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**Game Appropriation:  
Where does the gamer fit?**

Submitted for the degree of  
Doctor of Philosophy

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# DECLARATION

I hereby declare that, except where explicit attribution is made, the work presented in this thesis is entirely my own.

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Christothea Herodotou

# ABSTRACT

The socio-technological transformation of digital games means that they are no longer single-player, co-located game experiences but instead are multiplayer socially-oriented ones (e.g. World of Warcraft). This change underpins the central concern of this thesis, to understand game appropriation and the intrinsically motivating nature of gaming. Game appropriation is defined as the broad incorporation of Massively Multiplayer Online Role-Playing Games (MMORPGs) into gamers' daily practices, including the nature of their gameplay. Gaming is not viewed as a set of defined moments of participation but as a dynamic activity, directly interrelated with a gamers' everyday life. Therefore, a broad perspective on motivation and gaming is adopted, incorporating not only reinforcing aspects of game design but also acknowledging the role of the social context and the gamer as an individual during gameplay.

The findings of three studies showed that game design, social interaction and gamers' psychological characteristics uniquely interplay to support game appropriation. The key findings are: (i) Flexible game design is a prerequisite for game appropriation; multiple game structures enable the creation of collaborative and competitive relationships and contribute to innovative forms of play; (ii) Diverse forms of social interaction, within and around gameplay, define the nature of game appropriation; (iii) The role of the gamer in game appropriation is critical. The gamer as an individual is the agent defining the distinct social forms of play when shaping the game experience, underpinned by certain psychological characteristics. While gamers with higher trait emotional intelligence (trait EI) play for social interaction *per se*, those with lower trait EI make purposive use of sociality in order to progress and succeed in the game. Similarly, on a needs scale (Basic Psychological Needs Scale) lower scorers on autonomy are more prone to competitive and instrumental social gaming practices; (iv) The process of game appropriation is progressively developed, influenced by the type of in-game activities and novel game features, trait

EI scores and the presence of other gamers in the game. In summary, game appropriation, being game-specific, begins with the interaction between the gamer and a flexible game design and becomes socially negotiated within a community of gamers. The final social configuration -instrumental or social *per se*- is influenced by certain psychological characteristics of gamers as individuals.

*To my parents,  
Charalambos and Troodia*

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# Chapter 1

## Introduction

This thesis examines the appropriation of digital games, and in particular Massively Multiplayer Online Role-Playing Games (MMORPGs); a relatively recent game development and its affordances as a medium. Specifically, it investigates (i) how MMORPGs are adopted, adapted and integrated into gamers' daily practices and (ii) how MMORPGs are personalised during gameplay. This thesis was motivated by the recent socio-technological reconfiguration of digital games and the associated implications for gaming. In particular, it explores *game appropriation*, a concept argued to be inherently related to the motivational nature of online gaming. It offers explanations which take into account the context of gaming and gamers' psychological characteristics. Combining evidence, it concludes with a working definition of game appropriation. The central research questions aim to identify the role of the gamer as an individual within the social and technological settings surrounding gaming.

### 1.1 Rationale

In this thesis, game appropriation is investigated. The aim is to understand gaming and its intrinsically motivating nature. In particular, game appropriation is framed along two interwoven axes; the *process* and *nature* of game appropriation. The process of appropriation is the procedure during which gamers adopt, adapt and integrate games in their daily practices. The nature of game appropriation refers to the shaping of gameplay by the gamers through their actual game choices. It is the outcome of the process of appropriation. Through the lens of game appropriation, gaming is not only examined as the set of actual moments of participation in a certain game but also as an activity

interrelated to gamers' everyday life activities. A working definition of game appropriation is proposed.

This thesis is not concerned with the many and varied types of games. Instead, its focus is bounded. Specifically, the term *game appropriation* refers to the appropriation of a particular genre of games, online multiplayer games. Thus, the central aim of this thesis is to investigate game appropriation of a particular Massively Multiplayer Online Role-Playing Game (MMORPG), World of Warcraft (WoW). More precisely, the focus of investigation is *how* gamers appropriate WoW. Appropriation is a multivalent concept. In contrast to the wide use of the concept as “tak[ing] something for your own use” (Cambridge Advanced Learners Dictionary, 2008), for the purpose of this thesis, appropriation is argued to be inherently related to the understanding of the intrinsically motivating nature of gaming, evident in the burgeoning popularity of digital games. By deploying the concept of game appropriation, a broader perspective on motivation and gaming is adopted. The examination of motivation is not restricted to game design and elements reinforcing gameplay (see Wood *et al.*, 2004; Prensky, 2001; Malone & Lepper, 1987) but is extended to include the *context* (social and technological) within which game experience is situated and the role the gamer plays within it.

The rapidly growing number of gamers (see Chapter 2) gave rise to the interest in understanding the core agent of gaming, *the gamer as an individual*. More precisely, the study of game appropriation was motivated by the recent socio-technological transformation of digital games. The technological developments of the past 25 years, in particular the internet, have revolutionized gaming. Due to greater technological affordances, digital games have gradually transformed from single, co-located experiences into endless, socially oriented, multi-played configurations. The prominent genre of games reflecting this transformation is MMORPGs. MMORPGs constitute convenient spaces<sup>1</sup> for ongoing, synchronous, social associations among a massive

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<sup>1</sup> The relationship between MMORPGs and online social worlds is explicitly analysed in Chapter 2 (see Section 2.4).



number of gamers. Their online implementation enables persistent gameplay since they continue operating even when gamers' engagement with them is interrupted (Newman, 2004). From *Ultima Online* (1997) to *EverQuest* (1999), *Dark Age of Camelot* (2001) and *World of Warcraft* (2004), gameplay is undergoing a social reformation. The open-endedness and flexibility of these game worlds have marginalized technological determinism in favour of more socially defined forms of gameplay. The gamer has become the generator of gameplay: through constant social interaction, s/he negotiates and co-constructs game practices, reinventing gameplay. Based on what is to be implemented in the game, the gamer chooses to play with certain other gamers, forms specific social organizations, shapes their skills to fit game practices and adds to the game specific applications (e.g., macros) to serve game goals. Thus, gamers appropriate proposed game structures, creating their own forms of gameplay (see Chapter 2). The production of gameplay is relational and contextual; it is mediated through gamers' joint enterprise and the ever-changing situational conditions of other social agents and game structures. The social dynamic of MMORPGs resembles Cole's (2003; 1996) perception of context as creation. Any recombination of game elements (i.e., aims and relationships between social agents and game structures) brings about change creating new relevant patterns. As Nardi (1996) states, context emerges from the enactment of the activity in which both people and artefacts are involved.

The transformation of games into flexible, socially defined spaces necessitates a detailed examination of game appropriation. Prior to the emergence of MMORPGs, appropriation was constrained by the rule-based design of other game genres, permitting little or no space for the gamer to choose their gameplay (see Chapter 2).

According to Carroll *et al.* (2002) an adversary relationship exists between appropriation and technology's design; the material and technical potentials of a technology pertain to specific uses and constraints affecting technology's potential for appropriation. The study of MMORPG appropriation is of great interest as it enlightens how the social configuration of games impact on actual game use and the embedding of

MMORPGs in gamers' everyday life activities. Overall, it illuminates *why* online gaming is such an appealing and popular activity by explaining what motivates game practices. Drawing from existing studies, understanding appropriation is inherently related to the identification of *how* and *why* users choose to use a technology (see Carroll *et al.*, 2003; 2002; Waycott, 2004). However, motivation, as a driving force supporting appropriation, is not well researched in current literature. Researchers have commented on attractors and reinforcers as influencing the appropriation of technology (Carroll *et al.*, 2002). In other cases, they identify factors including, for instance, the structural features of the technology and users' characteristics (see DeSanctis & Poole, 1994) and utilize these as mediators of technology's use. Overall though, motivation is underexplored.

The transformation of games suggests multiple potential sources as motivators of game appropriation. First, flexible game design presents a variety of choices for play while it also offers gamers the freedom to determine their own forms of play. Second, gaming is situated within a vivid social online and offline context. The game experience is characterised, online, by constant communication, collaboration and joint enterprise while social interaction is also identified offline, in gamers' communicative encounters in the physical world (see Lindtner *et al.*, 2008; Carr & Oliver, 2008). Finally, the flexibility of game design opens up the space for gamers to choose their gameplay and therefore, satisfies diverse game preferences. While existing approaches have examined the variability of gamers' preferences (Yee, 2007a), as well as the role of prior game experiences (Oliver & Pelletier, 2005), such analysis could penetrate deeper into individual differences among gamers. It is an open question as to whether certain psychological characteristics enforce or hinder specific game uses, as well as whether they influence the integration of games into gamers' daily practices. Game related literature, though relatively scant, already suggests that particular personality dimensions are associated with the choice of specific games (see Ravaja *et al.*, 2004) and the degree of game use (see Parker *et al.*, 2008).

In this thesis, this issue is addressed by investigating individual differences in terms of basic psychological needs theory (Ryan & Deci, 1985) and trait emotional intelligence (trait EI) (Petrides & Furnham, 2001). Basic psychological needs refer to the three needs for autonomy, competence and relatedness. Satisfaction of these needs is obtained within autonomy-supportive environments and relationships, in situations involving optimal challenges and providing positive feedback and when individuals relate to each other through meaningful emotional bonds. The basic psychological needs theory has been incorporated into this thesis due to the fact that existing studies relate the intrinsically motivating nature of games to games' potential for satisfying gamers' psychological needs (see Ryan *et al.*, 2006). Therefore, the specific theory can contribute to understanding whether gamers' choices relate to the degree of satisfaction of their needs.

Trait EI refers to relatively stable factors, in particular personality traits. Trait EI is a constellation of self-perceived abilities and behavioural dispositions. It concerns one's ability to recognize, process, and utilize emotion-laden information (Petrides & Furnham, 2001). It measures four factors: emotionality, sociability, self-control and well-being. The reasons underlying this choice are identified in the theoretical relevance between trait EI and the emotional nature of gaming. More notably, positive feelings such as pleasure, refreshment and relaxing (Edwards, 1999) are evoked during gaming, while social and emotional relationships are also developed (Yee, 2007). Gamers' self-perceptions of their emotion-related abilities are becoming a dimension of personality potentially associated with game preferences. In conclusion, both trait EI and basic psychological needs theory, by being associated to life satisfaction and well-being (see Chapter 3), comprise indicators of gamers' real-life conditions, contribute to understanding game appropriation.

### **1.2 Game Appropriation Model (GAM)**

Considering the diverse - psychological, sociological and technological - context of game appropriation, a model termed Game Appropriation Model (GAM), has been

iteratively developed to support and structure the investigation undertaken in this thesis. The concept of game appropriation is relatively unexplored; a few studies (Postigo, 2008; Griffiths & Light, 2008; Stalker, 2005; Lowood, 2005) make reference to the unintentional appropriation of games (e.g., mods, videos, scamming). In this thesis, a *motivationally-oriented* examination of game appropriation is taken. The lack of previous research in this area required the examination of the broader literature on appropriation. A number of related approaches have been utilized as the theoretical underpinnings of GAM. In particular, the development of GAM was influenced by the following: the Adaptive Structuration Theory (DeSanctis & Poole, 1994), the Model of Technology Appropriation (Carroll *et al.*, 2003; 2002), the Concerns-Based Adoption Model (Hall *et al.*, 1973), Instrumental Genesis (Verillon, 2000) and the Activity System Tool Appropriation Model (Waycott, 2004) (see Chapter 4). These models present limitations in relation to gaming including, for instance, the consideration of the social context of gaming and the leisure settings of gameplay (see Chapter 4). However, they have been incorporated into this examination since they comprise common models of appropriation and they offer valuable insights on understanding game appropriation, such as detailed explanations of the process of appropriation and the role different components (e.g., design, social settings) have in determining the nature of appropriation (see Chapter 4). In brief, GAM is a socially-dynamic model, the main constituents of which are game design, social praxis and the gamer as an individual. It describes game appropriation as a progressively developed process defined by iterative appropriation cycles of use, interwoven between the real and virtual world.

Following a mixed-methods, iterative hypothesis testing approach, game appropriation was empirically examined through the implementation of three studies. The first was a short-term pilot study, the focus of which was the iteration of the theoretically driven version of the GAM. The participants were serious gamers involved in multiple genres of games and data were collected through interviews and questionnaires. This examination identified game appropriation as being game-specific and thus, if it is to be adequately examined, requires focus on a single game. It also confirmed the blurring

between online and offline reality, placing this issue at the centre of the studies that followed. Considering this evidence, two main studies - a large-scale online survey (Study 1) and in-depth interviews with WoW gamers (Study 2) - further elaborated GAM. Specifically, the research questions addressed are:

1. *What are the high-end gamers' psychological characteristics in relation to: game preferences, frequency of gaming and the norms? How do these relate to the appropriation process?*
2. *What does the social nature of gaming look like, in relation to game appropriation within and around MMORPG gameplay?*
3. *What is the relationship between the technological, social and psychological characteristics of game appropriation? What contributions do social praxis, game design and individual differences make to game appropriation?*

### **1.3 Contributions of this thesis**

The contributions of this thesis are listed below:

1. A definition of game appropriation is proposed, bringing together psychological, social and technological factors. In particular, game appropriation is specific to each game and is determined by:
  - a. *Game design*: game design is prerequisite for game appropriation. It opens up the space for the gamers to shape their own gameplay by making certain choices, reinforces social play and renews gaming through updates and expansion packages.
  - b. *Social praxis*: social praxis influences game appropriation by promoting further gameplay when game design becomes repetitive, and by defining the nature of game appropriation as being social and diverse. In order to understand

the social nature of game appropriation one needs to take into account the context within which gaming occurs both *within* the game -the variety of friendly and rival relationships created during gaming- and *around* it -the interactions between co-located gamers and out-of-the-game, game-related discussions.

c. *The gamer as an individual*: the social nature of game appropriation is shaped by the gamer. Individual differences in trait EI and basic psychological needs are associated with the choice of actual game uses. Trait EI is also related to the process of appropriation for each gamer (see also no. 3, 4).

2. A model of game appropriation, termed the Game Appropriation Model (GAM), was developed through an iterative hypothesis testing process. GAM frames the relationships between game design, social praxis and the gamer as an individual, describing and explaining the appropriation of online multiplayer games.

