female gamers seemed to be occurring. According to Yee (2002,

as cited by Steinkuehler & Williams, 2006) MMOs are played around 20 hours on average per week, with 9% of players spending more than 40 hours per week. MMORPGs are played for much longer periods of time than other types of games (Wiemer-Hastings, 2005 as cited by Smahel, Blinka & Ledabyl, 2008).

What the majority of research seems to under-emphasize is the fact that MMORPGs are more than just '*game-time*'; they are virtual worlds which extend far beyond just game servers; people remain immersed within the game beyond the time they are logged onto game servers. It is possible that a significant proportion of players spend an equal or greater amount of time in forums, boards, chat-rooms, conventions etc. relating to MMORPG activities in addition to or instead of actually playing the game due to certain limitations e.g. being at work.

1.2. World of Warcraft

WoW (World of Warcraft) is fundamentally a classic MMORPG recipe with all the fantasy genre ingredients of soloing (playing alone) or grouping whilst questing and monster hunting, discovery and adventure, secrets, puzzles and lore of all its predecessors going all the way back to the first incarnations of board games like Dungeons and Dragons and their online manifestations of text-based MUD's (multi-user dungeon) and MOO's (MUD object oriented) in the late seventies. Powerful dragons, orcs and naga warlocks met their demise by the roll of dice and the calculations of statistics, which meant that all participants shared the same physical space for the duration of the game. The internet dissolved all geographic limitations previously imposed. At any given time players from all around the globe can now log-on to project their digital-selves as avatars into a collective game universe, socializing, participating and sharing in common goals and (perhaps more importantly) common rewards.

Similar to most MMORPGs, WoW rewards are intrinsic to the game. They come in various forms and includes gems (which can be used in many different ways), mounts (which

avatars use as modes of transport), armour e.g. a cloak which can be worn by the character, a weapon e.g. a sword or something else which might significantly alter the abilities, statistics or aesthetics of an avatar permanently or temporarily introduce new skills like teleportation or augmentation of existing abilities like increased strength. Any of these rewards that can be obtained by a player is referred to within the game universe as *loot*. Some loot can be traded or sold to other players making it a valuable commodity; the most valuable loot is what is referred to as BOP (bind on pickup) meaning once a player has received the loot it can only ever belong to that player and can only effectively in terms of value either be used by the relevant player or be destroyed. This most sought-after loot can only be obtained through significant group effort, usually by killing powerful monster-bosses which require strategically complex scenarios involving up to 40 players, which introduces social dynamics; the mechanics of how loot is obtained is discussed in more detailed in the section titled *Loot-horniness and groups*. Loot exists only within the game universe which means that loot is the intrinsic reward in MMORPGs. This study considers how the rewards motivate players in positive and negative ways.

1.3. The dark side of MMORPG rewards: Loot-horniness

Like most worlds, virtual landscapes provide opportunity for risks and rewards in closely related pairs; MMORPGs seem to be no exception. Whilst immersed in these worlds, players can fall prey to dishonesty as easily as in the real world; it may even be the case that digitized environments make it harder to see those shady characters coming. One manifestation of fraud, deception and / or trickery of particular interest to this study is *loot-horniness*, the perpetrators thereof referred to as *loot-whores*. A particular participant describes their first encounter with a loot-whore:

“I felt an uncontrollable and engulfing rage. How could he, how dare he! I felt used and angry. I heard of this before, I knew it happened but never expected it to happen to me. I was light-headed and struggled to think straight. I trusted him and agreed to come along, he manipulated me from the start and he must have planned it all along. He has done this before; the thought of it filled me with horror. I had to warn others, he should not be allowed to get away with it, he had to pay!

It's only a game? Death to the depraved loot whore who stole my armour from me!"

(Anonymous player chat, 2008).

Loot-horniness (also referred to as loot-greediness) is a concept common to MMORPGs; most regular players know what the term refers to.

"The quality of WoW players just isn't what it used to be, the new "generation" of new school players are mostly loot-horny kids who got nothing but epics on their mind" (Death and taxes forum thread, 2008).

"In the same way, we hope to escape the loot greediness corruption rampant in other guilds, and remain true to our casual, social nature" (Beads for Salfa guild charter, 2008).

Horniness classically of course refers to the horns of an animal, which in a phallic context relates to an erect penis and the lust and desire associated with it (Dictionary.com, 2008). Loot-horniness being a slang word used in MMORPGs relates to a desire for loot. Loot-horniness itself as a definition does not exist in any game manual, it also does not appear on any of the formal game rules; it is a term coined by the gaming community and part of the language that developed within the gaming community along other social concepts like guilds, raids etc. hence the term can only really be found within most community resources like forums, blogs, sites, newsletters, newsgroups etc. Loot-horniness may be a significant influence on player behaviour in that the effort involved in obtaining loot requires equally significant effort and general social interaction. This study will attempt to ascertain whether loot-horniness correlates to a specific personality type and self-esteem by measuring the possibility that the desire for loot could significantly motivate players to deviate from acceptable norms.

1.4. MMORPG motivation and rewards

After having spent a significant amount of time immersed within Sony Online's MMORPG called EverQuest, Taylor (2006) questions the meaning of '*fun*' in that the idea of fun may have different meanings for different players. Loot-horniness may be seen as fun by some players, it may also mean that the meaning of loot-horniness may be significantly different to

most players. Taylor (2006) distinguishes between casual and hardcore gamers; the distinction primarily based on variables like amount of time and effort players invest, how seriously they take the game universe and how much of a life players have outside of the game universe. It may be that the roots of loot-horniness lie with these power gamers in that they were the first loot-horny players.

“Having roots in tabletop role-playing, these designations are given to players seen as perverting a pure game space by distorting some aspect of the play (too much hack-and-slash, loot greediness, and underdeveloped characters) or by taking advantage of the game design itself (through loopholes and actions not intended in the system but nonetheless not prohibited)”
(Taylor, 2006).

Loot-horniness itself seems like a form of online gratification in its tendency as a fulfilment of a desire for loot and an eventual and inevitable form of reward. If the reward is inevitable then it introduces a time variable in that it would only be a matter of time before a player receives a reward of some kind.

Lepper, Greene and Nisbett (1973, as cited by Hogg & Vaughan, 2005) found during a study that nursery-school children drawing pictures with felt tip pens who had been rewarded spent half as much time actually drawing unlike the rest of the children, who had not been rewarded. Condry (1977, as cited by Hogg et al., 2005) suggests that it is rewards in itself that control antisocial behaviour. It may be the case that when immersed in an online environment that intrinsic rewards have no significant impact on player behaviour at all.

Most people, when faced with a choice of reward will succumb to either immediate or delayed gratification, based on the fact that immediate reinforcement brings a smaller reward as opposed to a delayed but larger one (Bandura & Mischel, 1965). They found during a study that children’s gratification delay behaviour was significantly affected by previously observing adult gratification behaviour. It is possible that players act out this behaviour online in a similar way in that they make a binary choice to either go for loot or not, because of the affect of this delay

variable. Observation may also affect online behaviour in that certain ways of dealing with loot may be a social norm e.g. a certain group / guild may decide who gets what rewards, regardless of whether members consider it fair which may have a lasting effect on some players.

1.5. Loot-horniness and groups

Loot in the game universe is always colour-coded; the colour signifies the value and availability of the item. Ways by which loot can be obtained in the game universe include purchasing from vendors or other players, completing *quests*, killing *mobs* (mobile units, usually monsters of some sorts), gathering resources like herbing, skinning or mining and other activities. This study focuses on epic loot (purples) which primarily comes from group endeavours called parties or raids and tends to involve killing a powerful boss. After a large group effort a cinematic scene usually plays itself out in which the boss perishes and grants epic loot as the reward. Loot is then distributed by a virtual dice rolling system. All players taking part in the party / raid are presented with an option to perform a random dice-roll; the highest number rolled receives the loot.

Table 1 – Loot classification (Blizzard.com, 2008)

<u>Colour</u>	<u>Value in the game universe</u>	<u>Availability in the game universe</u>
Grey	Almost worthless	Almost everywhere
White	Common - low value	Easy to find
Green	Uncommon - valuable	Can be hard to find
Blue	Rare - very valuable	Very hard to find
Purple	<i>Epic – extremely valuable</i>	Raid-boss encounters mostly
Orange	<i>Legendary</i>	Few items per server realm

The aspect which makes the above process such an interesting activity and suitable for this study lies in the fact that groups and raids require a significant aspect of social collaboration, skill, organization, a combination of team-work and individual effort and also a bit of luck. A typical group effort usually involves at least 5 players (a standard party size) and up to 25 players (a standard raid size); a boss usually drops at least 1 or up to 4 pieces of random loot meaning that there is no predictive certainty of specific loot. Most loot is always only usable by certain players based on class, race, profession or other variable e.g. a mage class can only ever wear armour made from cloth, so if a boss grants armour made from leather, the loot would be worthless in terms of usage to the mage avatar. If a loot item is usable by more than one character in the party / raid e.g. both warriors and rogues use swords that do a lot of damage, then only one character will receive the loot based on the dice rolled, this automatically creates competition. These mechanics are all true for World of Warcraft and most other MMORPGs, in that's just the way the game works. The implementation of these rules is left up to groups themselves to enforce.

1.5.1. Guilds

Guilds are social organisations of choice by players within the game universe which usually extend beyond the boundaries of cyberspace where members are often real life friends. Guilds tend to impose common goals and objectives of different natures on its members who operate under a hierarchy of control and power enforced by guild officers who in turn answers to a single guild master. Williams, Ducheneaut, Xiong, Yee & Nickell (2006) refer to guilds as having either '*tree house*' atmosphere which tends to be relaxed with low-centrality members as opposed to a '*barracks*' atmosphere which is more structured and hierarchical and tend to foster more high-centrality members – the centrality being the degree of social experience had by the members.

Sociologically, players are either members of a guild or not. The most sought after loot can only be obtained in groups but it may also be true that players that become and remain

members of guilds believe in external locus of control. Locus of control relates to one's beliefs regarding behaviour and subsequent rewards or punishment (Morris, 1979 as cited by Chak & Leung, 2004), which effectively renders gratification in the hands of others. Most guilds have rules regarding general behaviour, etiquette, attitude, loot etc. whilst being online within the game or when participating in community resources. An important aspect of any community or organization is loyalty, of which the lifecycle seems to have three possible stages. During the possible initial installation stage; according to Nuwer (1999, as cited by Honeycutt, 2005) elite members sometimes use degradation, subjugating to and referring to newcomers in derogatory terms as a means to instil loyalty, typically seen in fraternities and sororities. Yee (2006) considers group loyalty and cohesion a leader or administrative type task which means that the second stage might be a continual reinforcement of loyalty by the leader figures within communities. The third phase (more relevant to this study) comes into play when loyalty previously gained is lost, either gradually or abruptly which could be a result of replacement when new alliances formed, a case of grudging where someone feels they have been betrayed or other forms. Ramzy & Bryant (1962, as cited by Honeycutt, 2005) states that some might endure an ongoing and indefinite amount of harassment in order to gain future rewards, which implies potential loot-horniness. Loot-horniness might be closely related to a loss of loyalty. Some players may have a low interest or tolerance level for loyalty due to low interest in group affiliations.

Loot related group encounters are demanding activities requiring hours of strategic thinking, problem solving and social interaction; loot-horniness within that group dynamic is a deviation of normal game-play etiquette and comes into play when a player character obtains loot when they shouldn't e.g. an epic mace item drops from a boss, the item has healing statistics meaning it would be suitable for healer classes like a priest or shaman; and a warlock class character rolls and wins the item. Loot-horniness is usually dealt within the group, with the guild officers making decisions and a guild master having the final say. Having previously established a basic concept of the meaning of loot-horniness to be a desire for loot, and having now considered group and social dynamics, it makes sense to further define loot-horniness as the

desire for loot which causes acts of obtaining loot through some form of deception which results in unnecessary and unauthorized individual player gain at the cost of other players. Can it be that for some players the presence of absence of certain rules and / or punishment in itself acts as motivators?

This study attempts to establish some clarity regarding what types of players manifest loot-horny behaviour online and how it affects behaviour and decisions. There seems to be a possible correlation between loot-horniness and social deviancy of some description. It may be the case that *loot-whores* (loot-horny players) experience social difficulties offline or that they are of a specific personality type in real life. The next section considers self-concept online and in the context of World of Warcraft.

2. Self-concept and World of Warcraft

Spencer & Sedikides (2007) describe self-concept as to “*consist of all that we know about ourselves, including things such as name, race, likes, dislikes, beliefs, values and even whether we possess certain personality traits*”. So in a way, what we know about ourselves can almost be described as reflective consciousness, which again conjures up the study’s opening statement concept of the mirror image and how people increasingly project themselves online as a reflection based on self-concept and their resultant behaviour due to their personalities.

2.1. Character classes: roles as archetypes within the context of cyberspace

World of Warcraft relies on a number of powerful archetypes, typically found in the fantasy / science fiction genre, which includes the likes of elves, dwarves, trolls and ogres with humans in or near the centre of a world-stage. The paths through which players connect to these archetypes is the mechanics of becoming these archetypes by means of classes or dedications like being hunters, warriors, priests, mages etc. Considering that almost all MMORPGs have a

popular role-playing aspect where players immerse themselves in the game universe whilst being 'in character' it is possible that some players act out what they feel is in accordance to those archetypes, and can so argue that it's in their character's nature to act a certain way. Warriors can be tough and mean and are looked upon to fight for the cause of the weaker so them being harsh about loot comes natural to them. Rogues are thief-like and tend to live by the poison dagger, therefore obtaining loot through cunning and malice is to be expected from them. According to Taylor (2006), Bartle (1996) segregates types of players into achievers, explorers, socializers and imposers, while such distinctions often are overstated as complete archetypes, it is worth exploring different styles of play. The Bartle Test remains one of the most well known and significant MMORPG player measures, in that it has as of July 2007 been taken by more than 300,000 players. The test attempts to classify players into categories based on their gaming preferences with a total of 200 % amongst all categories such that no category exceeds 100%; the result being the '*Bartle Quotient*'. Loot may be a significant modifier of the Bartle quotient. According to Jung, archetypes are complex thought forms which can be conjectured as the unconscious organizers of our ideas (Jung, 1970). Do players somehow inherit intrinsic tendencies from these archetypes and in connection to a sort of collective subconscious they tap into those underlying ideas which influence their behaviour? This study is about how people see themselves online in comparison to in the real world and how much players believe that loot would augment their online selves, and in doing so possibly augmenting themselves in the real world.

Barbatsis & Hansen (1999) describe cyberspace as an internal reference to a conceptualized sense of "being there", *there* being in the space beyond the screen where there exists an interplay of positive (things with substance) and negative (empty space) volume. Space and non-space both in a logical sense usually relates to demarcated areas between obvious boundaries; cyberspace on the other hand has much less obvious boundaries and is open to psychological interpretation by the user and the tools at hand like applications and technologies. Considering the vastness of cyberspace, it is possible that some players may have difficulty accepting that any of it is real and that therefore no one (player) has any real right to any part of

it, including and especially loot, which in effect would render themselves unaccountable for any related actions!

“Chill dude! it’s all just pretty pixels ffs!” (Anon player comments during an in-game chat on a guild channel about a loot-related incident).

2.2. *Personality*

Personality involves multiple aspects but it can be loosely referred to as a sort of matrix of traits, characteristics and conditions of being a person at a given time. Personality may or may not influence the way players behave online. Although some measures exist that quantifies personality types like the Myers-Briggs Type Indicator (MBTI, 1998) this study is about how personality is reflected online, specifically considering the group dynamics involved in obtaining loot as previously discussed, and how much players are aware of their personality traits whilst being online.

2.2.1. *Introversion and extroversion*

Extroversion is a communications-related trait (Kraut, Kiesler, Boneva, Cummings, Helgeson, Crawford, 2002 as cited by Spitzberg, 2006). Kavanaugh, Carroll, Rosson, Zin, Reese (2005) states that social contact, community engagement and attachment are reinforced within extroverts. It looks like extroversion could be seen to be a tendency of concern with what is external or outside oneself, introversion being the opposite, relating to a more internal concern. If this is true then it seems introverts have little to profit from being online as the act of logging is inherently an externalization of oneself, projecting oneself into cyberspace? On the contrary, McKenna, Green & Gleason (2002) propose that introverts tend to gain more online in terms of sociality than extroverts due to the fact that anonymity allows introverts to compensate for personality related challenges. Amichai-Hamburger, Wainapel & Fox (2002) found that introverts located their ‘*real me*’ on the internet as opposed to extroverts who achieved the same through more traditional social interaction. The expression of this ‘*real me*’ is a crucial aspect of

life; not doing so tends to result in serious psychological disorders (Rogers 1952, as cited by Amichai-Hamburger et al., 2002). Players may be more introvert in real life and extrovert online or personality types offline and online may be directly related; what is of interest in this study is how offline personality translates to online personality and how subsequent online behaviour manifest especially in relation to rewards or more specifically loot. Also of interest is the degree of importance players rate loot and how far they would go to obtain loot, even if it involves disregarding other players.

Some players are often so outgoing and dynamic - which are traits traditionally more associated with extroverts that they can appear to be blatantly disregarding other players; a showing of emotion or the lack of emotion online can be very real and in your character's face – pun intended. Despite the availability of an array of emotes, which includes the usage of text elements to convey emotional payloads like :) which shows a sideways smiley face as well as game universe message like /bow which could result in the player character making a bowing gesture as well as a message displayed that states that the character is bowing; player character faces still do not really convey any of the intended meaning of human emotions in a detailed or realistic manner. Sproull, Subramani, Kiesler, Walker & Waters (1996) as cited by Nowak (2004) found that an interactive talking face caused modified behaviour in people. It is possible that the less avatar's resemble human beings, and potentially further aggravated by extreme online extrovert type behaviour, the more likely player behaviour is to deviate (or seen to be deviating) from what can be termed normal or acceptable. Bargh, McKenna, & Fitzsimons (2002, as cited by Ellison, Heino, & Gibbs, 2006) found Internet interactions enabled users to express aspects of themselves that they were unable to express in face-to-face interactions; so it may be that due to the absence of human faces players find it easier to behave in certain ways online. According to Walther & Parks (2002, as cited by Ellison et al., 2006) the connection between self-reported online personas and offline aspects are less certain than face-to-face situations.

It may of course also be the case that some players are actually not really interested in any loot, but only in the result of being loot-horny i.e. the attention and focus or as an act of defiance with a simple nihilistic mindset of *oh well if I can't have it then you can't have it either*, or even over-competitiveness going out of control. It may even be that some players are so outgoing and extrovert online that their self-focus are enhanced to the point that they literally lose themselves in their online personas. Having considered a backdrop for a version of the *self* within cyberspace, what still remains unclear is how players *apply* the way they *see* themselves within cyberspace; through their avatar(s).

2.3. Personality and avatars

Role playing games (the RPG in MMORPG) are designed to be immersive. According to Lewis et al. (2008) a significant purpose of RPG's is to let players immerse themselves not only in the game universe but also in the psyche of their characters, where unlike in other character-driven entertainment players in RPGs experience '*character attachment*' - an internalization and psychological merging of the minds of the player and the character. It makes sense then to consider that players select and play a certain character based on multiple factors including personality types and traits.

"Much like my offline personality I was more inclined to pick a character that would let me hang back in the shadows and be somewhat self-sufficient. My choice certainly fit my personality and in that regard probably kept me playing, but it did have downsides." (Taylor, 2006).