3. This thesis has also identified how individual differences in trait EI and basic psychological needs underpin the *nature* of game appropriation. In-game choices mirror gamers' psychological characteristics; gamers with higher scorers on trait EI are more interested in socializing, teamwork and relationships whereas lower scorers on trait EI are more concerned with achievement and instrumental uses of sociality. Similarly, the more satisfied basic needs are, the more prone gamers are in sociality *per se*. Specifically, in the need for autonomy, gamers who perceive themselves to experience greater autonomy in real-life are less prone to achievement-focused practices. In general, trait EI and psychological needs, as indicators of well-being, indicate that a higher level of perceived well-being is associated with a greater preference for the social dimension of the game, whereas a lower level of perceived well-being is related to achievement and purposive use of social interaction.

4. Individual differences in trait EI also underpin the *process* of appropriation along with technological and social factors. It was found that gamers with lower scores on trait EI and in particular well-being are more frequently involved in playing games,

spending a considerable amount of time on gaming. In addition, achievement-oriented, group game choices, as well as the presence and availability of certain social agents in the game (i.e., friends or family members), motivate the process of appropriation.

5. MMORPG gamers demonstrate higher scores on trait EI compared to the norms<sup>2</sup>. It is indicated that gamers perceive themselves as having greater emotional abilities and behaviour dispositions than norms. Also, female gamers present higher scores, particularly in emotionality (trait EI), than male gamers and both female and male norms.

6. The study of game appropriation requires the development of a mixed-methods multidisciplinary approach that draws from psychology and sociology as well as the field of game studies.

### 1.4 Overview of the thesis

The theoretical and methodological argument line of this thesis is detailed in the following chapters. Chapters 2 and 3 set the scene of the present examination. **Chapter 2** analyses the recent configuration of digital games and their socio-technological transformation in order to picture the background within which this thesis is actualized. **Chapter 3** moves a step forward to determine the gamer as the unit of analysis and to understand gaming and motivation from a psychological point of view. In **Chapter 4**, the concept of game appropriation is deployed and the first theoretical version of the GAM is developed. GAM frames the relationships between the motivational sources of gaming facilitating the examination of game appropriation. **Chapter 5** is the backbone of this thesis. It analyses the chosen methodology and provides the reader with a summary of how the studies have been organized and implemented. Chapters 6, 7 and 8 concern the empirical dimension of this examination. **Chapter 6** presents a small-scale pilot study involving interviews and questionnaires, the aim of which was the iterative

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<sup>2</sup> The data set with scores from norms were obtained from the director of Trait EI research programme, Dr. K. V. Petrides.

development of the initial, theoretically driven version of the GAM. *Chapters 7 and 8* describe the two main studies of this thesis - a large-scale online survey, and in-depth interviews with WoW gamers - through which GAM was further tested. In Chapters 7 and 8, GAM III and GAM IV are presented respectively. *Chapter 9* is a general discussion on the findings of Study 1 and 2, drawing from related literature. Insights from all three studies are gathered together and conclusions are drawn in *Chapter 10*.



## **Chapter 2**

### **Setting the scene:**

#### **The social transformation of digital games**

The focus of Chapter 2 is to set the context of the present thesis through the identification of the recent configuration of digital games. The technological evolution of the last century has affected the design of games and sequentially the conceptualization of gaming. The single played and multi-played co-located games have been developed into online massively multiplayer experiences. The game genre manifesting this change is Massively Multiplayer Online Role-Playing Games (MMORPGs). MMORPGs' flexible and open-ended design has revolutionized the nature of gaming. More notably, the game experience is inherently social; it is defined through constant interactions and negotiations among gamers who collectively construct and reinvent gameplay. Gamers are the generators of the game experience in the sense that they personalise suggested game structures according to their game preferences and the context in which gaming occurs.

#### **2.1 Rationale**

The advent of information and communication technologies has revolutionized people's way of living and acting. In particular, the widespread use of personal computers along with the increasing potential for high-speed internet connections have signalled the dawn of a new era for society never before anticipated. The growth of technological developments has evoked a significantly great interest in a form of entertainment demonstrating unique interactive qualities, digital games. While play has been traditionally related to childhood, the play of digital games (either computer or console-based), has overcome age boundaries capturing the interest of a broad spectrum of ages that exceeds by far the chronological limits of

childhood. One of the available surveys on game demographics in America (ESA, 2007) highlights that the age of the average gamer is 33 years old while 24.2% of gamers are over 50 years old. In addition, it states that playing digital games preoccupies both genders with 62.0% being male gamers and 38.0% female. The popularity of digital games is evident in the 13% increase in video game sales (hardware, software and accessories) in early 2009 (Ortutay, 2009) and the growth from 19% in 2008 to 25% in 2009 in online gaming activities in US (NPD Group, 2009).

Playing digital games is an activity integrated in the daily practices of a large and diverse sample of the general population. This shift raises particular concerns. Digital games are changing people's daily practices and sequentially the shape of society. The intense concern around games' aggressive (see Barlett *et al.*, 2007; Anderson & Bushman, 2002) and addictive qualities (see Chappell *et al.*, 2006; Brian & Wiemer-Hastings, 2005; Ko *et al.*, 2005; Young, 2004) mirrors the power that this form of activity holds over society. Studying digital games is thus of crucial importance. Firstly, it contributes in understanding the *why* of gaming<sup>3</sup>. Examining the use of digital games illuminates the reasons the specific type of entertainment has become such an appealing activity. Secondly, it illustrates how a popularized activity impacts on gamers' lives and practices. As with the advent of the internet and the debate on whether upcoming changes from its use affect positively or negatively social relationships (Kraut *et al.*, 1998), similarly the widespread use of digital games requires investigation in order to identify the value and influence of gaming within society. Such game examination needs to originate from a clear and straightforward conceptualization of the current state of the topic under investigation, in this case digital games. By defining digital games, a coherent basis of understanding is produced reflecting the situation of games the moment of examination. Such definition will constitute the point of reference since it will work as a theoretical foundation to draw upon throughout the research procedure.

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<sup>3</sup> Gaming and gameplay are two terms used interchangeably throughout this thesis to denote the activity of playing with digital games.

More notably, this chapter originates from a critical overview of existing game definitions in order to define ‘games’ within this thesis. Based on the chosen definition it proceeds to detail the recent configuration of games and in particular, their social character by presenting a historical overview of the technological development of digital games and by analysing the sociality of games. The latter is achieved through the examination of a specific genre of games, MMORPGs and the identification of the social nature of games through the application of the notion of ‘context’. The changes games are facing are directly related to the individual gamer and the freedom of choosing gameplay based on personal preferences.

### **2.2 An evolving game definition**

Since the creation of the first videogame up to the most recent releases in the game market, the game industry has seen tremendous growth. Digital games have become a popular culture among a wide range of ages. While the popularity of games has been a straightforward issue, the investigation of other aspects of games presents a lack of consensus. Scholars from different disciplines have attempted to analyse games, drawing from their own field of study. This multidisciplinary approach on game analysis resulted in various, often opposing, argumentations. For example, games for film theorists more likely constitute another form of interactive narrative whereas for game-oriented theorists games are more likely rule-based applications. Such dichotomies are evident in the conflict between narratologists and ludologists (see Frasca, 1999; Newman, 2004; Bogost, 2006) with the former pointing to games as media for telling stories, in other words, as another traditional narrative form and the latter focusing on games as interactional game and play activities. Such inconsistencies are identified even in agreeing on introductory concepts of game analysis including a common definition of what constitutes a game or what experiences comprise gameplay. It is anticipated that issues of defining games and gameplay will persist considering the continuous changes in the nature and affordances of games (see following sections).

Newman and Simon (2004) in their edition *Difficult Questions About Videogames*, present a broad collection of videogame definitions by western contributors, among

others, Perry, Frasca, Juul, Griffiths. Reviewing this large sample of definitions, it becomes evident that different people focus on different aspects as being requisite for a videogame. More notably, the constituents of a videogame are a combination of technical and conceptual characteristics. The technically oriented definitions refer to the platform and the equipment required for the implementation of a digital game. They invoke terminology including electronic system, generic computer, input controllers, and digital screen. The conceptually configured definitions attempt to explicate the construction of game experience and the differentiation of videogames from other interactive mediums. Such argumentations comment on games' interactivity, the necessity for game rules, elements of gameplay (e.g., competition, exploration), and gamers' enjoyment.

The various perspectives of what a game is have been systematically examined by Jesper Juul (2005; 2003). Juul has produced a generic game definition called the *Classic Game Model*. The openness of the definition encapsulates, according to Juul (2005), the variety of games from 3000 BC up to the end of the twentieth century. Through a historical examination of existing game definitions including Huizinga(1950), Caillois (1961), Suits (1978), Avedon and Sutton Smith (1981), Crawford (1981), Kelley (1988) and, Salen and Zimmerman (2003) Juul identified the commonalities between games. More notably, the Classic Game Model proposes that a game definition should count for *the game*; as a system defined by rules, *the gamer*; as the psychological relation with the game, and *the world*; as the connection between playing the game and the rest of the world. According to Juul (2003, a new definition section, para 2) a game is defined as:

“a rule-based formal system with a variable and quantifiable outcome, where different outcomes are assigned different values, the player exerts effort in order to influence the outcome, the player feels attached to the outcome, and the consequences of the activity are optional and negotiable.”

The definition comprises of six features, all requisite for an activity to be considered as a game. Quoting from Juul these are: 1. Well-defined *rules*. 2. A *variable and quantifiable outcome*; the gamer either upholds or deviates from the game rules (variability) and the outcome is known a priori. 3. *Value assigned to possible outcomes*; a positive or negative value if winning or losing respectively. 4. The

*player*<sup>4</sup> effort; due to game challenges effort is needed by the player. 5. *Player attached to the outcome*; when winning positive outcomes are brought up and vice versa. 6. *Negotiable consequence*; possibility for real-life consequences. When these elements come across become “uniquely productive, allowing for the huge variation and creativity that we are witnessing in games” (Juul, 2005, p.7). The definition is not to be viewed as definite or unmodified. Juul identifies that *computer games* have changed the Classic Game Model in various ways. Among others, games are not any more location and duration bound. They allow for rule modifications by the gamers and, the notion of variable outcome is no longer required since in online role-playing games, a final outcome is never reached.

Even though Juul’s definition can be generalized to a broad range of games, it fails to acknowledge the procedural nature of games and their intimate connection to everyday life. More notably, Malaby (2007) offers a game definition which initiates from the opposition to games as fundamentally separate from life (see Caillois, 1958); “A game is a semibounded and socially legitimate domain of contrived contingency that generates interpretable outcomes” (p.96). Through the examination of social theories and gambling games, Malaby argues that games are “a form of universal human activity” due to the fact that they are “social artifacts in their own right that are always in the process of becoming”. Games reflect and constitute the processes of everyday experiences; they are grounded on human practice, they are recursive with the capability for emergent change (generate new practices, tactics and interpretations), they share meanings and real-life consequences (e.g., gambling).

The processual approach on games (see Malaby, 2007) and the alterations to the classic game definition indicate that the validity of a game definition is continually

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<sup>4</sup> In this thesis the term *gamer* is used to denote the individual that takes part in gameplay. The term has been utilized due to its wide application in the video game industry (see Perron, 2003). In the work of Perron, a distinction is made between *the player* and *the gamer* based on Caillois’ (1958) dichotomy between *paidia* and *ludus* respectively (see more details in section 2.2). The application of the term *gamer* here is general and captures both conceptualizations.

threatened either due to changes emerging while playing or developments in game design practices. The advent of the new information and communication age has widened the game choices in terms of where and how games are played. As a result of changes in game design, gamers are authorized to reconfigure and compose their own gameplay. In Caillois' (1958) terms, games, in terms of predefined design, are moving away from *ludus* towards *paidia*. The boundary between free and structured forms of gameplay is set by game rules. The more rule-based a game is the closer it is to *ludus*. Caillois' concepts differentiate between *game* and *play*. As stated by Caillois:

“Such a primary power of improvisation and joy, which I call *paidia*, is allied to the taste for gratuitous difficulty that I propose to call *ludus*, in order to encompass the various games to which, without exaggeration, a civilizing quality can be attributed.” (p. 27, formatting as in original text)

The alignment of the design of particular genres of games toward “*paidia*” allows for improvisation and creativity by the gamers. Their flexibility and openness enhances the degree of interactivity through personalization of gameplay. Hunicke's and Brown's definitions (in Newman & Simons, 2004) acknowledge the importance of rules' modification and the potential for raising their restrictive effects in order for gameplay not to become programmatic. Likewise, Newman (2004, p. 28) argues that “videogames are not merely to be viewed as restrictive rule systems” but “the necessity for exploration and deduction as well as the player's ability to ignore or even subvert a designer's intention” should be equally considered. Commenting on the argumentation around the rule based dimension of games, Taylor (2006a) considers a more essential distinction; “*whose* rules in *which* contexts”. The emergent rule structures are influenced not only by the game structure but also the interplay of diverse contextual factors during gaming. The genre of games approximating more notions of play is MUDs (Frasca, 1999) and their recent descendants, Massively Multiplayer Online Role-Playing Games (MMORPGs) (Perron, 2003). Even though the specific game genre demonstrate rules, it is optional whether the gamer upholds or deviates creating its own form of gameplay.

A shift from static conceptualizations of games towards more fluid and emergent definitions is observed. Strict definitions of games based on predefined sets of game

elements, are fading away, favouring conceptions of games grounded in social practice and recognizing gamers' influential role during gameplay. In accordance with Malaby (2007), the present thesis defines games as activities placed within social life, being in a continual process of becoming, due to gamers' emergent play. The conception of what is a game is constantly evolving. The changing nature of game definitions reflects essential alterations in the nature of gaming and gamers' practices. Since games are under a process of ongoing alteration, further investigations are required in order to examine the transformation of games and the impact this shift has on gamers' practices. Based on a socio-technological argument around games' reformation, the following analysis attempts to shed light upon the current route of digital gaming.

### **2.3 The emerging social character of digital games as configured through the social transformation of technology**

The transformation of digital games has been rigidly associated with technology (Newman, 2004). The social design of technological inventions including the personal computer and networks' potential for connecting a growing number of people at one time enabled more social forms of gameplay. For games, the notion of social interaction or sociality is a construct engulfed in the nature of play. It is evident in early notions of gameplay, in the non-electronic precursors of games (see Caillois, 1958). With the technological development the sociality of games found a new vehicle of expression exempt of time, place and quantity restrictions; internet connection is the precondition that brought together a massive number of gamers enabling virtual interaction, constant and continuous communication.