If a character choice can be based on personality then it is likely that character behaviour is also directly related to player behaviour and vice versa. According to Taylor (2006) there is little distinction between how people make sense of their experiences and who they are offline and online. Turkle (1996) refers to a correlation between offline and online identities; he describes how players cycle through roles and identities almost seamlessly. Similar to the way computer users have multiple application windows open on their computer desktops, where they can seamlessly multitask and where buzzwords like *virtualisation*, *threads* and *parallel*

workflows have come to describe the transitions of many things all happening at once, users are able to assume, swap and morph into different personalities and identities at will. Computer mediated communication enabled users are able to communicate in an enormous array of ways; internet chat, telephony, whiteboards, forums, internet messaging and email are channels which can all be active at the same time, and with each channel there are few limits on the depth and dimension of identities users are able to assume. Avatars provide players with an equal opportunity to create, explore and redefine identities and personalities seamlessly.

Reflexive thought allows one to think about oneself thinking. Higgins' (1987, as cited by Hogg et al., 2005) self-discrepancy theory suggests different types of self-schema, namely the actual (how we currently are), the ideal (how we would like to be) and the ought (our perception of how we should be). Actual-ideal discrepancies cause dejection-related emotions like disappointment and sadness, mitigated through a self goal-prevention like mechanism. Player effort and reward dynamics may be based around a similar goal based process in that a player's behaviour is always a variation between an actual, ideal and ought concept of how to behave. MMORPGs provide the means for continuous evolution and augmentation which might result in a constant shift in player perception of their created self in a world full of avatars where 'anything goes'. There are no guidelines in any game manuals regarding '*the how*' when it comes to behaviour. Without any prescribed race or class-based rules and codes of conduct, it is up to players to act out their own ideas and ideals as they see fit within a larger context, culture, events and sociological structure.

Some players may be completely unaware that they are loot-horny; their actions may be a result of a specific environment relating to pressure, mood, presence or absence of an audience, peers, competition or just a general group collective norm or practice. According to Prentice-Dunn & Rogers (as cited by Gackenbach, 1998) Le Bon argues that the latter can lead to submergence, a state of total absence or diminished behavioural constraints. This process of deindividuation could also be caused firstly by a reduction in accountability e.g. anonymity due

to the membership of a group and secondly by a reduced self-awareness including less self-regulation. In addition to temporarily '*losing themselves*' players may experience a loss of time. MacKinnon (1995 as cited by Ellison et al., 2006) found it common practice amongst Usenet participants to forget about the relationship between actual identities and online personae. If a loss of personality, time and constraints can occur in an immersive environment, it is possible that perception of normal etiquette and norms could degenerate significantly to the point where a new set of values are adopted. Considering such a process brings to mind Golding's portrayal of a similar phenomenon explored in the novel and subsequent film *Lord of the Flies* (Golding, 2002).

"Self-presence is defined as users' mental model of themselves inside the virtual world, but especially differences in self-presence due to the short term or long term effect of virtual environment on the perception of one's body (i.e., body schema or body image), physiological states, emotional states, perceived traits, and identity. Self-presence refers to the effect of embodiment in the virtual environment on mental models of the self, especially when that model of the self is foregrounded or made salient. As with other forms of presence, designers share the assumption that increases in self-presence are correlated with higher levels of cognitive performance, and, possibly, emotional development. In the words of Socrates, the goal to "know thyself" is a worthy journey -- it may be the only journey!" (Biocca, 1997).

Maddi (1996) describes self-identity as a set of ideas used to define one-self. It may be that players focus on loot as a means to establish an online identity and see the increase of loot as an increase in self-worth, online. This may be an ongoing act of online compensation for a lack of something offline. By appearing superior to others, players may feel that they might gain a certain level of respect from other players which would make them feel more valued, thereby increasing their chances to be included in social aspects of the game universe like raiding or other group activities which in turn increases their chance of more loot and gratification. In addition to the feeling of self-worth this might grant the added extra of being helpful and useful to other players which is probably a lesser priority as loot-horniness doesn't seem to fundamentally be altruistic in any sense. This study is about how users manifest themselves

online through avatars, and how loot affects user perception in terms of how it changes the way players feel about themselves.

3. Self-esteem and World of Warcraft

Self esteem is probably one of the most well researched traits in psychology; the area of interest to this study is the construal of online self-presentation aspects of self-esteem which relates to how people put forward a specific online social image. For most but the most mundane of tasks in most MMORPGs teamwork is needed, making self-presentation almost as important and fundamental online within the game universe as it is offline in the physical world. Vohs, Baumeister, and Ciarocco (2005, as cited by Spencer et al., 2007) found during an experiment that the effectiveness of presentation i.e. how well participants represented themselves had a significant influence on their abilities to deal with certain problems, in this case of a mathematical nature. They also found a correlation between self-presentation and self-regulation in that self-control can lead inappropriate impression management behaviour. An either low or high self-esteem may have a significant effect on player behaviour online. This study considers a correlation between a certain amount of self-esteem and loot-horniness.

3.1. The perceived online self

Through being an avatar players are able to express themselves and their fantasies, urges, desires etc. Freud (1999) refers to dreams as repressed desires so playing a beautiful female night-elf character may enable players direct access to an intrinsic reward in itself. The ability to *be* may be the actual reward with subsequent and ongoing augmentation of the player-character through rewards and loot as a re-enforcement of the archetype or original idea of the reward. For example, a certain player in the real world has a low self-esteem due to her physical appearance, being short and of a tanned complexion, so as a result of her own low self-esteem she creates as her main character a female night-elf because night-elves are tall and slender. The player specifically gives her avatar a lighter skin tone as she associates fair skin to be beautiful.

Additionally the only part of her body the player feels positive about is also reflected in the character which is her long hair. Through the avatar the ability to *become* the character is the original reward to this player, within the game universe she can be the confident, strong and beautiful warrior-women she might like to be in the real world. It is possible that recurrence of obtainment of loot and rewards she aims in the game universe are re-affirmations of the real reward, every time she gets loot it re-enforces in her that feeling of being able to be who she wants to be.

Questionable behaviour does not necessarily denote either low or high self esteem. Baumeister, Smart and Boden (1996) found that violence was often associated with a high self-esteem, manifested in eruptions when self-images are challenged. As the majority of rewards in the game universe involve physical aspects of players' characters for example armour or weapons, character attributes are direct reflections of player experience, knowledge and general savvy. The more exotic, valuable and harder an item is to come by, the more over-the-top the item is in terms of not only physical and aesthetic aspects like dimensions, colours, intricate design, special effects but also in statistics, so it does make one's avatar better, and so it comes down to numbers. A legendary item like a sword might be almost twice the size of the avatar, which really makes the avatar stand out from others – it seems that in some MMORPGs size really does matter. A significant and popular part of most MMORPGs is PVP (player vs. player) as opposed to PVE (player vs. environment) game playing. In the former, characters compete against each other and reward-dynamics are based on duels, in that players defeat each other in combat. The latter relates more to players playing against the game universe AI (artificial intelligence). PVP play is a much faster and intense short style of play and many ways similar to the ancient Japanese samurai who would initiate a showdown of swordsmanship by a certain *stance* in which the objective was to dominate the opponent by means of a passive superior aggressive equipment and body arrangement prior to engaging in the actual active movement of swords. Players able to rapidly identify the abilities, skills, tools, experience and knowhow of opponents just by means of a quick glance at their armour would always have a distinct advantage over their opponents and almost always dominate altercations; unless both sides are

particularly skilled, most fights are over in under a minute. Duels rely equally on skills and state of mind. It is possible that a certain type of play style like PVP requires a certain level of self-esteem or that players with a certain amount of self-esteem excel at certain types of online conflicts.

Bessière, Seay & Kiesler (2007) found during their study of perceived identity in World of Warcraft that a significant sample of participants rated their character having more favourable traits than they had themselves, and that players create their main character closer to their idea of their ideal self than the players themselves are, with players feeling strongly connected to their characters. What their study does not consider is which side of the looking glass inherited traits from which, meaning that there exists the possibility that players might inherit certain traits from their avatars. Players with low self-esteem might create avatars with traits that they themselves might find desirable e.g. beauty or strength, so in that case the creator could inherit attributes from the avatar in that the player tries to become or to be more like the avatar. It is also possible that over time a player can permanently take onboard some of the avatars traits, thereby imitating and inheriting from the game universe. A visit to any gameCON (Blizzconn, 2008) where players and game stakeholders casually meet in real life, clearly shows instances of players inheriting avatar behaviours with people turning up dressed as avatars or game universe NPCs (non player character), acting out character-type behaviours like dances and gestures etc. A certain amount of self-esteem may relate to a certain level of loot-horniness in that certain players may have strong attachments to their avatars; improving their avatars may augment the way they feel. This study sets out to measure the extent of how players see themselves in relation to their avatars within the context of rewards.

3.2. The presentation of the online self

The game universe provides players with the increased means to control their self-presentation, which also means that users have the ability and the means to deceive (Cornwell & Lundgren, 2001 as cited by Ellison et al., 2006). The advent of CMC has certainly provided the

means for more online stealth which can be a positive as well as a negative thing. Turkle (1996) found that immersion in virtual worlds and the ability to misrepresent oneself can be therapeutic, and that immersion in virtual reality and role-playing is conducive to the expansion of players emotional range. The fact that total anonymity is possible online means that players can choose how much of themselves they reveal within the game universe. This is positive in terms of personal safety but negative in terms of deviant behaviour. Identity deception online is broad in scope and a common concern (Bowker & Tuffin, 2003 as cited by Ellison et al., 2006). Motivations for online deception include psychiatric illness, identity play and expression of the true self (Joinson & Dietz-Uhler, 2002 as cited by Caspy & Gorsky, 2006). Another motivation for online deception is exploration of the self (Turkle, 1995 as cited by Caspy et al. 2006) and yet another is for personal safety reasons (Whitty & Gavin, 2001, as cited by Caspy et al. 2006).

Players may be able to hide in the safety of their homes and other places they are logging on from, from behind avatars but there are increasingly more and more tools to research, track and investigate avatars and their associated history. Websites exist in official capacities as well as unofficial, the former type would be sites provided and maintained by the owner of the software and the latter pertaining to sites set up by fans and players. Such sites may show avatar statistics i.e. the abilities and equipment an avatar is using (Blizzard Armory, 2008), an avatar history in terms of the names and duration avatars have been in previous and current guilds (Warcraft Realms, 2008) as well as guild forums and sites where players discuss avatars openly on public forums. There may be a hidden incentive in the publication of information about players that relates to deviant behaviour like loot-horniness, in the form of reputation. Rogue tradesmen are referred to as '*cowboys*' and are notorious for botching up jobs and then running off with payment. The World Wide Web is sometimes referred to the Wild West Web. Ironically Barlow (1990, as cited by Danet, Ruedenberg-Wright & Rosenbaum-Tamari, 1997) compares cyberspace with the wild-west, and its inhabitants as potentially sociopathological, solitary and independent, where new ideas and outlaws have equal chance to flourish and regenerate.

“We adopt a qualitative, textual, and micro-sociolinguistic approach, drawing on work in discourse analysis, the study of orality and literacy, and the anthropology of play and

performance. In all play there is reduced accountability for action. In the material world, masks and costumes at carnival time liberate participants; here, the ephemeral, non-material medium, the typed text, and the use of nicknames provide the mask.” (Danet, Ruedenberg-Wright & Rosenbaum-Tamari, 1997)

It is possible that some players choose to live these cowboy lifestyles by choice, in that they enjoy being outlaws and renegades and that the reputation of being a loot-whore or potentially ostracized outweighs any of the positive aspects of doing what is generally considered right by the majority of the game-universe population. Maybe the will to be the weirdest, most powerful, beautiful or best online has become as hard as being successful in the real world, and over time:

“it can leave some with the feeling that they simply cannot keep up, cannot compete, can never be satisfied. It is not unusual to hear some players express a sense of disillusionment with the acquisitive nature of the game and the amount of time and toil it takes to participate” (Taylor, 2006).

This study will consider the possibilities that loot-horniness and self-esteem are closely related in that player decisions and behaviours reflect what players think and belief of themselves online.

4. The research

MMORPGs are increasingly becoming a significant part of people’s lives. With over 10 million subscribers (Blizzard Entertainment, 2008) which in terms of population is roughly equal to half the size of Australia. In addition to World of Warcraft being the biggest MMORPG ever, Mythic Entertainment and GOA recently launched what is probably the most anticipated MMORPG called Warhammer Online: Age of Reckoning.

“A total of 400 jobs are being created in Dublin following the arrival of an internet games company. GOA announced yesterday it is setting up a multilingual support centre in the capital.”
(Metro, 2008)

There exist roughly around 10 major MMORPGs and another 15 minor ones; no study has attempted to measure the exact number of players across all the MMORPGs publicly in operation. Loot is an important part of MMORPGs, it may be the sole reason some players log-on. Loot may have been the reason players join and leave guilds, make and lost friends, change the way players play the game, start and stop playing games, and even made bigger life-changing decisions. Loot-horniness as a form of online gratification may be a significant key in further understanding some of the online aspects of behaviours including addiction, aggression, deception, avarice, greed, narcissism, depression, bullying and others. MMORPGs are big business and a growing phenomenon with newer titles like the World of Warcraft’s latest expansion called Wrath of the Lich King which had recently arrived in stores across the globe.

Although loot is an intrinsic reward, players are actually spending real world money on game-related aspects. Other than a monthly subscription fee, some players are actually ‘*buying gold*’; to gain certain advantages within the game universe. Sites like eBay and others actually sell WoW-gold with some web sites even selling user accounts (Warcraftloot.net, 2008). There seems to be a gap in the research done in the area of rewards in MMORPGs. This study sets out to fill that gap and measure the effect of loot, in the context of three main hypotheses.

H1. Extroverts are more loot-horny than introverts

Introversion / extroversion will be measured by means of McCroskey’s Introversion Scale (McCroskey, 2008). The scale asks questions about how much players enjoy social aspects, how it affects mood and interaction with others etc. The scale is particularly relevant and useful for the study in that it puts emphasis on communication which McCroskey previously

found to be significant, the communication aspect being of fundamental importance in this research. The measure appears to be commonly used, yet perhaps less reliable and valid than the BTSA (Benziger Thinking Styles Assessment) which considers four thinking styles in relation to a continuum of introversion / extroversion which is of less relevancy and interest to the study.

H2. Players with high self-esteem are more loot-horny than those with low self-esteem

Self-esteem will be measured by the Rosenberg's Self-Esteem scale (Rosenberg, 1965). This measure relates to players self-esteem, how they see themselves within the context of the game universe. The scales asks questions that require self-comparison in terms of self-satisfaction, self-qualities, pride, usefulness etc. which makes it applicable and relevant to the study in that players compete for loot within social events and dynamics, affecting and affected by others. The Rosenberg Self-Esteem scale is a valid and reliable measure (Buros, 2006).

H3. High-levels of loot-horniness relate to high levels of loot behaviour and decisions

The created loot-horniness questionnaire contains scales pertaining to behaviour and decisions which would be considered as a value against levels loot-horniness. No existing measures were found that related to MMORPG rewards. Loot-horniness will be measured by using a subset of game universe related questions based on the authors' general game knowledge and experience gained over four years of online gaming. The measure will include general questions about rewards.

Methodology

1. Design

This study is a correlation study focussing on the relationships between introversion / extroversion and self-esteem respectively and loot-horniness. A quantitative methodology was used via an online questionnaire which provided close-ended and specific information as opposed to more open-ended qualitative processes. The former method provides a means to classify and count statistical models in an attempt to explain loot related behaviour, rather than aiming for a complete and detailed description of all the aspects involved. The questionnaire is made up out of eighty questions. McCroskey's Introversion Scale (McCroskey.com, 2008) uses an eighteen point Likert scale; an example question of "I am sometimes bubbling over with energy and sometimes very sluggish" is scored as 1 for *strongly disagree* to 5 for *strongly agree*. The final scores as the degree of introversion is the sum of ((12 – Total from step 1) + Total from Step 2). Rosenberg's Self-Esteem scale (Rosenberg, 1965) uses a ten point Likert scale; an example question of "I feel that I have a number of good qualities" is scored as 3 for *strongly agree* to 0 for *strongly disagree*. The final scores are calculated as the degree of self-esteem. Loot-horniness will be measured with a loot-horniness scale that was created specifically for the purpose of the study; an example question of "I will roll on loot regardless whether someone else might benefit from it more" is scored as 0 for *strongly disagree* to 5 for *strongly agree*. The final scores are calculated as the degree of loot-horniness. See Appendix E for information on the full scoring of the loot-horniness scales.

2. Participants

MMORPGs typically provide a rich culture with deep rooted CMC traditions. Participants for online gaming related research can be successfully facilitated with a reasonably small amount of effort from sources including game universe channels, public blogs, forums, guild web sites etc. which are all continuous and direct access to community resource pools.

The online survey sample consisted of participants aged between 18 and 53 from 26 countries out of which the majority were participants from the UK with most participants having played MMORPGs for 3 to 4 years. Participants could complete the questionnaire without any time-limit or compulsory-question limitations imposed. The focus of the study being loot-horniness was noted on the first page of the questionnaire; the survey assumed (but did not require) participants to have had a degree of MMORPG knowledge or experience. Although the survey was designed for and with the *power-gamer / hardcore* players as its main participants, clarification was provided on the meaning of game-specific terminology for the benefit of the lesser experienced player. The majority types of players who would have an interest in participating were expected to be raiders who spent the majority of their time raiding with a vested interest in loot; this is not to say that all raiders are significantly interested in loot, that raiders are more interested in loot than non-raiders or that only raiders are interested in loot; but merely considers raiding itself a loot-centric activity. The questionnaire was freely accessible to anyone with no constraints imposed on the population sample. The number of participants was undefined considering the online nature of the questionnaire and that a link to the questionnaire would be broadcasted in the major cities in the game universe. At least 50 participants were required to complete the questionnaire.

3. Materials and apparatus

A World of Warcraft user account was used which can be created when a copy of the game software is purchased, as the means through-which to access the game universe. The questionnaire (see Appendix D for full questionnaire) was made available online via the popular public survey publisher surveymonkey.com. The questionnaire was first used in the pilot-study where ten participants were asked to complete the survey and supply feedback. The feedback was used to test whether the questionnaire worked as expected, and then to assess and modify the questionnaire in terms of its usability, clarity and relevancy. Some of the modifications involved clarifying and simplifying certain game universe specific terminology, substituting certain words with others with clearer meaning and general readability and flow. Once the amendments were

made the questionnaire was made available online and participants were invited to participate in their own time. Data was analyzed using SPSS v17.0.