From their beginnings, games have been defined by the available technological developments. More notably, the evolution of computer hardware and software along with the use of networks has enabled non-electronic games to be played on new platforms bringing up new forms of gameplay. The implementation of the first computer design – ENIAC - and the development of the transistor which allowed for the creation of small electronic devices defined the emergence of the first electronic game -*Tennis for Two*- played on an analog computer with some basic bush buttons



(oscilloscope) (Demaria & Wilson, 2004). The creation of *Spacewar*, the first computer game to be created, constituted an interesting and pleasurable way to demonstrate the PDP-1 computer and its capabilities (Demaria & Wilson, 2004). The persistent integration of games into the emerging technological innovations places the examination of games and sociality to intersect with the investigation of computer networks and their social applications.

The notion of social play is evident in the first videogames to be designed. Tennis for two (1958) as indicated by the game's name was a primitive simulation of tennis played by two gamers in competition. *Spacewar* (1962) followed a similar implementation; two gamers each one holding a controller input navigated their space ships in a computer generated space (Demaria & Wilson, 2004). The PDP-1 computer hosting the game was the first computer that allowed for simultaneous sharing of the hardware by multiple users (Bellis, n.d). The first console to offer a similar experience was Magnavox Odyssey 200 (1975) by allowing simultaneous gameplay by four gamers (THEGAMECONSOLE, n.d). A year later the Atari Super Pong home console was released allowing for two-gamer play of the successful Pong (1972). The game controllers were shaped in the standard joystick design in 1978 with the release of a new version of the Magnavox Odyssey. The integration of more than one controller was implemented in most home consoles and arcades released at that time. Most recent console releases continue to demonstrate similar features (e.g., Xbox live and PlayStation3). The particular game configuration is indicative of designers' early attempts to support group play. During the production of the first videogames, sociality is configured as synchronous gameplay by at least two gamers sharing the same physical space.

The appearance of electronic networks and their evolution to the well known internet facilitated game patterns no longer bound by place and time. In more detail, ARPA (Advanced Research Project Agency) was the enabling agent of the Internet created in 1957 and dedicated to military purposes (Winston, 1998). The creation of the Interface Messenger Processor created by an ARPA agency enabled the emergence of ARPAnet which connected initially four universities (Demaria & Wilson, 2004). ARPAnet allowed access to each university's site for research and communication



(Jones, 1998a). The communication was at first in the form of sending individual messages like a post-office. Even though it was used only by universities, this type of communication brought about additional developments including mailing lists (Winston, 1998).

Due to the Internet and the creation of the World Wide Web enormous numbers of people have been able to interact either synchronously or asynchronously. The form of this communication while at first restricted to the exchange of written messages (e.g., mailing lists, bulletin boards, USENET, e-mail) or file transfer and access to remote computers (e.g., FTP, telnet protocols, see Howe, 2007), evolved into sharing audiovisual data (e.g., blogs, Facebook, YouTube, MySpace.com), in implementing synchronous aural, visual and textual discussions (e.g., MSN, Skype, Yahoo!Messenger) and in the collaborative creation of webpages (i.e., Wikis). Due to the social affordances of these applications, digital games began to exhibit a more social character. The Bulletin Board Systems (BBS) allowed online gameplay to evolve. BBS were created by individual users and were used as a portal for inviting other gamers to game, and share hints, game reviews and game software (Demaria & Wilson, 2004). The origins of online gaming are identified in PLATO's design, a revolutionary educational computer system and the development of the first PLATO game (1960) (Demaria & Wilson, 2004). During the following years, the first network games in the form of Multi-User Dungeons (MUD) began to develop. MUDs were text-based adventures played on a remote server dedicated to the game that afforded limited social interaction. The user could interact with the creatures, objects and other characters only through simple written commands. Any changes in characters' position, score, movements and accomplishments were envisioned in text mode only (Kelly 2, 2004).

Social interaction in MUDs moved from text-based to the representation of gamers' character in a graphical way along with input commands with the creation of the *Habitat* (1986), a 2-D graphical multi-user virtual environment (see Morningstar & Farmer, 1990). The model of gameplay *Habitat* presented influenced the structure of online role-playing games (Demaria & Wilson, 2004). Even though the communication with the system and other gamers was still text-based, the *Habitat*

offered the possibility for creating and sharing a game world among gamers. The successors of games like Habitat faced a graphical revolution by the development of 3-D game world representations. As Taylor (2006a, p.26) ascertains:

“The mid-90s saw a boom in graphical virtual worlds with everything from the 3-D world of *Online!Traveler*, with its voice-enhanced talking heads, to *The Palace*, a somewhat cartoon-like space where players could create and run their own unique worlds complete with avatars, objects and games.”

The graphical development of the mid-90s and the popularity of internet use and broadband services led to the emergence of Massively Multiplayer Online Role-Playing games (MMORPGs) (see next section). Recent developments also comment on a new, non-investigated area of gaming; the casual *asynchronous* massively multiplayer online gaming through the utilization of “ghosts”. Ghosts have the ability to act autonomously when gamers are offline whereas they can be controlled directly by gamers when online, as in other MMORPGs (Zachary, 2008). Asynchronous communication enhances games’ flexibility since gaming, while maintaining MMORPG’s qualities can also fit gamers’ own schedule.

The transformation of digital games into more socially-oriented applications is inherently related to the advent of new technologies and particularly the proliferation of the internet. By becoming a public means of use, the internet signalled the social reconfiguration of games. The more social it becomes the more social forms of gameplay are emerging. MMORPGs constitute the prominent example of the social transformation of games. The inherent sociality of games and play, as described by Caillois has been expanded, creating new opportunities for participatory gameplay. Games like MMORPGs are convenient spaces for ongoing, synchronous, free of constraints social interaction since they are *persistent* game worlds; “their simulations continue to operate whether or not a player is engaged with them” (Newman, 2004, p. 167).

### **2.4 The case of MMORPGs**

The creation of Ultima Online (1997), the first complete online game world (Demaria & Wilson, 2004) signalled the new generation of Massively Multiplayer Online Role-Playing Games (MMORPGs). MMORPGs constitute the evolution of

MUDs (multiuser dungeons). MUDs are text-based virtual worlds in which gamers interact and move their character through written commands. What differentiates MMORPGs from their MUDs ancestors is their capacity for an expansive number of gamers entering the game simultaneously. This feature coined the term “massively multiplayer”. The role-playing dimension of MMORPGs is directly related to their other ancestor, the Dungeon and Dragons and their role-playing nature. Ultima Online was followed by the advent of Asheron’s call (1999) and the shift towards cooperative forms of gameplay. Collective game efforts were encouraged among groups of gamers making gameplay a shared experience (Demaria & Wilson, 2004).

In the pursuit of similar goals, games including EverQuest (1999), Dark Age of Camelot (2001) and World of Warcraft (WoW) (2004) emerged amplifying the dominance of MMORPGs in the game market. The popularity of MMORPGs is evident in games like WoW subscriptions to which reached 11.5 million worldwide (Quillen, 2008). While other genres of games enjoy a period of success and then disappear, it seems that for MMORPGs this is not the case. Ultima Online has been running for more than 10 years indicating that gamers insist on these game worlds and enjoy this form of gameplay. The latest report from Entertainment Software Association (ESA) (2007) places an MMORPG, World of Warcraft, at the top of the best-selling computer games ranking for 2006 among the US population.

MMORPGs constitute virtual game worlds with no definite ending. What distinguishes MMORPGs from other online virtual social worlds<sup>5</sup> such as The Sims (2002) is that they are based on adventuring and killing (Castronova, 2001). In addition, games like The Sims or Second Life (2003), except for customizing the avatar, allow users to create items and services (i.e., construction of objects) by incorporating a built-in scripting and building language into their application (Virtual Environments Info Group, 2008). Also, game goals are absent encouraging the gamer to set personal targets. In MMORPGs, official game goals exist (for instance levelling up and killing monsters) however, as in other virtual worlds, the

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<sup>5</sup> The term online virtual world is also used to describe Collaborative Virtual Environments (CVE), Immersive Virtual Worlds and Multi-User Domains and MUD Object Oriented (MOOs) (see Virtual Environments Info Group, 2008).

choice of action is up to the gamer. In both cases “the player can choose to buy a *nice* couch rather than an *optimal* couch” (Juul, 2005, p. 199, formatting as in original text).

According to Kelly 2 (2004, p.13) MMORPGs are “living, self-contained, global, three-dimensional virtual worlds, each one the size of a real-world country filled with forests, prairies, oceans, mountains, towns, and thousands of simultaneous players”. MMORPGs are inhabited by a great number of gamers who play competitively or collaboratively. The multiplayer formation of these games affords a high status for social interaction. Precisely, gamers can communicate through a text-based chat window, exchange emotes that enable avatars to implement a series of actions (e.g., dance, laugh, say hello), have friendly duels, and form groups for collaborative gameplay. The sense of “being with others” or the sense of co-presence is enhanced through the sharing of the same space, the possibility for acting *with* others, the embodiment of the gamer in the configuration of an avatar and the context in which gamers play. Rheingold (1999, p.414, in Bell, 2001) commenting on cyberspace’s potential asserted that people can do all the things they do when interacting in face to face encounters “but we do it with words on computer screens, leaving our bodies behind”. With the creation of MMORPGs even body restrictions have, in a sense, been raised. Although it is impossible for gamers to be on the screen in flesh and bones, through their avatar they can implement real-life as well as make-believe activities. They can talk, walk, eat, drink, buy, sell, kill, heal, annoy and simultaneously cast spells, fly, disappear and resurrect. The design of these worlds expands the span of real-life interactivity by allowing imaginative actions and personas.

The abundance of virtual activities is accompanied by a socioeconomic, racial and body reconfiguration. The avatar serves as an alternative persona free of gamers’ social or ethical marks. The gamer, through the process of the avatar’s customization, can negotiate real life restrictions and create a personalized new perception of the self. Game design affordances, though, can impose certain limitations on the construction of an avatar exempt from social and physical marks. The work of Pace (2008) illustrates that existing racial ideologies are reproduced

during the process of the avatar's customization. Through the analysis of the customization interface of World of Warcraft it is demonstrated that the white male human avatar is elevated in the game whereas there is a correspondence between each game race and its attributes (e.g., dances, movements, architecture) and real world race (e.g., *Human* race is the North American, *Night Elf* is the Asians, *Draenei* the Turkish).

The descriptive account on MMORPGs indicates that online game worlds differ from traditional forms of games in which the gamer has to follow a single linear pathway in order to complete game goals. Within MMORPGs, gameplay is not static but emergent through gamers' choices for play. What makes MMORPGs a distinct form of game experience is their social dynamic; persistent social interactions and collective choices for action are renewing gameplay and shaping innovative forms of play.

### **2.5 Game context**

The social dynamic of MMORPGs can be conceived through the lenses of a contextual perspective on gaming. The notion of context is an ideal concept for illustrating the essence of gameplay within MMORPGs. Despite the centrality of context for understanding online game worlds, contextual game examinations have not driven any particular attention by the research community.

#### **Defining context within the present thesis**

The perception of context is a multivalent term for which great argumentations have been raised in multiple disciplines, however, without yet reaching common consensus. The notion of context deployed in this section follows Cole's (1996) conceptualization due to the applicability of this perspective to explain the social dynamic of MMORPGs. More notably, Cole differentiates between *context as that which surrounds* and *context as that which weaves together*. In both cases Cole's theorization is opposed to static or descriptive notions of context. For instance, Cole's approach differs from Giddens (1976) and the perception of context as the physical environment and the settings of human interaction (i.e., a. the time-space

boundaries around interaction, b. the co-presence of human actors that enables the identification of facial expressions, gestures and linguistic means of communication, and c. actors' awareness and use of (a) and (b) to influence during interaction (Giddens, 1984).

Context is not to be conceived from a positivist perspective as a set of stable environmental characteristics which can be identified and represented. In contrast, context is a dynamic construct. The *context as that which surrounds* is a metaphor of concentric cycles in which different levels constitute one another. The process of context creation becomes “an actively achieved, two-sided process” (Cole, 1996, p.134). This notion of context corresponds to the circumstances in which an action is embedded and the mutual influences between individuals and environmental conditions. The *weaving together* metaphor points to the ambiguous boundaries between a task or behaviour and its context (as that which surrounds the task or behaviour). When two elements recombine, the system they belong to is reshaped creating new relevant patterns. This view does not separate behaviour from environment but perceives “text and context as mutually constitutive” (Cole, 2003, para 5).

Consistent with Cole, a similar conceptualization of context is identified in the field of pervasive computing and the efforts made to design context-aware applications. The interactional nature of context places limitations in incorporating contextual information in computing since context is dynamic and occasioned-oriented, it is not information but “a relational property that holds between objects or activities” and it cannot be separated from activity due to its production and configuration within the activity (Dourish, 2004, p. 22). The context as creation also underlies the development of The Locales Framework (Fitzpatrick, 1998). The Locales Framework by capturing the complexities of the workaday world contributes to designing systems that support this world. *Locale* is a metaphor of place. It does not exist a priori. Instead, it evolves from the relationship between a social world and its interactional needs, and the spaces and resources used during collective activities. *Mutuality* and *interaction trajectories* are two aspects of the framework related to the discussion of context as creation. Through mutuality, a sense of shared place and

activity is maintained. Mutuality indicates “one person’s awareness of others, the artefacts comprising the locale, where things are located, and how things are changing within it” (Greenberg, 2001, p. 261). Interaction trajectories acknowledge the dynamic and on-going changing nature of interactions and the effort needed for controlling their evolution (ibid). These characteristics point to the dynamic nature of context resulting from constant interaction among social agents and between social agents and the environment.

A more tactical notion of context is identified in Nardi (1996). From an activity theory perspective, context is generated through the enactment of the activity in which both people and artefacts are involved. Thus context is simultaneously internal and external to people; internally it involves specific goals and objects and externally artefacts, other people and particular settings. External and internal constitute a single entity. According to Nardi (1996, p.76):

“A context cannot be reduced to an enumeration of people and artefacts; rather the specific transformative relationship between people and artefacts, embodied in the activity theory notion of functional organ, is at the heart of any definition of context, or activity.”