4. Procedure

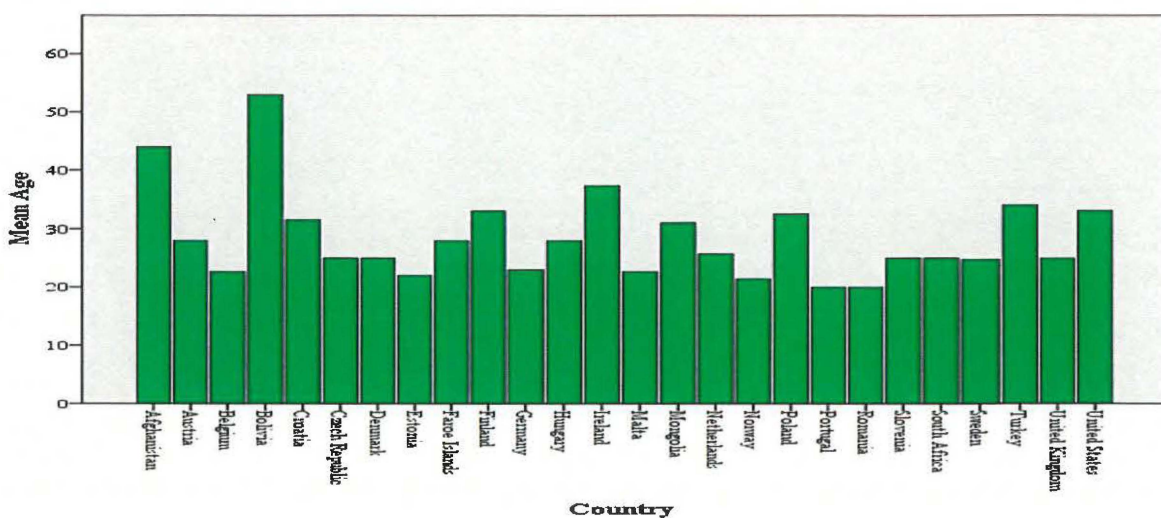
Participants were informed that participation was voluntary and that they could opt out at any time with their data automatically deleted (see Appendix B for participant consent form). Upon reaching the end of the survey participants were automatically presented with an appropriate debrief page (see Appendix C for participant debrief form). Attempts at repeated survey participation from the same IP address was automatically prevented meaning a particular participant could only complete a survey once. During the analysis of the data, participant data with less than 50% data, and data collected from participants under the age of 18 was rejected and excluded from analysis. The questionnaire was made available online for a set duration of time. A link to the online questionnaire was sent as both a clickable link and as a clear and readable text link via email to multiple recipients including newsgroups, guild-members, game-related website mail-lists, and game-related contacts. A link to the questionnaire was published within the game itself by means of a number of clear-text messages broadcasted in the general channel of some of the major cities, which is usually where the highest concentration of players tends to congregate. All players in the game universe see general channel messages pop up in their chat windows which is an area of the game GUI. A link to the questionnaire was also posted on a number of WoW related forums and websites.

Results

Due to a lack of research and data analysis experience of the author, the “five questions to ask yourself” (Field & Hole, 2004) was used in order that the correct test and measures are utilised. A) The kind of data collected was scores which included nominal, ordinal and interval type scale data. B) Three dependent variables used included self-esteem, introversion / extroversion and loot-horniness. C) In terms of the design used; the relationship between the dependent variables was the focus. D) All participants were exposed to all parts of the study so the measures were of type repeated. E) In terms of the data’s parametric-ness, initial analysis has shown the data to be reasonably parametric.

Participant ranged between 18 and 53 ($M = 25.95$, $SD = 7.25$) of age. The highest concentrations of participant age were 20 (11%) and 21 years of age (7%). The distribution of participants over 26 countries indicated that the majority to be from the United Kingdom (32%) Sweden (12%); countries represented Europe, United States, The Far East and Africa. The distribution of participant by country shown in figure 1 presents the mean age to be more or less evenly distributed across the twenty eight cultures represented in the study.

FIGURE 1 – Distribution of participant age and countries of origin



The study was aimed at participants who spent a significant amount of time within the game universe. Table 1 shows that the majority of participants consider themselves as hardcore players (25%), or as raiders (23%). The majority of the participant has the most experience playing WoW. Table 2 shows what 62% of participants have played for three to four years with an additional 18% played for five years.

TABLE 1 – Participation time and activity focus

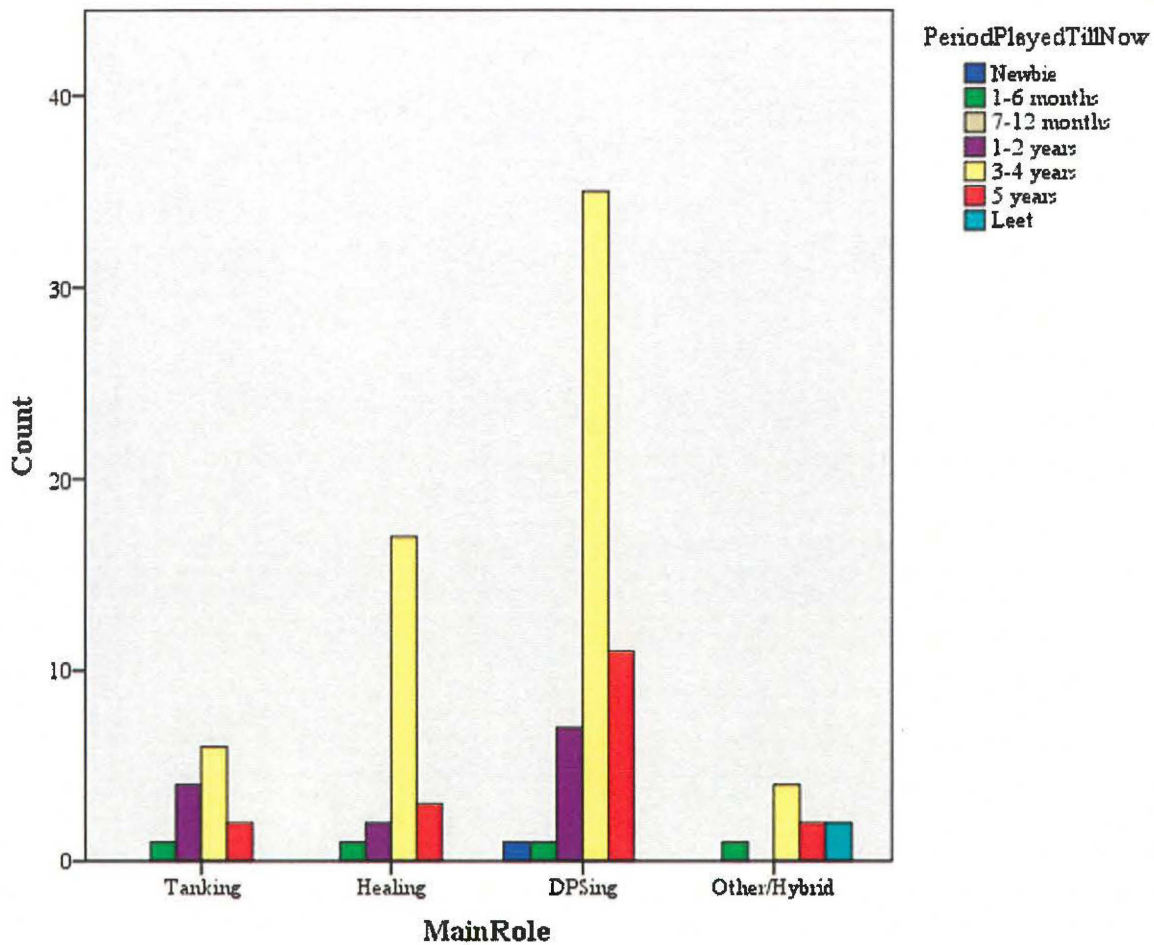
	Frequency %
Valid Don't play that much - the odd hour per week.	2.0
Play regularly - say couple of nights a week.	17.0
Play a lot - try to every night.	17.0
<i>Am a raider - spend most of my time raiding.</i>	23.0
<i>Am a hardcore player - try and do as much as possible.</i>	25.0
Would play WoW all day long if I could.	14.0

TABLE 2 – Participant experience

	Frequency %
Valid 1-2 years	13.0
3-4 years	62.0
5 years	18.0
Leet	2.0
Total	100

The majority of participants (60%) represent the damage-dealing class (DPS) in the survey which realistically reflects class demographics. Figure 2 shows how roles are distributed across participant experience.

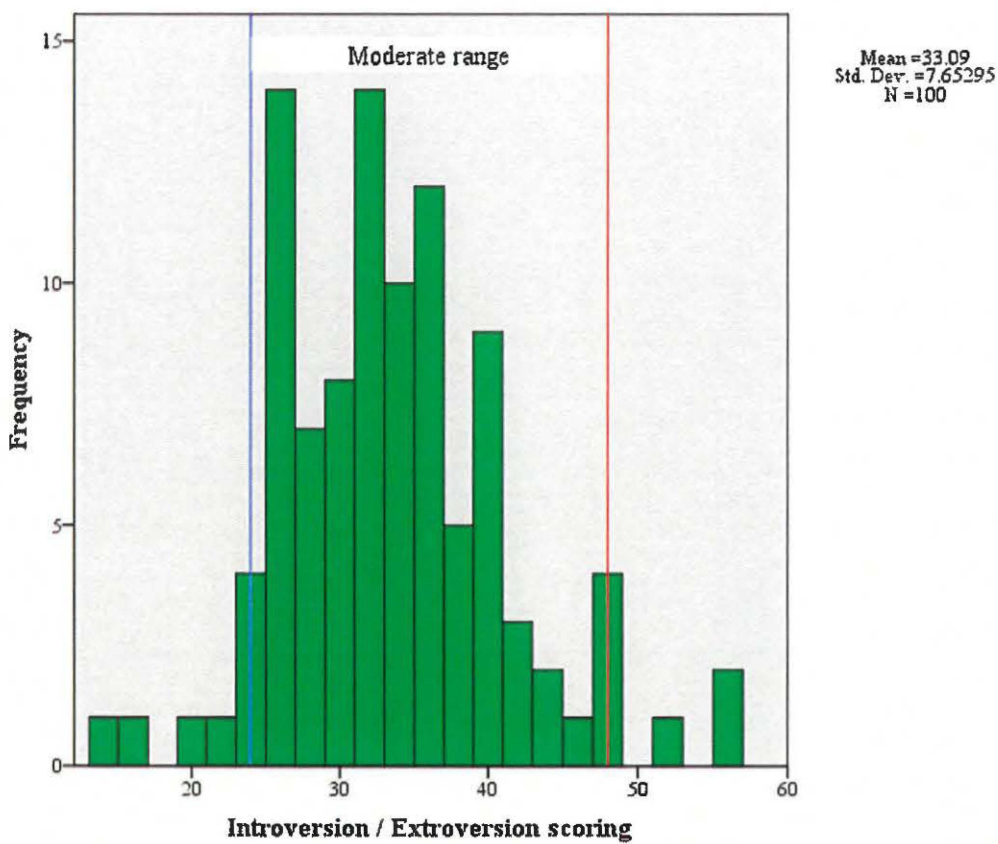
FIGURE 2 – Distribution of participant roles, experience and activity focus



Due to the correlation design of the study and the answers to Field and Hole's five questions, Pearson's product-moment correlation tests would be suitable for providing the relevant numerical summary of the direction and strength of the linear relationship between the variables.

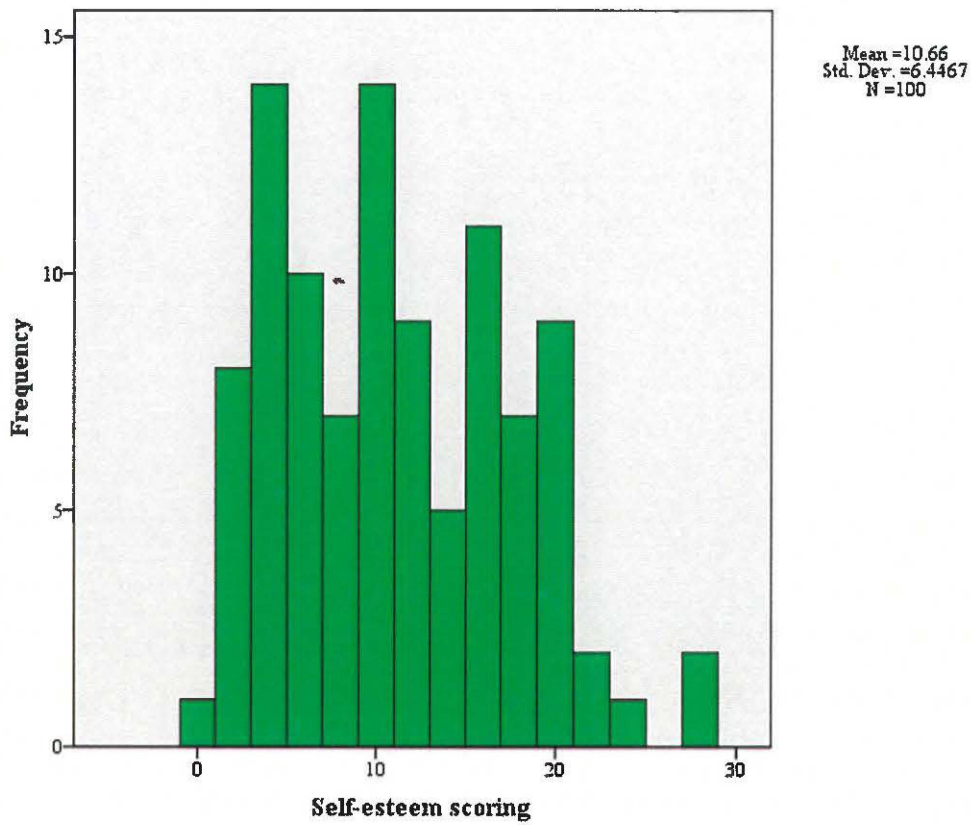
Participant introversion / extroversion scores ranged between 14 and 56 (M = 33.09, SD = 7.65). A score of equal or higher than 48 indicates a high level of introversion with those scoring 24 or less being rated as extraverts. Figure 3 shows the distribution of extroverts to be reasonably normally distributed with the majority of participants falling in the moderate range of 25 to 47.

FIGURE 3 – Distribution of frequency of introversions / extroversion scores



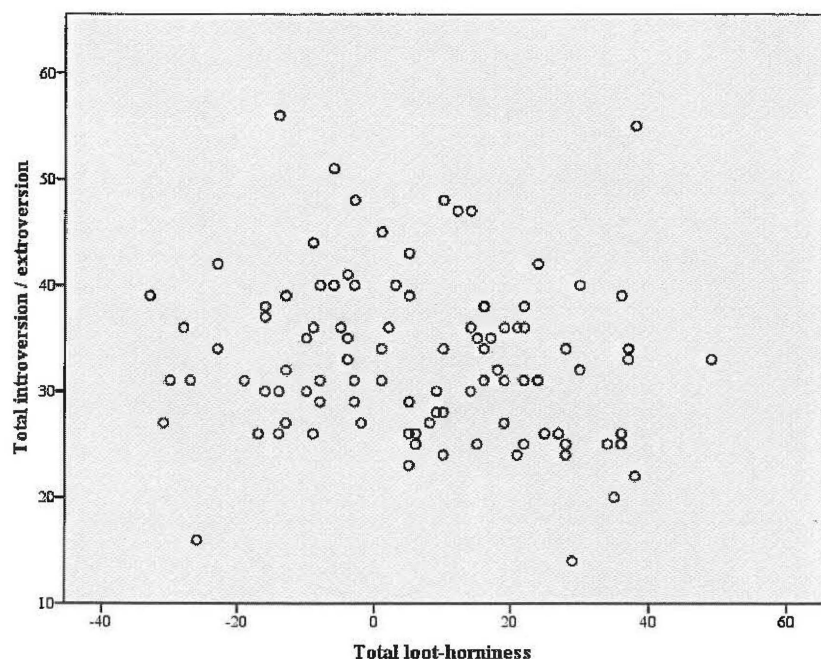
Self-esteem scores, shown in figure 4 ranged between 0 and 28 (M = 10.66, SD = 6.45). Scores indicate levels of self-esteem with high-scores denoting a high self-esteem.

FIGURE 4 – Distribution of frequency of self-esteem scores



No significant correlation exists between introversion / extroversion and loot-horniness as shown in figure 5 which was calculated using the Pearson-product momentum correlation coefficient.

FIGURE 5 – Distribution of introversion / extroversion and loot-horniness scores



The relationship between self-esteem and loot-horniness, also investigated using the Pearson-product momentum correlation coefficient indicates a medium-strength positive correlation (Cohen 1988, as cited by Palant, 2003) between the two variables [$r = .384$, $n = 100$, $p < .0005$, two-tailed test]. High levels of self-esteem are associated with high levels of loot-horniness which can be seen in figure 6. Figure 7 shows a strong positive correlation between the levels of loot-horniness and loot affecting player decision and behaviour [$r = .676$, $n = 100$, $p < .0005$] where high levels of loot-horniness are associated with high levels of loot affecting player decision and behaviour.

FIGURE 6 – Distribution of self-esteem and loot-horniness scores

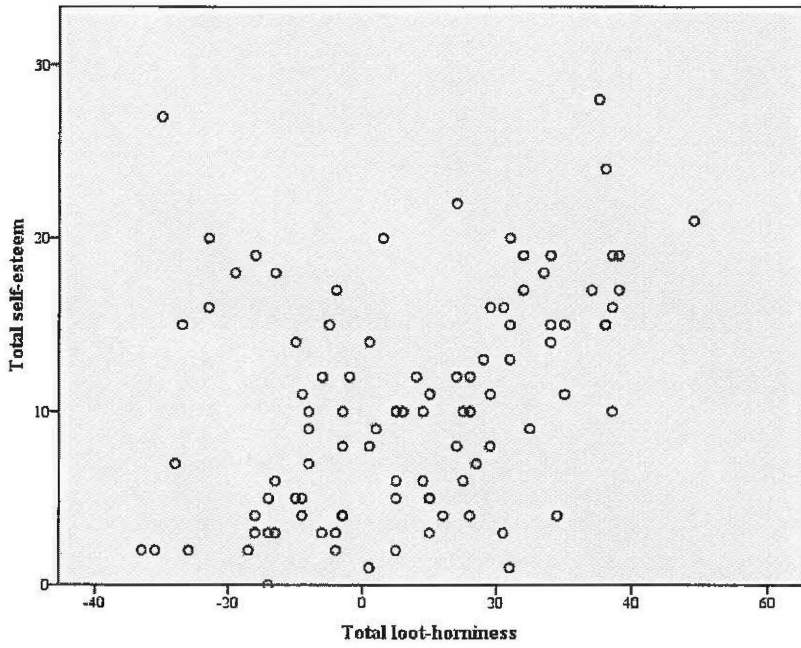
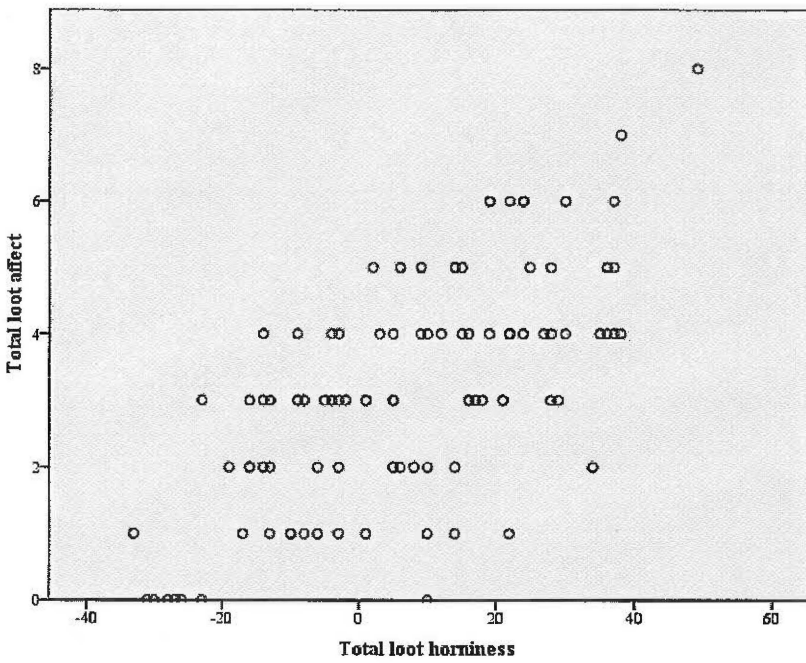


FIGURE 7 – Distribution of loot affecting player decision and behaviour scores and loot-horniness



Discussion

The study found no correlation between introversion / extroversion and loot-horniness. A relationship between self-esteem and loot-horniness was found in that players with high-self esteem showed increased levels of loot-horniness which supports the hypothesis that players with a high self-esteem is more loot-horny than player with a low self-esteem. A significant correlation was found to exist between loot-horniness and the affect of loot on player's decisions and behaviour resulting in players with high levels of loot-horniness also highly affected by loot in terms of their in-game decisions and general behaviour which supports the hypothesis that high levels of loot-horniness relate to high levels of loot related behaviour and decisions. The majority of participants have been gaming for 3 – 4 years and spends their game-time raiding. A significant number of players (14%) would play the game all day long if they could.