The interwoven nature of context and activity has been perceived as “embodied interaction”; the negotiation and evolution of practice by users through their interaction with the system (Dourish, 2004). What is implied through negotiation and common practice is that the involved social agents mutually recognize “contextuality” (Dourish, 2004) due to the sharing of common understandings about the world within which they interact.

### **Identifying context within MMORPGs**

The aforementioned conceptualization of context is identified in the social and collective character of MMORPGs. The multiplayer orientation of these games supports the creation of significant social networks *within* and *around* gameplay. According to Taylor (2006a) sociality does not simply denote talking between gamers but more importantly points to the development of networks and



relationships weaving on and offline. Games' sociality is expressed as a tendency to associate with other gamers and form social groups either competitively or collaboratively during gaming or around gaming in the form of online argumentations on game-related issues (Newman, 2004). The apparent demonstration of in-game sociality is the teamwork or collaborative gaming during which gamers collectively attempt to achieve game goals or compete with other gamers. However, sociality is not always pronounced in the sense that is formed in organized structured patterns (e.g., "guilds", "parties"). As emphasized by Nardi and Harris (2006), it can be identified into "brief, lightweight, informal fun" such as kill assist, answering questions, dancing and chatting (see also Chapter 7). In other cases, it is acknowledged in more intimate relationships; in the creation of life-long friends, even partners, as well as in gaming with real-life friends or family, thus emphasising that gaming is less likely to be an asocial activity (Cole & Griffiths, 2007). As Yee (2007b) emphasizes MMORPGs not only facilitate the formation of in-game relationships but they work as catalysts in existing relationships.

In addition, sociality is not restricted within the virtual world since it actually merges the boundaries between the physical and digital world. Drawing from the study of Lindtner, Nardi *et al.* (2008) about the gaming of a particular MMORPG, World of Warcraft (WoW) in internet cafes in China, a "hybrid cultural ecology" defines gaming. Participation in the virtual world is accompanied by participation in communicative encounters of the physical world such as discussions with other WoW gamers physically present around the gamer. More notably, "players assembled a variety of digital and physical artifacts and interrelated them based on individual preferences, requirements of the social group players belonged to (for example, guild or friends from college), societal norms and in-game goals" (p.7). The constant blurring between online and offline reality is not only identified in spaces dedicated to gaming such as internet cafes. The fusion of gaming and domestic conditions is prominent in cases of gamers that constitute couples in real life. Playing socially can incorporate the sharing of the same account with the one person actually playing and the other watching and helping as well as a shared ability for game discussion over physical contexts such as meal time (Carr & Oliver,



2008). The existence of social spaces *around* games is also evident in the emergence of a huge number of discussion forums and guild websites dedicated to, among others, game strategies, maps, guides, modifications, macro sharing, and game art. These pages constitute another form of social play since they result from gamers' collective contribution of knowledge and practices. This form of communication allows game fans to express their feelings and opinions through discussion and creation of game-related content (Newman, 2004).

The dynamic nature of context as demonstrated through the mutuality between gamers and environmental conditions (e.g., game structures, skills of other gamers, task to be implemented) is detailed in circumstances of teamwork. More notably, MMOPRG gamers own avatars with different class, specialization, distinct talents and professions. Thus each gamer through his/her avatar presents certain abilities, strengths and weaknesses when compared to other avatars. Due to the asymmetric abilities of the avatars, gamers are more likely to form groups and play collaboratively in order to overcome their inefficiencies and succeed. Ducheneaut *et al.* (2006a) commenting on the complementary relation among game classes, argue that greater efficacy is achieved when different classes work in combination. For example, a successful dungeon or battleground<sup>6</sup> requires collective work among gamers during which they combine distinct competencies in order to achieve game goals. Increased coordination and sequentially time dedication is required when gamers reach the highest game level (Ducheneaut *et al.*, 2006b). End-game<sup>7</sup> content can only be approached through grouping and strategic planning among a great number of gamers. Gamers and more overt end-gamers implement shared goals collectively. For instance, the formation of groups by a large-number of gamers for raiding<sup>8</sup> purposes reveals the 'internal' common intentions among those gamers and

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<sup>6</sup> Dungeons and battlegrounds are in-game choices for play. The former refers to fighting against computer creatures and the later is between online gamers.

<sup>7</sup> End-game is gameplay implemented after reaching end-level, currently level 80.

<sup>8</sup> Raids are assaults by large group of gamers on monsters in the game.

the ‘external’ use of artefacts, other people and settings constituents in a joint enterprise.

Context as creation is evident in the community’s continuous change during which new elements are included and old elements are reproduced or rediscovered. The social dynamic of MMORPGs can be observed in the gamers’ productive engagement with the game. The gamer-produced *mods* constitute an indicative example. Mods (or modifications) are tools produced by the gamers that modify gameplay by providing helpful functionalities to the game. They are particularly helpful in group coordination, and after reaching end-game since they facilitate higher levels of performance. They contribute in reshaping the game space, creating new forms of gameplay and even altering the conceptualization of what legitimate play is (Taylor, 2006b). Also, the creation of emotes<sup>9</sup> other than the standard ones by the gamers constitutes another source of personal intervention in the game. Such creations support the display of the avatar’s own role-playing qualities (Mortensen, 2006). The creation of a repertoire of resources including “routines, words, tools, ways of doing things, stories, gestures, symbols, genres, actions or concepts” are part of the shared practice (Wenger, 1998, p.83) negotiated within the discourse of gameplay. The renewal of practice and reinvention of gameplay is also evident in guilds. Thomas and Brown (2007) identify that due to game changes (i.e., strategy used) guild members often create new rule set for deciding which members will participate in raids. The changing nature of gameplay reveals the relational property of context and the ambiguity between a task and its context. According to Wenger (1998) the production of practices anew depends on newcomers contributions which shape and are shaped by the community.

Contextuality (see Dourish, 2004) is constantly evolved and renewed due to the ongoing changing nature of social interactions. The multiple levels of gamers’ involvement in the game accompanied by different roles, relations and responsibilities situate MMORPGs in constant change. The perception of context as

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<sup>9</sup> Emotes are pre-generated macro sayings and actions. They are activated when typing the respective code.

“creation” is identified in the dynamic change of the constituents of the game world that constructs new relevant contexts i.e., emergent forms of gameplay. The inherent complexity of context captures the flux of ongoing negotiation and continuous reproduction of meaning by the gamers.

### **2.6 The gamer and individual differences**

The final part of this chapter constitutes an early discussion (see also Chapter 3) of the impact the social configuration of games has on the gamer and more precisely, the role of individual differences in game practices. The transformation of games into open-ended online game worlds have dawn a new era for gamers. As evident in the aforementioned analysis gamers are actively involved in the formation of gameplay. Through constant social interactions, they create game norms, negotiate and co-construct their game experience. Gamers’ collective practices are inherently productive, in the sense of renewing gameplay and in respect of their labour for producing game material. Following Pearce (2002), gamers are both consumers and producers of the game.

Gamers have an active role within the game not only due to the high level of interactivity but more importantly due to the fact that they can choose their gameplay. The flexible design of MMORPGs instead of imposing to the gamer certain rules proposes less rigidly designed game structures. Game structures would be stricter if, for example, decisions on items’ sharing and gamers’ responsibilities were controlled by game masters<sup>10</sup> (Jakobsson & Taylor, 2003). Thus game rules are upheld or personalized by the gamer. As Taylor (2006a, p.157) argues “rules and norms can be, especially in the case of MMOGs, incredibly contextual, socially negotiated, heterogeneous, ambiguous, and quite often contradictory between players”. The freedom to alter or set personally meaningful game goals accommodates a greater variability of gamers’ types and experiences (Juul, 2005). In

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<sup>10</sup> Game Masters (GMs) provide in-game customer service to gamers who deal with problems.

the case of MMORPGs, technological determinism recedes in the material creation of the game and the proposed structures for gameplay.

The gamer within MMORPGs is situated in the centre of the game experience in the sense that s/he has the potential to shape gameplay based on personal preferences for play. Bartle (1996) examining the precursors of MMORPGs, the Multi-User Dungeons (MUDs) concluded in a typology of gamers based on gamers' enjoyment; gamers can be Achievers, Explorers, Socialisers and Killers. Gamers' behaviour was defined by whether there is an interest in (a) acting (on) or interacting with the game and (b) playing with others or experiencing the game world. Thus, achievers are defined as *acting on* the world, explorers are *interacting with* the world, socialisers are interacting *with* other gamers and killers are *acting on* other gamers. Bartle's findings initiate the interest for a more thorough examination of gamers' preferences in MMORPGs by Yee (2007a; 2006a). Yee criticizes Bartle's study as presenting inaccuracies concerning the discrimination of game preferences whereas he contests the polarized perception of Bartle that one preference suppresses the rest. Through an extensive research, data were gathered from active subscribers playing Ultima Online, EverQuest, Dark Age of Camelot, and Star Wars Galaxies. These MMORPGs comprised approximately the 75% of North America's MMORPG market between 2000 and 2003 (Yee, 2006a). The rich account of gamers' preferences suggests ten motivation subcomponents grouped in three main components; achievement, social and immersion (see Table 2.1). Play motivations do not hinder each other since gamers present a cluster of preferences for gameplay instead of showing strongest preference for one motivational component. Gamers, for example in raid-oriented guilds, using Bartle's terminology, are both achievers and socialisers (ibid).

Table 2.1

The three Overarching Factors and their Components for MMORPGs (Yee, 2007a)

<b>Achievement</b>	<b>Social</b>	<b>Immersion</b>
<b>Advancement</b> Progress, Power, Accumulation, Status	<b>Socializing</b> Casual Chat, Helping Others, Making Friends	<b>Discovery</b> Exploration, Lore, Finding Hidden Things
<b>Mechanics</b> Numbers, Optimization, Templating, Analysis	<b>Relationship</b> Personal, Self-Disclosure, Find and Give Support	<b>Role-Playing</b> Story Line, Character History, Roles, Fantasy
<b>Competition</b> Challenging Others, Provocation, Domination	<b>Teamwork</b> Collaboration, Groups, Group Achievements	<b>Customization</b> Appearances, Accessories, Style, Color Schemes
		<b>Escapism</b> Relax, Escape from RL, Avoid RL Problems

Yee's identification of game preferences suggests that MMORPGs offer to "different" people the potential to choose and customize their gameplay. By arguing that MMORPGs are socially-oriented, collectively created game spaces it is not assumed that all gamers follow a similar collaborative pattern of play<sup>11</sup>. On the contrary, while levelling up, gamers are more prone to solitary forms of play; even though they are surrounded by others, they act alone (Ducheneaut *et al.*, 2006a). MMORPGs flexible design is a convenient platform for gamers to accommodate individual differences.

Individual differences refer to the psychological variation among people and the reasons behavioural discrepancies come about (Cooper, 2002). They pertain to the systematic behavioural variability and the level of certain intrapsychic variables i.e., attributes that define intelligence, personality, motivation and mood (Barrett, 1997). Though personality and intelligence contribute to understanding individual differences by identifying the relative stability of behaviour over time and individuals' "maximal" cognitive abilities respectively, they are not adequate

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<sup>11</sup> The sociality of MMORPGs is identified in their multiplayer nature and their persistent application. The gamer interacts within a populated space in which s/he can communicate meaningfully. In addition, the virtual world exists even when the gamer logs off.

predictors of differences between individuals. It is also needed to consider for the influence of situational factors such as motivation and mood on the expression of individual differences (Chamorro-Premuzic, 2007). Personality and motivation are the psychological characteristics relevant to the present examination. It is an open question whether certain personality traits and motivation orientation impact and in what ways on gamers' practices. Commenting on the profile of MMORPG gamers Castronova (2005, p. 63) argues that they are "avidly social", aim to collaborative game activity and in contrast to gamers of other game genres, they "maintain a great deal of their social connections exclusively online". It is thus worth examining such arguments in the light of individual differences in order to identify whether social processes within MMORPGs are actually defined by underlying psychological characteristics (see Chapter 3).

### **2.7 Concluding remarks**

The current game scene advocates that technological and game developments are inherently bounded. Technological progression influences the configuration of games. Any attempt to investigate digital games should take into account games' mutability due to technological changes. As Malaby (2007, p. 103) states:

"any attempt to formalize games by defining them essentially in terms of their rules or through a taxonomy of types (Zimmerman & Salen, 2003) falls short because it fails to capture how games are moving targets, capable of generating new, emergent effects that then inform the following instances of the game."

The recent configuration of games presents a shift towards more socially structured game experiences. By becoming massively multi-played, games have promoted more social forms of gaming. The transformation of games pertains not only to games' multiplayer character but more essentially to the consequences originated from their flexible and open-ended design. Persistent social interactions enable the negotiation and mutual co-construction of the game experience. Gameplay within MMORPGs is never saturated but continually renewed. The social nature of MMORPGs is better understood when context, as a dynamic, constantly modified and grounded in practice concept, is deployed.

The design of MMORPGs has revolutionized another dimension of gaming; the gamer has been placed in the middle of the game process by becoming the generator of gameplay. The focus on gamers as the creators of game experience contradicts with the majority of traditional game definitions and the emphasis given on games as rule-based systems. Even though some game designs are less restrictive than others, the creation of open-ended games signalled the marginalization of game rules. Following game rules is a matter of choice; the gamer has the potential to customize gameplay based on personal preferences. In consequence, individual differences between gamers can be expressed within MMORPGs and mirrored at the choices made by each gamer.

Overall, the analysis of the recent formation of digital games reveals that the current nature of gaming is inherently social. Sociality preserves the vigour of MMORPGs through collective gaming, constant change and renewal of gameplay, contextually defined game choices and by favouring gamers' preferences for play.

## **Chapter 3**

### **Setting the scene:**

### **The gamer and individual differences**

The intense involvement of a considerably large number of people with games has raised the interest in explaining their engaging qualities. The motivational nature of games has been attributed to specific in-game characteristics that promote immersion and enjoyment. The gamer, as the focus of such investigation has been, though, largely overlooked. In order to understand motivation from the perspective of the gamer, individual differences and more specifically, basic psychological needs theory (Ryan & Deci, 1985) and trait emotional intelligence (Petrides & Furnham, 2001) are analysed. These psychological constructs are hypothesised to discriminate between gamers and personal preferences for play, contributing to understanding why games are such an appealing activity.