The relationship between self-esteem and loot-horniness and the effects of loot on player decision and behaviour supports Condry's (1977, as cited by Hogg et al., 2005) suggestion regarding rewards as a control mechanism to antisocial behaviour. Loot can act as the reason as well as the means for players to act with questionable behaviour and with negative consequences within the context of Barlow's (1990, as cited by Danet, Ruedenberg-Wright & Rosenbaum-Tamari, 1997) Wild West Web where cyberspace is compared with the wild-west, and its inhabitants as potentially sociopathological, solitary and independent, where new ideas and outlaws have equal chance to flourish and regenerate. The study supports Danet, Ruedenberg-Wright & Rosenbaum-Tamari's (1997) suggestion that due to the fact that MMORPGs are inherently play, players see their loot-horniness as nothing more than play, facilitated by the ephemeral-ness and non-material-ness medium of cyberspace's text-chat with ultimately and indefinite reduced accountability.

The study being of a correlation design has investigated the relationships between self-esteem and loot-horniness, introversion / extroversion and loot-horniness and the affect of loot on player decision / behaviour and loot-horniness. Further research using an experimental design

could explore the causality of the variables in terms of determining whether loot-horniness is itself perhaps caused by either personality or self-esteem or both. In addition to investigating causality, the actual effects of loot and loot horniness on players also remains to be determined. Better understanding causality and the degree of effect could additionally provide a significant understanding of online behaviour in terms of motivation.

The lack of previous and existing research on the topic of rewards and the lack of a suitable measure tool meant that a loot measure had to be created from scratch. The suitability and effectiveness of this questionnaire to measure loot-horniness is unclear.

In line with ethical considerations, data from participants under the age of eighteen was excluded which meant that a significant portion of the player-population may have been excluded. Previous research surrounding MMORPGs confirms that under-eighteens spend a significant amount of time (in the region of 23 hours per week) playing online games. Further study in this area focussing on the effects of loot specifically on children including under-eighteen participant data could be significant.

An additional limitation of the study imposed was the design of the game software which involved geo-segmentation in that participants were from European servers only. When purchasing the game software, users can only run either a European or American version of the game. The study was performed on the former due to the fact that the author and research was based in Ireland. It may be useful to extend the study to involve the American version in order to include a clearer picture of the global gaming community as opposed to a European-centric one which would reflect more accurately cultural comparisons and differences in terms of loot-horniness.

The quantitative nature of the study means that the issue of loot-horniness as a detailed and complete phenomenon remains yet uncharted. A more qualitative approach with open-ended type questions would allow for the topic to be considered in much greater depth, in that the user experience would be considered from a more subjective point of view. This is relevant as loot-horniness is a highly user-centric experience.

Blizzard Entertainment as the creators of WoW to date fails to publicly acknowledge the concept loot-horniness, which is bizarre as they have always taken a strong stance when it comes to 'community' yet they seem to mitigate responsibility of the effects of loot-horniness. A number of WoW related forums show user attempts of reconciliation by means of discussing in-game recorded instances of loot-horniness. These receive no official recognition from Blizzard other than vague statements similar to *we do everything in our power to protect players against theft and exploitation of game items*. Activities like loot-horniness involve negative user experiences. Providing players the means to negatively affect other players and then ignoring or mitigating responsibility is not only wrong but also ethically irresponsible. Whether fecundating MMORPGs with rewards as well as multiple ways for players to obtain said rewards by means of cheating, stealing, impersonation etc. can be considered as *wrong* remains unclear. Additional research into the effects of loot-horniness might highlight the actual negative effects and causes in terms of users and real life; it may also instigate increased awareness of the negative aspects of loot-horniness and result in adaption of relevant policy, procedures and products resulting in improved games, increased security and positive online immersive user experiences.

Loot-horniness is considered an extremely unsociable activity by the majority of players as majority-members of the vast social networks that make up MMORPGs. They may only be pretty pixels, and it may only be a game, but in principle they really are *my* pixels, and you're stealing *my* time and you're destroying *my* fun, how dare you! Ultimately, the connection between player and avatar, the reflection of those other selves on computer monitors as mirrors instigates in some urgencies of desire which requires equal urgent further study.

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Appendices

A) Dictionary

A subset of interesting and relevant MMORPG terminology:

AFK	Abbr. ' <i>Away from keyboard</i> '.
Boss	Similar to <i>mob</i> although bosses tend to be more powerful and located at the end part of extensive areas like dungeons. Bosses tend to require complicated strategies to overcome and usually reward their conquerors with valuable loot.
Buff	A temporary beneficial boost to characters attributes or abilities usually bestowed by other characters, quests, NPC's etc. and used in game language to mean the opposite of <i>nerf</i> .
Emo / Emote	Player controlled character actions that depict emotions, for example the command <i>/silly</i> would result in the relevant player-character to enact the emotion by telling a joke.
Epic / Epix	The level of item quality above rare but below legendary which relate to items found in end-game instances, from some professions, world drops and reputation purchases. Also used by players to describe the skill or actions of other players or their actions, for example: <i>"I'm gonna join Ragnarok, he's loaded with epix"</i> .
Guild	Semi-permanent community player groups which a player can only be a member of a single instance at any given time.
IRL	Abbr. ' <i>In real life</i> '.
Kthxbai	Player expression which is a compression of "OK, thank you, good bye" used as short form similar to ' <i>lol</i> ' being laugh out loud".
Loot	The rewards (items and money) obtained from <i>mobs</i> and containers (barrels, chests, crates etc.).
Mob	Abbreviation or short form of ' <i>mobile unit</i> ' (originally from the MUD era) which is an AI controlled monster which tends to patrol a certain area as opposed to just standing still on the same spot.
NPC	Abbr. Non-player-character which relates to any AI controlled <i>mob</i> .
Ninja	Similar to a loot-whore but both noun and verb; refers to the player or actions of a player who steals, not only loot but anything else that can be stolen including mobs, resources and quests, for example: A player that kills a mob when another player is just about to engage that mob is a <i>ninja</i> , and has just ' <i>ninjad</i> ' that mob.

B) Consent form

1. PURPOSE OF EXPERIMENT

You are invited to participate in a study about personality, self-esteem and loot-horniness within the MMORPG World of Warcraft. You will be asked to complete a questionnaire which will ask your response to certain aspects of your personality and loot within the game universe. Your responses will then be analysed.

2. ANONYMITY OF PARTICIPANTS AND CONFIDENTIALITY OF RESULTS

All results gathered during the course of this study will be kept strictly confidential. Access to the data is restricted to the researcher and research supervisor. Your responses provided contains no personal information which means you cannot be identified from your responses or the analysed results. You can opt out of this survey at any time by clicking on the “Exit this survey >>” button in the top right-hand corner of the survey page. In the case that you decide to opt out, your data will automatically be deleted and excluded.

3. DISCOMFORTS AND RISKS FROM PARTICIPATING IN THE STUDY

There are no apparent risks to you from participation in this study.

4. BENEFITS OF THE STUDY

Your participation in this study will help advance the scientific knowledge of social interaction online, specifically in relation to MMORPGs and the effects of intrinsic rewards.

5. FREEDOM TO WITHDRAW

You are free to withdraw from the study at any time without any penalty. Closing the survey automatically removes and deletes your responses. You can at any time request that your results be withdrawn.

6. USE OF RESEARCH DATA

The information pertaining to this study may be used for scientific or educational purposes. It may be presented at scientific meetings or published, or used for any other purpose that the IADT School of Creative Technologies considers proper and in the interest of research.

7. FOR FURTHER INFORMATION ABOUT THIS STUDY

The researcher (George Baben) or supervisor (Hannah Barton) can be contacted at:

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Email: mmorploot@gmail.com
Email: hannah.barton@iadt.ie

8. PARTICIPANTS PERMISSION

I understand the above information and agree to participate.

Agree

Disagree

Continue

C) Debrief form

Thank you for your interest in this study.

This questionnaire is part of research that studies personality, self-esteem and loot-horniness within the MMORPG World of Warcraft. You were asked some questions regarding your personality type, self-esteem and your views concerning loot in World of Warcraft. Some of the expected results are that extroversion and a high self-esteem within the game universe correlates to increased loot-horniness.

All data collected during the course of the study is kept on a secure server and can only be accessed by the researcher. Participant cannot be identified from the data gathered or analyzed. Data will be kept on record for the duration of the study after which it will be destroyed. You can opt out of the study at any time.