#### **3.1 Rationale**

Drawing from the field of psychology, motivation is “that which gives direction and intensity to the behaviour” (Frymier, 1970). A motivated individual is a person activated towards an end. Motivation is conceived as a personalized phenomenon, since individual’s needs, expectations and values are the determinants of motivation, and it is also intentional since it results from personal choice for doing something (Mitchell, 1982). Motivation varies in terms of degrees and types. Specifically, there are levels of motivation (i.e., how much motivated) and orientations (i.e., types that indicate the why of action) (Ryan & Deci, 2000a). The latter aspect of motivation points to a well-known dichotomy between intrinsic and extrinsic motivation. When an action is implemented due to inherent interest and enjoyment is considered to be intrinsically motivated. When an action is the result of an external expectation is perceived to be extrinsically motivated. Intrinsic motivation corresponds to



Hickman's (1988, in Stewart, 2002) engagement purposes when appropriating an artefact or technology. While utility purposes stress the practical ends of use, engagement purposes concern the subjective response to the technology aiming at satisfying symbolic ends. It is the excitement, interest and conformity evoked when using it. In the case of games, motivation is intrinsically oriented since gaming is an entertaining activity chosen due to personal interest and no other external rewards.

The source of motivation, as indicated above, is the individual and specific psychological characteristics. In the case of games though, such analysis of motivation has been overlooked. Game studies have mostly examined the issue from the perspective of the "activity". Motivation has been analysed counting for situational variables namely game design, and in particular, the identification of engaging game elements. Gamers become motivated when the game environment presents specific characteristics (see 3.2) that reinforce involvement with the game. The two approaches on motivation are not contradictory since the identification of motivational game elements is closely related to perceptions of motivation as originated from inside the gamer as an individual. In order for gameplay to be implemented, interaction between the gamer and game design is required. Person and situational variables are reciprocally influenced (Mischel, 1998). The question raised is whether and when psychological characteristics make a difference in gaming compared to environmental conditions.

Variance from psychological characteristics is stronger within relatively unstructured and ambiguous situations. As Cantor (ibid, p.434-435) explains:

"To the degree that the situation is "unstructured," the subject will expect that virtually *any* response from him is equally likely to be equally appropriate (i.e., will lead to similar consequences), and variance from individual differences will be greatest [...]. In some settings [social settings] the rules and prescriptions for enacting specific role behaviors impose narrow limits on the range of possible behaviors (e.g., in church, at school, in a theatre, at a conference), while in others the range of possible behaviours is broad and often the individual can select, structure, and reorganize situations with minimal external constraints."

In the case of online gaming, such freedom of choice and ambiguity is pronounced. The play route is not predefined by design but generated by gamers through constant social interactions (see Chapter 2). As King and Krzywinska (2006) identified MMORPG gaming can even be confusing due to a lack of clear goals when entering the game world. Therefore, these games are convenient situations for gamers to shape gameplay since multiple responses are likely to be appropriate inside the game settings. As supported by Oulasvirta and Blom (2007) the personalization of devices results in their unique shaping by the user in accordance to his/her identity. MMORPGs favour the expression of gamers' psychological characteristics due to the open-ended game design.

The study of motivation within this thesis is focused on the gamer, as the unit of analysis. The aim is to explain gaming drawing from the domain of differential psychology, and specifically identify whether individual differences discriminate between gamers and game preferences. Situational conditions, namely game design and the social settings of gaming, are also included in this examination as they comprise the parameters framing the context within which gaming is situated (see Chapter 2). They are requisite for understanding the gamer and his/her role in gaming since, as already discussed, an influential relationship exists between environmental and person variables.

In the section that follows, the motivational nature of gaming is analysed in order to clarify how specific game elements influence engagement with games. This analysis contributes to documenting the relationship between game design and the gamer as well as better understanding the psychologically-oriented perspective on motivation adopted in later sections.

### **3.2 The motivational nature of digital games**

The motivational qualities of game design and in particular, the identification of certain game elements promoting engagement in gaming is the topic of interest in this section. The first part discusses motivation in relation to game design

characteristics. The second part deploys, as analytical tool, the theory of Optimal Experience (Csikszentmihalyi, 1988; 1975) in order to analyse the motivational nature of MMORPGs.

### 3.2.1 Motivation and gaming

Terms such as *engagement*, *immersion* and *fun* have been used interchangeably to feature the motivational dimension of digital games (BECTA, 2006) and thus indicate gamers' satisfaction and pleasure while gaming. Attempts to distinguish these terms concluded that engagement and immersion are actually two distinct states. As Carr (2006, p. 54) argues engagement is "a more deliberate, critical mode of participation" whereas immersion refers to a less critical state of absorption in the game. The player<sup>12</sup> moves from engagement to immersion when less deliberate effort is required for implementing game actions or overcoming obstacles. The emergence of new or bigger challenges renews engagement since these enforce the player to move from being absorbed (immersed), to thinking of a problem away from the on-screen action. Other examinations (Ryan *et al.*, 2006) make reference to the *fun* of gaming as the result of game design elements that support gamers' psychological needs (see 3.3.1d).

The motivational nature of digital games has raised the interest of the research community since the very beginnings of the proliferation of games in the market. In an attempt to understand the reinforcing properties of games, game design has been exhaustively analysed. A great body of research has been focused on identifying specific design features that evoke and sustain involvement with gaming. Such investigations have contributed to understanding the mass appeal of particular games compared to the unsuccessful release of others. An influential approach in the area is the examination of Malone and Lepper (1987) and the identification of individual and interpersonal factors required for designing intrinsically motivating environments. More notably, individuals become motivated when they attain

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<sup>12</sup> The term *player* is used by Carr (2006). It is adopted here due to the reference made to the respective work.

challenging activities of a moderate level of difficulty that entail curiosity, fantasy elements and are controllable. In addition, activities supporting competition, cooperation and recognition for accomplishments work also motivationally. In line with Malone and Lepper, more recent studies indicate that the engaging power of digital games stems from problem solving occasions, moderate levels of difficulty, and accessibility by gamers with different game skills (by inducing various levels of difficulty, provision of rewards, exploration, and affordance for social interaction) (Prensky, 2001). Additionally, they comment on realism in sound, graphics and settings, quick absorption, customization, and multiplayer features (Wood *et al.*, 2004). The multiplayer orientation of games has been further documented stressing the influence of social interactions, identity experimentation and community support during gameplay (Yee, 2007; 2006c; n.d.; Bruckman, 1997; Turkle, 1995). Other game elements such as celebrity licences for easier familiarity with the game and storyline have been also identified (BECTA, 2006).

The motivational qualities of games have been grouped by Burn and Carr (2006) into three main categories; *representational*, *ludic* and *communal* motivations. The first points to aspects of representation within the game such as narrative factors and visual imaginary, the second refers to issues of gameplay including rules and competition whereas the latter stresses the social dimension of gameplay and the broader online game culture. While the two states (i.e., engagement and immersion) as defined by Carr (2006) can be perceived as the stepping stones for further game use, the motivations described by Burn and Carr better explain persistent gaming.

### **3.2.2 Analysing the motivational nature of MMORPGs based on Optimal Experience**

Analysing motivation from the perspective of game design requires taking into account the changing nature of games. The flexibility of online multiplayer game worlds has revolutionized the nature of gaming in certain ways (see Chapter 2). This reformation is not without consequences for the motivational qualities of games. As emphasised by Dickey (2005, p.69) “game design has evolved, and now incorporates

narrative, role playing, multi-players, representations of three dimensional spaces, and interactive elements beyond the limits of games represented in the previous studies”. In this section, the design of MMORPGs is analysed using the theory of Optimal Experience (Csikszentmihalyi, 1988; 1975). The aim is to explain the motivational nature of MMORPGs.

### **Optimal Experience**

Csikszentmihalyi (1988; 1975) through the examination of a range of activities in leisure and the work field proposed the idea of *Optimal Experience*. The dynamic state when individuals feel “a holistic sensation” due to total involvement in an activity has been defined as the *flow state*. When being in a flow state “action follows upon action according to an internal logic that seems to need no conscious intervention by the actor” (Csikszentmihalyi, 1975, p.36) leading to an optimal experience. Games are considered to be the flow experience par excellence since the dimensions of flow are better manifested in play. The flow state offers an analytical framework for understanding the satisfaction gamers experience during gameplay. The match between a person’s capabilities and action’s opportunities is a central principle of flow; “Flow is experienced when people perceive opportunities for action as evenly matched by their capabilities” (ibid, p.50). Boredom or greater anxiety is experienced when the situational demands are lower or higher than individuals’ capabilities respectively. An intermediate level of difficulty is required in order for individuals to engage with the activity. In addition, using Loftus and Loftus (1983) conceptualization, what is needed is *partial reinforcement*; a reward neither continuous nor intermittent that appears in an unpredictable moment. Gamers having the expectation for another reward to appear keep responding to the absence of the reinforcement. The conceptualization of optimal experience suggests that the motivational nature of activities is inherently related to specific reinforcing features defining the activity such as level of difficulty and rewards.

### **MMORPGs and Optimal Experience**

The match between gamers' skills and game challenges is one of the central principles of Optimal Experience. MMORPGs due to the range of challenges induced in their design are a prominent field for gamers' capabilities to fit the challenges of the action. The design of such games is based on the completion of quests, the collection of experience points and levelling up (see Chapter 7: 7.2). Gamers, according to their level in the game are challenged to collect only those quests close to their current level since only these are signalled for collection. Colour-coding is used as an indication of which quests are to be solely completed and which require a group activity, demonstrating in this way the level of difficulty. Moreover, all creatures are labelled as an indication of the level of challenge presented to the gamer. While levelling up, the gamer becomes more powerful, allowing for more challenging activities with greater rewards, and eliciting a pleasurable sense of gradual progression (King & Krzywinska, 2006). Balancing skills with challenges creates a sense of holistic absorption to the activity and loss of self-consciousness (Csikszentmihalyi, 1988; 1975).

In addition, flow state is characterized by loss of self-awareness. Being deeply focused on the game activity requires complete immersion and concentration offering a relief from any anxieties, worries and stressful events experienced in real life. MMORPG gameplay is viewed by gamers as an escape from reality (Yee, 2007; 2006c; n.d.). As summarized by Kelly 2 (2004, p. 94) "direct action, plot complexity, engagement in the outcome, and gradual growth in understanding the game world's intricacies makes for an experience that completely removes you from real life's problems." The virtual world of the game becomes the gamers' reality. What defines gameplay is "a sense of being there, rather than controlling, manipulating or perhaps even 'playing the game'" (Newman, 2004, p.17). As a result, the sense of time can be transformed attending to the rhythms of the game, and contributing to the flow state. MMORPG potential for collaboration and joint enterprise which in some cases entails certain responsibilities for the gamer also contributes to absorption. For instance, for a guild master it becomes requisite to spend prolonged time and be intensively involved in game practices so as to

coordinate and guide guild members. Being an inconsistent guild master may lead to the deconstruction of the guild as members are quitting and/or loss of the position (Williams *et al.*, 2006). Similarly, the contribution of those guild members who are distinguished for their abilities and skilful gameplay during battles is vital in order to win. The role of each gamer within group settings can determine a high degree of involvement with the game and enforce engagement. For some gamers, MMORPGs can even become an obligation; work platforms or a second job blurring the boundaries between work and entertainment (Yee, 2006b).

Optimal experience is also related to the activity's clear goals, the reception of feedback and the sense of control while playing (Csikszentmihalyi, 1988; 1975). In terms of clear goals and feedback MMORPGs have been conceived as confusing particularly for those gamers experiencing this genre of game for first time (King & Krzywinska, 2006). Their open-ended nature situates the gamer in the middle of a virtual world surrounded by computer creatures and other online gamers without having been given a clear goal to attain. Thus a form of guidance becomes requisite. A valuable source of information and support can be the multiplayer orientation of those games and the potential for instant and constant communication with other gamers. The freedom of actions and choices afforded by MMORPGs, though possibly problematic for newcomers, can be soon transformed into a motivating force creating a pleasurable experience. Gamers become the shapers of the game experience as they are free to act independently and prescribe their own game route (see Chapter 2). Co-creating the game lore is an attractive possibility for people who wish to live inside imaginative conditions (Kelly 2, 2004). Fulfilling quests over exploring the world, socializing over fighting in a battleground are merely some of the available choices. Finally, the freedom of choice within MMORPGs has been related to a strongest sense of control (King & Krzywinska, 2006).

Flow state has produced a detailed account of what motivates gamers during the actual moments of gameplay. Motivational elements are also identified in the reasons reinforcing involvement with MMORPGs including, among others, advancement, competition, collective interactions, creation of personal relationships, and role-playing (Yee, 2007; 2006c; n.d.) (see Chapter 2: 2.6). The analysis of

motivation as emerging from *inside* the game structure, however, has overlooked the gamer as an individual. From the point of view of the gamer, the focus of examination is placed on personal preferences for play and their underlying motives.

### **3.3 A psychologically-oriented analysis of games and motivation**

By commenting on a psychologically-oriented analysis of games and motivation, the motivational force of gaming as originated from *inside* the individual becomes the centre of discussion. The *why* of gaming is examined from a user-centred perspective aiming to identify whether the psychological variation among gamers, in other words individual differences, are associated with gaming. Individual differences refer to the variation between individuals in personality traits (i.e., personality differences related to the general behaviour of the individual), cognitive abilities and short-lasting features of the individual including mood and motivation (Cooper, 2002).

Within this thesis, the study of individual differences incorporates measurements of both traits and states. In respect of the former, personality traits, in particular trait emotional intelligence (Petrides & Furnham, 2001) is examined. As Allport (1961, in Maltby, 2006, p. 20) defined it personality is a “dynamic organization, inside the person, of psychophysical systems that create the person’s characteristic patterns of behaviour, thoughts and feelings”. Personality traits demonstrate the relative stability and cross-situational consistency of behaviour. They are indicators of how a person typically acts without, though, ignoring the within-person and across time and situations variability of trait expressions (Baird & Lucas, 2006; Freeson, 2004). In terms of the latter, motivational states are analysed, specifically basic psychological needs theory (Deci & Ryan, 1985). States differ from traits in the sense that they are not longitudinally stable as they are dependent on situational variables that affect the behaviour of the individual. More accurately, states are influenced by both traits and situational variables (Chamorro-Premuzic, 2007). Overall, behaviour is the outcome of internal disposition and situational factors (ibid). In this thesis, personality traits and motivation theories have been utilised to



explain gamers' preferences for play (see following paragraphs). In the case of MMORPGs such analysis is facilitated due to the fact that game design is open-ended and can thus become melded into gamers' psychological characteristics (see 3.1).

### **What previous research advocates**

Limited research, commenting on the relationship between individual differences and gaming, has been identified. Such approaches examine both electronic and non-electronic games, utilizing mainly widely used psychological constructs such as, the Big Five personality inventory measuring personality based on five key traits (i.e., neuroticism, extraversion, agreeableness, openness to experience, and conscientiousness) (NEO PI-R; Costa & McCrae, 1992) and the Eysenck Personality Questionnaire measuring neuroticism, extraversion and psychoticism (Eysenck *et al.*, 1985). More notably, children scoring higher on extraversion and openness are more likely to be attracted to and play chess compared with those scoring high in agreeableness (Bilalic *et al.*, 2007). Moreover, the comparison between “online game players” and “nonplayers” indicates that “online game players” present higher scores in openness, conscientiousness, and extraversion compared to “nonplayers” (Teng, 2008). Other psychological dimensions such as impulsivity have been found to be unrelated to the propensity for play and affective states (Chumbley & Griffiths, 2006) whereas high impulsive sensation seeking was related to the choice of dangerous and exciting games due to the satisfaction of the need for thrill characterizing high sensation seekers (Ravaja *et al.*, 2004).

A later personality dimension related to gaming is self-report emotional intelligence. Emotional intelligence and in particular interpersonal abilities have been found to explain online game overuse (within the article stated as “addiction-related behaviors”) mostly for younger groups (Parker *et al.*, 2008). In addition, “heaviest” game users present less fulfilling interpersonal relationships compared to “light” and “non-users”. Similarly, “light” users differ from “non-users” (Lo *et al.*, 2005). Other studies drawing from a moderate relationship between problematic game use and amount of time spent on gaming indicated that not all frequent gamers demonstrate

problems with games but only those gamers with lower scores in agreeableness and higher scores in neuroticism, as measured by NEO-PI-R (Peters & Malensky, 2008). Finally, an examination of online gamers' personality and life satisfaction indicating variability on these dimensions revealed that online gamers could be more satisfied when playing games that accord with their personality traits (Chen *et al.*, 2008).

Another body of research has been dedicated to the investigation of individual differences and internet use. Due to the conceptual connection of some of these studies to online gaming, selected evidence is presented below. More notably, users high in extraversion, agreeableness and openness tend to prefer two-way collaborative online discussion whereas one-way communication styles that do not solicit reaction are preferred by low scorers in the aforementioned traits (Chen & Caropreso, 2004). Also, high in neuroticism individuals are prone to internet use and particular social applications (i.e., maintaining blogs) in order to feel a sense of belonging and avoid loneliness (Guadagno *et al.*, 2008; Amiel & Sargent, 2004). Conversely, high in extraversion users do not favour the communal aspects of the internet over goal-oriented use of it (Amiel & Sargent, 2004). As indicated by Amichai-Hamburger *et al.* (2002), individuals with higher scores on extraversion and non-neurotic traits are more prone to traditional social interaction in contrast to high scorers on introversion and neuroticism who prefer internet-based communication. The above evidence stresses the utilization of online social applications by less sociable individuals. Such propensity can be explained by the fact that the internet is a space where "many of the situational factors that foster feelings of anxiety (e.g., talking to someone face to face, having to respond on the spot with verbal exchanges) are absent" (McKenna & Bargh, 2000, p.67). Thus people's feelings of self-confidence and self-efficacy are increased overcoming social anxiety (ibid) and loneliness (Davis *et al.*, 2002). Likewise, MMORPG gamers perceive games' sociality as more pleasant and rewarding than in real-life, leading them to heavier game use compared to offline video gamers (Brian & Wiemer-Hastings, 2005).

### **The choice of basic psychological needs theory and trait emotional intelligence (trait EI)**

The reasons the theory of basic psychological needs, have been deployed are identified in the findings presented by Ryan, Rigby and Przybylski (2006) around the motivational pull of games and specifically, games' potential to satisfy basic psychological needs (see also 3.3.1d). Further research suggests that the energy in behaviour (i.e., motivation) is "fundamentally a matter of needs" (Deci & Ryan, 1985). Basic psychological needs thus become a potential candidate for explaining gamers' practices since gaming might be a space where gamers with less satisfied needs fulfil their needs. The choice of the specific theory (i.e., basic psychological needs) is identified in the richness and depth of the theory. Firstly, the presentation of the theory offers explicit definitions of the main theoretical constructs as well as their distinct features and relation to other similar constructs (see 3.3.1). In addition, the theory is widely applicable to practice contributing to understanding human motivation between individuals across diverse domains, epochs and cultures and within the single individual. Finally, the robustness of the theory is evident in the constant and documented responses on criticism contesting the theory's validity and the ongoing empirical examinations confirming theory's valence.

The trait EI framework is also quite promising in explaining the *why* of gaming. Involvement in gaming is perceived to be a source of excitement and enjoyment, an optimal experience (see 3.2.1 and 3.2.2). Play is a form of activity implemented for its own sake due to the experience of feelings such as pleasure in the doing, refreshment and relaxing (Edwards, 1999). The emotional nature of gaming points to a straightforward theoretical relevance to trait EI. Moreover, online gaming is an experience during which social relationships and emotional bonds between gamers are developed (see Yee, 2007) and therefore a convenient space for the gamers to express their emotion-related abilities and dispositions. Trait EI has the potential to explain gamers' behaviour within the game world. Both trait EI and basic psychological needs by being positively associated with life satisfaction and well-being can be utilized as indicators of gamers' real-life conditions thus understanding game appropriation.

### 3.3.1 Basic psychological needs theory

In order to place the examination of basic psychological needs within a framework it is required to distinguish between organismic and mechanistic perspectives on motivation. Mechanistic theories tend to perceive the individual as a passive agent whose actions are the result of environmental stimuli and physiological drives. Stimuli and their characteristics are what drive behaviour. No space is given to intention and personal choice. A commonly used example is reflexes, which is a fixed system that reacts to external stimuli (see Chamorro-Premuzic, 2007). Conversely, organismic theories view individuals as actively involved in the environment. Individuals' volition as underpinned by intrinsic needs and physiological drives are what initiate behaviour (Deci & Ryan, 1985). Stimuli do not determine behaviour; rather, they work "as affordances or opportunities that the organism can utilize in satisfying its needs" (ibid, p.4). Basic psychological needs as situated within the theory of Self-Determination have been developed upon organismic assumptions "recognizing that human beings attempt actively to master the forces in the environment and the forces of drives and emotions in themselves [and] integrate them into the internal, unified structure called self" (ibid, p.8).

#### *a. Basic psychological needs theory and Self-Determination Theory*

The theory of basic psychological needs is situated within the larger theory of Self-Determination<sup>13</sup>. Self-Determination Theory (SDT; Deci & Ryan, 1985; 1990) is concerned with understanding human motivation and personality and their functionality within social contexts. It is a theory of intentionality which perceives people's behaviour as being either controlled or self-determined. The distinction between controlled and self-determined actions is analysed under the terms of

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<sup>13</sup> SDT is a macro theory comprised of four mini theories all related to the explanation of human motivation. These are Cognitive Evaluation Theory, Organismic Integration Theory, Causality Orientations Theory and Basic Psychological Needs Theory.

extrinsic and intrinsic motivation<sup>14</sup> accordingly (see Figure 3.1). Activities that are interesting and satisfying are considered to be intrinsically motivating; having people being “initiators of their own behaviour” they promote autonomy. Becoming involved with activities that lead to a separate outcome, such as external rewards, are extrinsically motivated; the choice of action does not result from within the individual (Deci & Ryan, 2008; Deci & Ryan, 1987). However, even in cases of extrinsic motivation, externally defined behaviours can, through *internalization* be perceived as self-determined. This is the case of *integration* (Deci & Ryan, 2000). The essential aspect of human motivation, according to Deci and Ryan (2008), is the type of and not the amount of motivation.

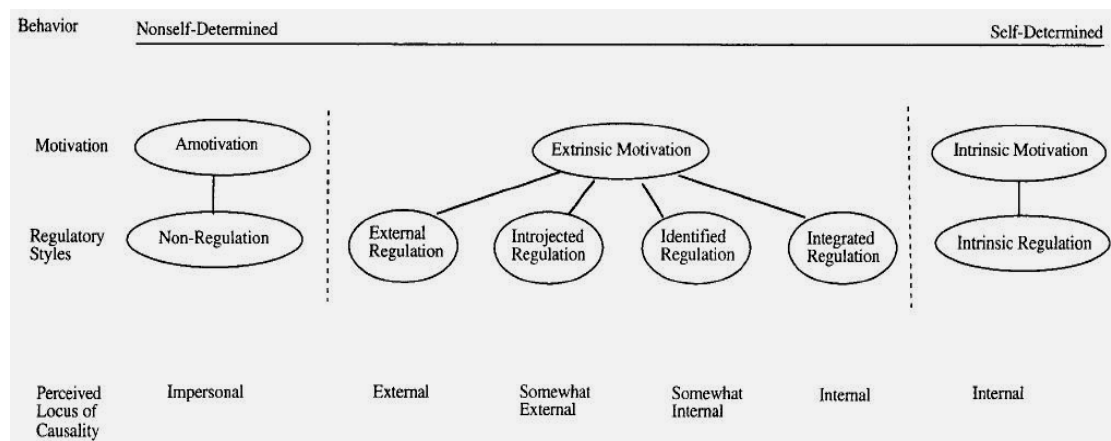


Figure 3.1 The types of motivation and regulation within Self-Determination Theory (Ryan & Deci, 2000c)

The theoretical underpinnings of SDT are identified in an active-organism meta-theory that postulates all individuals to be active agents that master both inner (e.g., drives, emotions) and external (i.e., environmental) forces. In addition, individuals are engaged in a developmental process of growth and psychological health within which they seek optimal challenges. Finally, there is a dialectic relationship between

<sup>14</sup> The two types of motivation are not additive since the presence of rewards decreases intrinsic motivation. The case of positive performance feedback that enhances intrinsic motivation is explained by the fact that the need for competence becomes satisfied without experiencing controlling (Deci & Ryan, 2008).

the environment and the self; in order for the individual to develop effectively, nutrients from the social context are required. The environmental influence can either result in enhancing human development or forestalling it, when being controlling or rejecting, assuring variability among individuals' personalities (Deci & Ryan, 1990; Deci & Vansteenkiste, 2004). The innate tendency towards growth and health is actualized through the satisfaction of the three basic psychological needs: the need for autonomy, competence and relatedness. The conceptualization of needs is specifically defined within SDT in a way that differentiates from other motivational forces (e.g., goals, desires). In particular needs are "innate psychological nutriment that are essential for ongoing psychological growth, integrity, and well-being" (Deci & Ryan, 2000, p.229). By definition, needs are perceived to be universal and requisite for human well-being. The degree of needs' satisfaction though differs between individuals as a result of environmental conditions that favour or undermine the satisfaction of those needs (see next sections). Fulfillment of these needs leads to psychological health and well-being and thus effective functioning. Thwarting of these needs, on the contrary, leads to the development of need substitutes (Ryan & Deci, 2000b) that bring up immediate negative consequences for human development such as defensive process (e.g., a lack of concern for others can lead a person focusing on one's own self, psychological withdrawal, antisocial behaviour). According to Deci and Ryan (2000, p.229), "there are not instances of optimal, healthy development in which a need for autonomy, relatedness, or competence was neglected, whether or not the individuals consciously valued these needs".

#### **The needs for autonomy, competence and relatedness**

The need for autonomy refers to willingness when doing a task and self-governance. Autonomous behaviour arises when personal preferences, desires and wants and not external pressures, guide action. It is the freedom to decide and determine subjectively meaningful goals. Perceived locus of causality (PLOC), perceived choice and volition are the qualities of autonomy. PLOC is the perception of the individual about the cause of its motivation. It is represented as the continuum from internally to externally defined behaviour (see Figure 3.1). Volition is the degree of

freedom or coercion experienced by the individual when doing an action. Finally, perceived choice<sup>15</sup> is experienced when decision-making flexibility defines the action (Reeves, 2005).

The need for competence refers to individual's effectiveness when doing an action. It is the need for challenging activities and efficiency. It is strongly experienced in situations of optimal challenge; when personal skills, talents and capacities match with the level of difficulty and complexity of tasks (see section 3.2.2). The satisfaction of the need for autonomy and competence has been identified to relate to intrinsic motivation (Ryan & Deci, 2000d).

The need for relatedness refers to belonging and the desire for social interaction. It is the degree of experiencing reciprocal and caring relationships, not only with other individuals but also with organizations and groups. The greater and more intense the interaction is, the greater the possibility for social bonds to develop into friendships. The three needs for autonomy, competence and relatedness work complementary. However, environmental conditions (e.g., norms of the social world) can pose needs in contradiction (Reeves, 2005).

Ryan and Deci (2000b) justify the choice and the number of these specific psychological needs by commenting on the fact that the utility of a theory lies on its generalizability. Having a small number of relatively general needs enables the explanation of a large number of phenomena identified across diverse domains of human experience. Other needs such as safety-security have not been considered as basic psychological needs since they can be explained under the framework of the three basic needs (e.g., psychological safety is perceived as a response to forestalling of basic needs).

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<sup>15</sup> Choices offered by others (e.g., choice between two actions) are not considered to be autonomous.

### **Satisfaction of the basic psychological needs**

Within the organismic perspective, human beings due to their deeper structure for autonomy, competence and relatedness are naturally inclined to becoming engaged with interesting activities, exercising their skills and practising relatedness. Individuals tend to orient toward situations that favor needs' satisfaction and avoid conditions that forestall fulfillment. However, it is not argued that people always act *in order to* satisfy needs since in many cases they actually do personally meaningful activities that may enhance needs' fulfillment without being consciously intended to do so (this argument differentiates need theory from drive theories) (Ryan & Deci, 2000b; Deci & Vansteenkiste, 2004). Autonomy is experienced within autonomy-supportive environments, relationships and cultures; environments that are not obligatory but present multiple opportunities for choice. For instance, while in the face of a deadline, autonomy is undermined, power relationships (e.g., teacher-student) become autonomy-supportive when opportunities for acting based on personal preferences are given. In the level of culture, autonomy can also be enhanced or forestall as for instance when church decides for people's actions.