For more information about World of Warcraft please visit the official sites:

<http://www.wow-europe.com>
<http://www.blizzard.com>

The researcher (George Baben) or supervisor (Hannah Barton) can be contacted at:

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Email: mmorploot@gmail.com
Email: hannah.barton@iadt.ie

In case you would like to receive a copy of the results of this survey, please supply an email address:

Please feel free to provide any additional comments you want to share that pertains to this study:

D) Online questionnaire

Section 1: Player demographics

1. DOB

DD MM YYYY

/ /

What is your date of birth?

2. Location

Which country are you from?

Afghanistan

3. As a player I... (you can select more than one)

- Play regularly - say couple of nights a week.
- Play a lot - try to every night.
- Play a lot - spend most of my time in heroics.
- Am a raider - spend most of my time raiding.
- Am a hardcore player - try and do as much as possible.
- Would play WoW all day long if I could.

4. Previous experience

How long have you been playing
MMORPGs?

1 - 6 months

5. My main avatar's primary role is...

- Other / hybrid.
- Healing.
- Tanking.
- DPSing.

Section 2: Personality

1. As a person and player I... (you can select more than one answer)

- Don't take WoW seriously, it's just a silly fun game most of the time.
- Believe having fun is more important than epics.
- Like talking about real-life issues when in-game.
- Like the social aspect of the game.
- Enjoy playing on my own, groups are a hassle.
- Am a competitive player, I like PVP.

2. Voice-chat, when using Ventrillo or TeamSpeak, I... (answer each row)

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
Find loud players and voices annoying.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Get irritated with players who speak softly.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sometimes make a joke or sing a stupid song.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
Sometimes pretend that my microphone is broken.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Will only say something if I have to.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3. When playing WoW I prefer being amongst other talkative / chatty players. (you can select more than one answer)

- I think witty players are more intelligent.
- Players who never say anything irritate me.
- I am more of a private person.
- I don't like being put on the spot.
- Talkative players annoy me.

4. I... (answer each row)

	True	False
Get restless when working at something & little action occurs.	<input type="checkbox"/>	<input type="checkbox"/>
Prefer to be slow and deliberate in my actions.	<input type="checkbox"/>	<input type="checkbox"/>
Am enthusiastic about new projects / undertakings.	<input type="checkbox"/>	<input type="checkbox"/>
Get agitated if I have to wait for someone.	<input type="checkbox"/>	<input type="checkbox"/>
Get uncomfortable when other player's avatars get close to me physically.	<input type="checkbox"/>	<input type="checkbox"/>
Don't like surprises.	<input type="checkbox"/>	<input type="checkbox"/>

5. I... (answer each row)

	Strongly agree	Agree	Undecided	Disagree	Strongly disagree
Would be very unhappy if I was prevented from making numerous social contacts.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Usually take the initiative in making new friends.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Find my mind often wander while I am trying to concentrate.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Like to play pranks upon others.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Am usually a "good mixer.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Am sometimes bubbling over with energy and sometimes very sluggish.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Often "have the time of my life" at social affairs.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Am frequently "lost in thought" even when I should be taking part in a conversation.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Derive more satisfaction from social activities than from anything else.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Section 3: Self-esteem

1. Moods (answer each row)

	Regularly	Now and then	Rarely	Never
I have mood swings (online or offline).	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Playing WoW makes me feel better.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I sometimes buy items to try it out or to see what it looks like.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	Regularly	Now and then	Rarely	Never
I feel unattractive.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

2. Better loot will make me a better player.

- True.
- False.
- Never thought about it before.

3. I... (answer each row)

	Always	Sometimes	Never
Always try and be nice online, even if someone is horrible to me.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Am opinionated.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Enjoy discussing issues on forums.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have alts (alternative avatars) where most players (like guildies) don't know who I am.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Use my main character to post with on forums; I don't care that people know it's me.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

4. When playing WoW I care about... (you can select more than one answer)

- Whether I am a good player.
- Whether I am perceived as loot-horny.
- Whether someone considers me rude.
- What other players think of me.
- What my avatar looks like.

My stats more than anything else in the game.

5. I ... (answer each row)

	Strongly agree	Agree	Disagree	Strongly disagree
All in all, am inclined to feel that I am a failure.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Am able to do things as well as most other people.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
At times, think I am no good at all.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Certainly feel useless at times.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Feel I do not have much to be proud of.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Feel that I have a number of good qualities.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Feel that I'm a person of worth, at least on an equal plane with others.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
On the whole, am satisfied with myself.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Take a positive attitude toward myself.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Wish I could have more respect for myself.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

6. I prefer the... (answer each row)

	myself;	my avatar;
Charisma of	<input type="checkbox"/>	<input type="checkbox"/>
Courage of	<input type="checkbox"/>	<input type="checkbox"/>
Good looks of	<input type="checkbox"/>	<input type="checkbox"/>
Intelligence of	<input type="checkbox"/>	<input type="checkbox"/>

	myself;	my avatar;
Popularity of	<input type="checkbox"/>	<input type="checkbox"/>
Strength of	<input type="checkbox"/>	<input type="checkbox"/>
Wealth of	<input type="checkbox"/>	<input type="checkbox"/>

7. When playing WoW I get upset when players make comments about or criticize my avatar's looks, gear, stats, abilities.

- Not really.
- A lot.

Section 3: Loot

1. I think the best loot system is:

- Not bothered.
- Need / Greed roll.
- Who cares about loot?
- DKP with depreciation system (where points are subtracted over time due to absence).
- Officers decide who gets what loot.
- DKP system. (dragon kill points, accumulative points usually for raid activities)

2. When I look at other players in epics... (answer each row)

	Always	Sometimes	Never
I get jealous if their gear is better than mine.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I get annoyed if they have more epic pieces than I do.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	Always	Sometimes	Never
I get upset when I consider myself a better player.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I get mad when I remember losing a roll against this player for a specific item.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I initiate a discussion about an item.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I weigh up their skills / abilities against their loot.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I compare their achievements to mine.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3. Spending hours in a dungeon and not getting any loot is frustrating.

False.

True.

4. Loot (answer each row)

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
A loot-whore / ninja should be punished.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I find it difficult not to roll on loot when I want it.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I will roll on loot regardless whether someone else might benefit from it more.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I will roll on loot when I think someone else will benefit the same as me.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
More loot would make the game more enjoyable.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

5. These players get more loot than others: (you can select more than one answer)

- Certain classes.
- Ex-guild officers.
- Females.
- Guild officers / GM.
- Males.

6. I go to certain raids or instances based on the loot that can drop from those bosses.

- True.
- False.

7. Because of loot, I... (answer each row)

	True	False	Not applicable
Created this character / class.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have had a serious argument with another player(s).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have joined / left a guild.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have made / lost friend(s).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Raid.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Spend a significant time thinking about and researching loot.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Still play the game.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

8. I have been loot-horny before (accidentally or on purpose).

- True.

False.

E) Scoring Loot-horniness scales

No existing measures have been found which score rewards in MMORPGs. A measure was created with questions selected that pertain to loot, the methods of obtaining loot within WoW, distribution methods of loot, the way loot makes players feel, behaviour augmentation etc. Two types of measures were created. The first type was a set of Likert-type scales used in section four of the questionnaire which pertains solely to loot with different set range values including:

- A two value list (True and False) using questions like “Because of loot I have made / lost friends”;
- A three value list (Always, Sometimes and Never) using questions like “When I look at other players in epics I get jealous if their gear is better than mine”; and
- A five value list (Strongly agree, Agree, Neither agree nor disagree, disagree and strongly disagree) with questions like “I will roll on loot regardless whether someone else may benefit from it more than me”.

The second type of measure used relates to modifier type questions which were dispersed in sections two and three of the questionnaire which pertain to personality and self-esteem. This was done on purpose so participant’s feelings regarding either personality or self-esteem loot would be influenced by the context of loot as the third variable and modify the overall score accordingly. The modifier scores from sections one and two normalises the overall score from section four.

Scoring

Section two

Q1: “As a person and player, I Believe having fun is more important that epics is scored as -5 if selected and +5 if not selected.

Section three

Q2: “Better loot will make me a better player” is scored as +5 if true is selected, -5 if false is selected and -1 if never thought about it before is selected.

Q4: “When playing WoW I care about whether I am perceived as loot-horny” is scored as -5 if selected and +5 if not selected.

Section four

Q1: "I think the best loot system is..." is scored as -2 if not bothered is selected and +2 if any other value is selected.

Q2: "When I look at other players in epics..." each element is scored as +2 if always is selected, +1 if sometimes is selected and -1 if never is selected.

Q3: "Spending hours in a dungeon and not getting any loot is frustrating" is scored as +2 if true is selected and -2 if false is selected.

Q4: "Loot..." each element is scored as +3 if strongly agree is selected, +2 if agree is selected, 0 if neither agree or disagree is selected, -2 if disagree is selected and -3 if strongly disagree is selected.

Q5: "These players get more loot than others" is scored as +2 if any answer is selected and -2 if no answer is selected.

Q6: "I go to certain raids or instances based on the loot that can drop from those bosses" is scored as +2 if true is selected and -2 if false is selected.

Q7: "Because of loot I..." each element is scored as +2 if true is selected, -2 if false is selected and 0 if not applicable is selected.

Q8: "I have been loot-horny before (accidentally or on purpose) is scored as +2 if true is selected and -2 if false is selected.

Formula

The values for all sections are added together. The higher the result the higher the level of loot-horniness.

Effect of loot on player behaviour

In order to calculate the *effect* of loot on behaviour, the following questions are scored.

Section four

Q6: “I go to certain raids or instances based on the loot that can drop from those bosses” is scored as +1 if true is selected.

Q7: “Because of loot I...”, each element is scored as +1 if true is selected.

Q8: “I have been loot-horny before (accidentally or on purpose) is scored as +1 if true is selected.

Formula

The values for all sections are added together. The higher the result the higher the degree of the effect of loot on player behaviour.