Competence is experienced in situations involving optimal challenges and providing positive feedback. Optimal challenges can be understood through the concept of Optimal Experience and the state of flow (see section 3.2.2). Under these conditions there is a match between a person's skills and available challenges. In more practical terms, environments that provide the opportunity for adjusting the level of difficulty of a task to fit the person's skills support the need for competence. Situating an individual within an environment that provides optimal challenge, however, is not adequate for experiencing competence (Reeve, 2005). What is needed is performance feedback. Competence is enhanced when receiving the first positive feedback; feedback offers a cognitive evaluation of the perceived level of competence.

Relatedness is experienced when individuals relate to other people through meaningful emotional bonds. It is more than social interaction since it requires relationships that provide reciprocal interest, accepting and caring among



individuals. The following figure presents the environmental conditions that involve and satisfy all three basic needs (Figure 3.2).

Psychological Need	Environmental Condition that Involves the Need	Environmental Condition that Satisfies the Need
Autonomy	Opportunities for self-direction	Autonomy support
Competence	Optimal challenge	Positive feedback
Relatedness	Social interaction	Communal relationships

Figure 3.2 Environmental conditions that involve and satisfy the basic psychological needs (Reeves, 2005)

### Satisfaction of needs and well-being

The construct of well-being refers to optimal experience and functioning (Ryan & Deci, 2001). Both self-oriented (i.e., autonomy and competence) and socially-oriented needs (i.e., relatedness) when satisfied, contribute to psychological health and well-being whereas when forestalled conduce ill-being and pathology. As stated by Ryan and Deci (2000c, p.75) “Specifying psychological needs as essential nutriments implies that individuals cannot thrive without satisfying all of them, any more than people can thrive with water but not food.” The relationship between the three basic needs and well-being has been examined extensively focusing in particular on the role of personal goals. Whether the pursuit and attainment of a goal is considered to be autonomous or controlled (the process or the *Why* of goals pursuit) as well as the content of the goal (the *What* of goals pursuit) have been associated to well-being. Studies in educational settings revealed that autonomous-related school behaviours were positively related to greater understanding of materials, achievement, teachers’ reports on children’s level of competence, higher grades and lesson’s enjoyment. Evidence from other domains such as religion and health has indicated complementary findings (see Ryan & Deci, 2000b for a review of certain studies). The *What* of goals pursuit has been investigated under the distinction between intrinsic and extrinsic aspirations. The former by being more closely related to the satisfaction of basic needs points to goal content such as

affiliation and personal growth whereas the latter by being less related to basic needs points to goals such as wealth and fame. A series of studies by Kasser and Ryan (1996; 1993) confirmed that while individuals' attainment of intrinsic aspirations was positively related to well-being, extrinsic aspirations (e.g., financial success, fame, or image) were related to poorer well-being. Finally, data collected from self-reports of needs' satisfaction and within-person variation of needs' satisfaction in relation to variability in well-being re-confirmed that well-being is determined by the satisfaction of the three psychological needs (see Ryan & Deci, 2000c).

### **Satisfaction of needs across different cultures**

The needs for autonomy, competence and relatedness are perceived to be universal. The variability in values and goals observed among different cultures (e.g., individualism versus collectivism) and epochs is explained by the different degrees of internalization and integration processes facilitating need satisfaction (see different types of extrinsic motivation, Figure 3.1). More notably, internalization stresses the process of adopting a value or regulation and integration refers to the degree of "owning" this regulation (Ryan & Deci, 2000c) with *integrated regulation* being the most integrated in the self dimension. As argued by Ryan and Deci (2000d, p. 75), "the mode and degree of people's psychological-need satisfaction is theorized to be influenced not only by their own competencies but, even more important, by the ambient demands, obstacles, and affordances in their sociocultural contexts" preserving as a consequence diversified expressive behaviours among individuals. Cross-cultural research, even though in primal stages presents some promising evidence concerning needs' universality (see Deci & Ryan, 2008; Ryan & Deci, 2000c).

#### *b. Measuring basic psychological needs*

Basic psychological needs have been measured through a set of scales which address both the general satisfaction of needs in life and in specific domains, namely work and interpersonal relationships. The Basic Psychological Needs Scale (BPNS) has been utilized in the examination of gaming due to its general application to life

conditions. BPNS is comprised of 21 items in a 7-point likert scale (1=not true at all, 7=very true) measuring scores on three subscales; autonomy, competence and relatedness. While the work-related version of the scale is the scale more regularly used demonstrating predictive validity over job satisfaction and productivity (Deci *et al.*, 2001; Ilardi *et al.*, 1993), BPNS has also indicated moderate to high internal consistency in the three subscales (relatedness  $\alpha=.69$ , competence  $\alpha=.83$ , autonomy  $\alpha=.61$ ) (Kashdan *et al.*, 2006) and good psychometric properties ( $\alpha=.89$  the average of three subscales as an index of general need satisfaction) and predictive validity for prosocial behaviour (Gagné, 2003).

*c. Criticism of SDT and basic psychological needs theory*

SDT and in particular the dichotomy between intrinsic and extrinsic motivation is opposed to behaviorism tradition on motivation which holds that rewards comprise the most effective form of motivation. In particular, opponents of SDT argue that nothing negatively inherent to rewards exist in order to be considered as undermining intrinsic motivation (argument supported by SDT) (Cameron & Pierce, 1994; 1996; Cameron, 2001). The controversy between behaviorists and SDT theorists (see Deci, Ryan & Koestner, 1999; Ryan & Deci, 2006) is due to an ongoing debate followed by meta-analysis and argumentative reviews from both sides. Another issue of SDT that continues to fuel controversy between researchers is the need for autonomy. The aspiration of SDT around volition and freedom of choice has been perceived as “tyranny” since experiencing multiple choices has been viewed as paralysing and leaving people indecisive. According to Schwartz (2000, p.81) “It is self-determination within significant constraints - within rules of some sort - that leads to well-being, to optimal functioning” and thus the task of psychology is to identify those set of constraints contributing to a human’s well-being. Other approaches challenge the universality of needs, in particular autonomy, proposing that autonomy constitutes a value identified and able to predict behaviour only within western societies (Iyengar & Lepper, 1999). What needs to be stressed is that issues of criticism surrounding SDT have been constantly addressed by the authors of the theory in works such as Ryan and Deci (2006; 2000c).

### *d. Gaming and basic psychological needs*

Building upon the argument that studies of games and motivation have produced typologies of gamers based on the structure and content of current games, Ryan, Rigby and Przybylski (2006) adopted a different perspective counting for the underlying motives and satisfactions that spark participation in gameplay and which are common among gamers and game types. In particular, they have identified that the *fun* of games obtained during gameplay is due to satisfaction of basic psychological needs. This fact was found to motivate further gameplay and intension for future gaming and enhance psychological wellness at least in the short term. Game environments that promote feelings of autonomy, competence and relatedness become intrinsically motivating encouraging further game involvement. Due to their flexibility, they “respond dynamically to an individual’s choices without constraining or anticipating them” (ibid, p. 349).

In particular, competence is promoted when game controls are easily mastered and game actions are optimally challenging, whereas relatedness is more satisfied within multiplayer games. Similarly, a recent study examining violent video games (Przybylski *et al.*, 2009) indicated that autonomy and competence were related to motivation and enjoyment of play, whereas violent content added little variance to these outcomes. What differentiates Ryan’s *et al.* approach from the argument line developed in this chapter is the shift from the way the game design can fulfil specific needs, to identifying whether the current psychological state of the gamer, namely, perceived needs’ satisfaction relates to game practices.

### 3.3.2 Trait emotional intelligence (trait EI)

#### a. *Defining EI*

The examination of Emotional Intelligence (EI) has been a comparatively recent domain of interest for both academics and the public. The origins of EI are identified in social intelligence (Thorndike, 1920) and multiple intelligences as analysed by Gardner (1983). EI has been defined as a constellation of self-perceived abilities and behavioural dispositions (Petrides & Furnham, 2001). It was popularized with the publication of Goleman's (1995) book entitled *Emotional Intelligence*. EI has been originally conceived as a series of mental processes related to emotional information that justify its definition as a type of intelligence (see Salovey & Mayer, 1990).

Recent examinations of EI though, dispute the cognitive character of EI indicating that the construct constitutes a distinct dimension within the personality framework and thus it is better conceptualized as a personality trait rather than mental ability. The dichotomy between ability and trait EI has been defined by Petrides and Furnham (2001; 2000). More notably, the construct of EI has been dichotomized into two distinct structures; the trait EI or “emotional self-efficacy” and the information-processing EI (later stated as ability EI) or “cognitive emotional ability”. According to Petrides and Furnham (2000) “Trait EI is concerned with cross-situational consistencies in behavior (manifest in specific traits or behaviors such as empathy, assertiveness, optimism) as opposed to information-processing EI, which concerns abilities (e.g, able to identify, express and label emotions)”. Trait EI and ability EI are not exclusive but work in parallel measuring two separate constructs of EI (Petrides & Furnham, 2001; O'Connor & Little, 2003). The differentiation between trait and ability EI reflects the intense controversies when applying suitable methods for measuring EI. In particular, the body of research of Salovey and Mayer (1990) has utilised a variety of measurements in order to measure EI including, among others, the Multifactor Emotional Intelligence Scale (MEIS; Mayer *et al.*, 2000) and Bar-On Emotional Quotient Inventory (Bar-On,

1997). The use of different instruments has produced diverse findings in relation to the construct of EI.

The distinction between trait and ability EI has contributed to developing a clearer understanding of the issues of EI measurement. In particular, by being more akin to a personality framework, trait EI is assessed more effectively using self-reported measurements whereas ability EI, due to its relationship with psychometric intelligence is measured through maximum performance tests. Trait EI measures EI through a series of items concerning self-perceived emotional abilities such as empathy, assertiveness and optimism (Petrides & Furnham, 2000; Bar-On, 1997). Ability EI perceives EI as a cognitive ability (i.e., a traditional intelligence) evident in a series of skills that can be measured through maximum performance tests. These skills involve the ability to regulate and understand emotions, assimilate emotions in thought and perceive and express emotions (Mayer & Salovey, 1997). Perceiving EI as an ability, entails that EI, or specific dimensions of EI are learnable and thus EI can be taught<sup>16</sup> (see Qualter *et al.*, 2007; Goleman, 1998). The importance of the distinction between ability and trait EI lies on the fact that, even though both approaches claim to measure the same construct, the use of self-reported measures, by measuring self-reported abilities, produces different results from maximum performance tests that measure actual abilities (Petrides & Furnham, 2001).

#### *b. Trait EI*

This thesis adopts a trait-oriented perspective in the study of EI. This choice was motivated by existing studies that examine gamers' preferences for play in terms of personality characteristics (and not cognitive abilities) such as extraversion and agreeableness (see Section 3.3), suggesting that if EI is a salient dimension of gaming, it is more likely to be in the form of a trait rather than a set of cognitive skills. Also, measuring trait EI is less problematic compared to ability EI. The use of

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<sup>16</sup> Goleman (1998) perceives emotional competences as being the practical implementation of EI. For instance the dimension of EI identified as self-regulation is related to the development of competences such as self-control, trustworthiness and adaptability.

ability measurements has raised concerns around the objectivity of correct answers to ability test items, an issue that does not occur when using self-performance tests due to the required inherent subjectivity of answers (Petrides & Furnham, 2001).

The theory of trait EI<sup>17</sup> as proposed by Petrides and Furnham (2001) conceptualizes EI as a constellation of behavioural dispositions and self-perceived abilities. By conceiving EI as a trait, the orientation of EI as a personality trait and not cognitive ability is succeeded. Trait EI thus envelops “emotion-related *individual differences*” (Petrides *et al.*, 2007c, p.154, formatting as in original text). By perceiving EI as a personality trait, stability over time and across situations is implied. Empirical evidence, as reported by Petrides *et al.* (2007c) even though at their infancy, indicate temporal stability at least over one year and some increase with age (old age is not included). Cultural examinations also demonstrate relevant immutability of trait EI among different countries (Mikolajczak *et al.*, 2007c). The construct of trait EI includes 15 facets (see Figure 3.3) as these emerge from the content analysis of prominent models of EI and corresponding operationalizations (e.g., Bar-On, 1997; Goleman, 1995; Salovey & Mayer, 2000) (Petrides & Furnham, 2003; 2001).

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<sup>17</sup> Approaches attempting to measure EI through self-report are identified before the theory of trait EI (e.g., Bar-on, 1997; Schutte *et al.*, 1998). However, they were using self-reports to assess EI as mental ability-intelligence. The distinction and definition between trait and ability EI elucidated the field and systematised relevant research.

Facets	High scorers perceive themselves as . . .
Adaptability	. . . flexible and willing to adapt to new conditions
Assertiveness	. . . forthright, frank and willing to stand up for their rights
Emotion perception (self and others)	. . . clear about their own and other people's feelings
Emotion expression	. . . capable of communicating their feelings to others
Emotion management (others)	. . . capable of influencing other people's feelings
Emotion regulation	. . . capable of controlling their emotions
Impulsiveness (low)	. . . reflective and less likely to give in to their urges
Relationships	. . . capable of having fulfilling personal relationships
Self-esteem	. . . successful and self-confident
Self-motivation	. . . driven and unlikely to give up in the face of adversity
Social awareness	. . . accomplished networkers with excellent social skills
Stress management	. . . capable of withstanding pressure and regulating stress
Trait empathy	. . . capable of taking someone else's perspective
Trait happiness	. . . cheerful and satisfied with their lives
Trait optimism	. . . confident and likely to 'look on the bright side' of life

Figure 3.3 The 15 facets of trait EI (Petrides *et al.*, 2007b)

*c. The operationalization of trait EI*

Consistent with the theory of trait EI, the inventory utilized as an operationalization of the construct of trait EI is the Trait Emotional Intelligence Questionnaire (TEIQue). The TEIQue, in contrast to other questionnaires measuring trait EI, originates from a coherent theorization of EI (i.e., the trait EI theory) and presents high psychometric properties. In addition, the development of the TEIQue was based on salient EI models and other akin to EI constructs (i.e., alexithymia, affective communication, emotional expression, and empathy) (Petrides, *in press*). It is thus derived from comprehensive sampling domains. TEIQue has been published in various forms among which the TEIQue v. 1.00 (comprised of 144 items, 15 subscales, 4 factors, global trait EI score), the TEIQue v. 1.50 (153 items, 15 subscales, 4 factors, global trait EI score), the TEIQue-SF (short version: comprised of 30 items, global trait EI score), the TEIQue-ASF (Adolescent Short Form: 30 items, global trait EI score for ages 12-17) and the TEIQue-360S (this form is for peer or 360 degree ratings on the 15 subscales of the TEIQue: 15 items). TEIQue has also been translated into multiple languages including, among others, Greek, Spanish, Polish and Chinese (see trait EI official website).



For the purposes of the present thesis, the short form of the TEIQue (TEIQue-SF) has been used. The reasons are identified in the relatively limited completion time required (7min) since the instrument has been given for completion in parallel to other, unrelated to trait EI, inventories. While the TEIQue v. 1.50 offers scores on 15 subscales, 4 factors and global trait EI (see Figure 3.4), the short form provides scores only on global EI and the 4 factors (in relation to the 4 factors the short form tends to present lower internal consistencies compared to the former) (Petrides, in press). Specifically, the use of the TEIQue-SF illuminates global trait EI and emotionality, sociability, self-control and well-being. It is a 30-item inventory rated on a 7-point scale (ranging from “strongly disagree” to “strongly agree”).

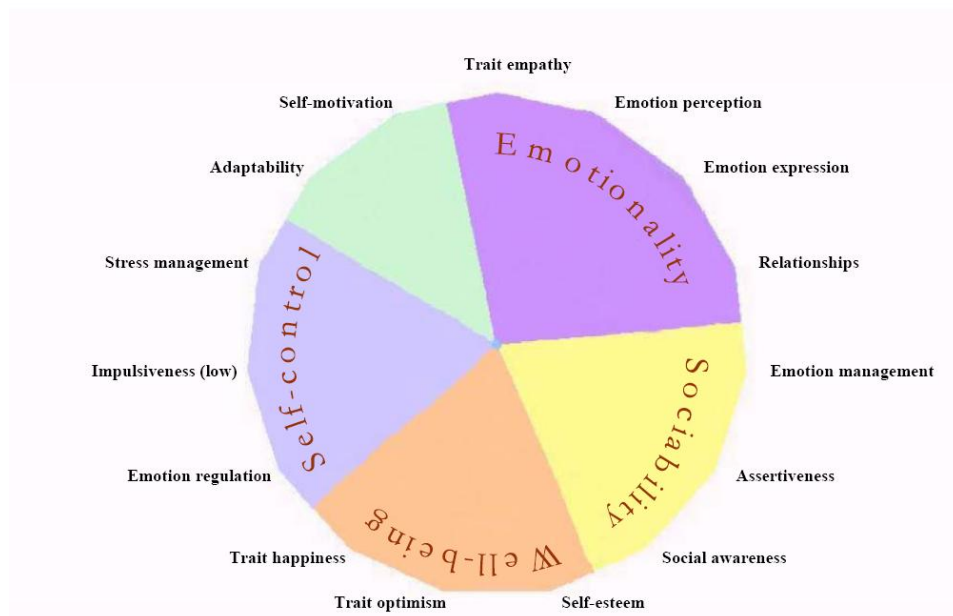


Figure 3.4 The 15 subscales and 4 factors of TEIQue v. 1.50 (Petrides, in press)

The reliability and validity of the TEIQue-SF, even though not in a similar length, have been investigated in several studies. More notably, the internal consistency of the inventory has been found to be high ( $\alpha=.94$  in Smith *et al.*, 2008;  $\alpha=.87$  in Mikolajczak *et al.*, 2007b;  $\alpha=.80$  in Sevdalis *et al.*, 2007;  $\alpha=.88$  in Mikolajczak *et al.*, 2006;  $\alpha=.84$  for males,  $\alpha=.89$  for females in Petrides & Furnham, 2006). Concerning inventory's validity, the instrument presents criterion (Smith *et al.*, 2008; Mikolajczak *et al.*, 2007b) and incremental validity

(Mikolajczak *et al.*, 2006) as well as conformity of findings with previous research in the field (see Petrides & Furnham, 2006).

*d. The validity of trait EI*

The construct of trait EI has been extensively investigated aiming to establish its validity. The emphasis given in both criterion and incremental validity originates from the similarities of specific facets of trait EI (i.e., empathy, assertiveness, adaptability) within established trait taxonomies (Petrides *et al.*, 2007a), an issue that has raised great criticism around trait EI (see Waterhouse, 2006). In particular, trait EI has been examined within experimental conditions in respect of differential reactivity when facing affect-laden information providing evidence of construct and incremental validity (Petrides & Furnham, 2003).

Additional psychometric examinations focused explicitly on the construct's incremental validity confirming the existence of trait EI within both Big Five and Giant Tree as a distinct dimension at the lower-level of hierarchical trait taxonomies (Petrides & Furnham, 2000; Petrides *et al.*, 2007a; 2007b). The incremental validity of trait EI over and above other personality constructs such as social desirability, alexithymia (Mikolajczak *et al.*, 2007a; 2007c) and mood (Petrides *et al.*, 2007a) has also been established. Moreover, trait EI due to its relevance to emotions has been related to different variables within various contexts demonstrating criterion validity. More notably, it has been positively associated to life satisfaction (Kluemper, 2008; Petrides *et al.*, 2007a; 2007b), job satisfaction (Singh & Woods, 2008), adaptive coping styles (i.e., positive ways of managing stress) (Petrides *et al.*, 2007a; 2007b; Mavroveli *et al.*, 2007), happiness (Chamorro-Premuzic *et al.*, 2007), satisfaction within couples (Smith *et al.*, 2008) and mental and physical health (Mikolajczak *et al.*, 2006) while it is inversely associated to maladaptive styles (Petrides *et al.*, 2007a; 2007b; Mikolajczak *et al.*, 2008), depression (Mikolajczak *et al.*, 2007c; Petrides *et al.*, 2007a; 2007b; Mavroveli *et al.*, 2007), rumination (Petrides *et al.*, 2007a; 2007b), anxiety (Mikolajczak *et al.*, 2007c), machiavellianism (i.e., the tendency to emotionally manipulative behaviour) (Austin *et al.*, 2007), adolescents' academic performance and deviant behaviour (Petrides *et al.*, 2004), and job stress

(Mikolajczak *et al.*, 2007b). Practically, this evidence suggests that individuals' reactivity over life events is influenced by one's own emotional abilities. In contrast to high trait EI scorers, individuals with lower trait EI are more likely to experience various mental abnormalities (Petrides *et al.*, 2007a). The theory of trait EI indicates that positive life outcomes do not identify in cognitive mental abilities but qualitatively different abilities or traits.

### *e. Issues of concern around trait EI*

The construct of trait EI has brought about intense controversies concerning its incremental and criterion validity as well as the distinction between trait and ability EI. The increasing number of published work around trait EI is quite promising for the resolution of these contradictions. An additional issue of concern is the self-report nature of responses in items measuring the construct. The self-evaluation format of trait EI entails the possibility for individuals to overstate their emotional skills and thus produce falsified measurements of trait EI. Certain investigations avoid such a notion, indicating that even after controlling for core self-evaluations and social desirability, trait EI predicts coping, stress and life satisfaction (Kluemper, 2008). Also, during data collection research settings are prevailed by anonymity securing the validity of responses and prohibiting dissimulation. Finally, trait EI evaluations and particularly interpersonal self-perceptions of emotional ability correspond to measurements of emotion task performance (Austin, 2004). Interpretations of trait EI scores, however, should be treated with caution considering the self-perceived dimension of responses.

### **3.4 Concluding remarks**

The theoretical framework of this thesis has been detailed in the present and previous chapters. Considering the recent socio-technological transformation of digital games and the consequences for gaming (see Chapter 2), the gamer, as an individual has been defined as the unit of analysis for this thesis. S/he has been analyzed with respect to specific psychological characteristics, namely, trait EI and basic psychological needs. It is hypothesised that individual differences in trait EI

and basic psychological needs are associated with gamers' preferences and practices. Empirical examination is required for understanding these issues and constructing a consistent argument around the gamer as an individual. In the next chapter, a model that frames the relationships between the various factors interplaying gameplay is developed aiming to assist the investigation of games and motivation.

## Chapter 4

### The process of game appropriation

Chapter 4 is focused on the investigation of established approaches on appropriation. In particular, the Adaptive Structuration Theory (DeSanctis & Poole, 1994), the Model of Technology Appropriation (Carroll *et al.*, 2003; 2002), the Concerns-Based Adoption Model (Hall *et al.*, 1973), Instrumental Genesis (Verillon, 2000) and the Activity System Tool Appropriation Model (Waycott, 2004) are thoroughly examined. The overall aim of this chapter is to produce an initial theoretical account on game appropriation in order to understand game use. More notably, existing approaches on appropriation are to be combined and analysed under the lens of the social transformation of gaming and the consequences for the gamer (see Chapter 2). The lack of previous work on game appropriation makes requisite the identification of potential theoretical foundations in the broader field of appropriation. The conceptual account around game appropriation has led to the development of the *Game Appropriation Model* (GAM I) which suggests that the appropriation of gaming in general is a developmental process defined by iterative cycles of use during which gamers move through ambiguous phases of use.

#### 4.1 Rationale

Existing approaches on games and motivation have strived to explain the appealing nature of gaming through the identification of certain engaging attributes (see Chapter 3). In brief, they have focused on defining game elements that evoke and maintain the desire to play such as level of difficulty, achievable goals, continual challenge, fantasy elements, feedback (i.e., positive reinforcement), a repertoire of choices and games' structural characteristics (e.g., audiovisual realism, advancement rate, multiplayer features) (Wood *et al.*, 2004; Prensky, 2001; Malone & Lepper, 1987; Loftus & Loftus, 1983). More recently, studies have been interested in

examining the interplay between game design and gamers and gamers' relationship with other gamers (Burn & Carr, 2006; Yee, 2006a) as well as the impact of gaming on the satisfaction of gamers' basic psychological needs (Ryan *et al.* 2006).

These approaches, by identifying specific elements that contribute to gamers' engagement, perceive gaming as the accumulation of those moments when a gamer is actually involved with gameplay. Gaming is viewed as an activity separate from other daily practices and thus examined out of the context within it occurs. As evident from Chapter 2, what is profound about gaming is that it is a form of leisure activity that has managed to demolish boundaries between physical and virtual world. Game experiences have blurred online and offline reality since involvement with games is extended out of actual gameplay within gamers' communicative encounters. Game practices are systematically shared either face-to-face or within the avid space of game forums. Gaming has become a connecting platform between gamers by providing a shared experience and a common topic of discussion spread in the various dimensions of the gamers' life. Consequently, de-contextualizing gaming and studying it as a distinct phenomenon unrelated to the overall daily practices of the gamer hinders the attempt to understand the reasons the specific activity is so central and valued by a considerably large and diverse portion of people (see Chapter 2). In addition, the influential role of the gamer within the process of gaming needs to be acknowledged. In contrast to more traditional forms of digital games, the gamer is empowered with the potential to choose his/her gameplay and shape game experience based on personal preferences for play. In particular, online gaming opens up the space for individual differences between gamers to be expressed. The game environment by becoming less structured favours the variance in psychological characteristics (see Cantor in Mischel, 1998). Questions are therefore raised in terms of whether game use is related to individual differences and specifically trait EI and the degree of basic psychological needs' satisfaction (see Chapter 3).

In order to adequately understand the motivational nature of digital games, a multifaceted account on game experience needs to be produced. Such an account

should originate from the idea that gaming is situated simultaneously within a physical and virtual social context. Game experience is better conceived if viewed as an integral part of gamers' daily practices. Any exploration of motivation and games should count for the value of gaming in gamers' life and what needs it satisfies. Overall, the role of games' social transformation and the implications for gameplay (see Chapter 2) should be thoroughly evaluated. The deployment of the concept of *game appropriation* aims at detailing and explaining the process during which gamers integrate games in their daily practices as well as the reasons motivating this process and gamers' preferences for play. The study of game appropriation targets at exploring gaming within its socio-technological context in order to construct a robust argument around the reinforcing nature of games.

Though not explicitly developed in the broader literature on appropriation, motivation is perceived to be the driving force of appropriation. For example, "attractors" and "reinforcers" are viewed as factors influencing the appropriation of technology (Carroll *et al.*, 2002). Furthermore, certain features of the user and the design of technology are considered as mediating use (DeSanctis & Poole, 1994). The implicit relationship between motivation and appropriation is detailed in the next sections. In particular, this chapter begins with a critical overview of existing accounts on appropriation as identified mainly within the sphere of the social shaping of technology. These approaches are discussed in relation to the social reformation of games in order to produce a coherent theoretical framework specifically for the appropriation of games. The development of the Game Appropriation Model I (GAM I) presented in the end of this chapter is the culmination of this examination. GAM I, due to being based solely on previous work, calls for future empirical exploration (see Chapters 6, 7 and 8).

### **4.2 Defining appropriation**

While it commonly denotes the taking for one's own use without permission (Compact Oxford English Dictionary, 2005), "appropriation" is a concept applied in various contexts and assigned with multiple meanings. Appropriation as studied in

the present thesis is identified in the sphere of sociology and social shaping of technology. The social shaping of technology pertains to the convergence between the “technical” and the “social”. What characterizes the tension between technology and society is a reciprocal definition (Akrich, 1992); technology and society are the constituents of a seamless web (Bijker, 1992). Technology cannot be conceived as “pure” since it is shaped, and mirrors, existing social, economic and technical relations; it constitutes “a product of the existing structure of opportunities and constraints, it extends, shapes, reworks, or reproduces that structure in ways that are more or less unpredictable” (Bijker & Law, 1992, p.11).

However, the social forces influencing technology are neither solely identified within the production process nor are they accumulated in the power of a minority of people defining the design of the technology. As Mackay and Gillespie (1992) underscore, users of the technology contribute actively and significantly in the shaping of technology through appropriation. Appropriation signifies the users’ negotiation of technology in the form of, for instance, rejection, customization, redefinition of its purpose and assignment of personal meanings to it (ibid). Through the process of appropriation “technology-as-designed” is transformed into “technology-in-use” (Carroll *et al.*, 2003; 2002). Appropriation has been defined as the process during which users adopt, adapt and incorporate a technology in their practices, working or leisure (Dourish, 2003; Carroll *et al.*, 2003; 2002; Waycott, 2005; 2004; Bar *et al.*, 2007). It is broader than single adoption (i.e., the decision to purchase a technology) (see Rogers, 2003) or customization (Dourish, 2003; 1999) as it emphasizes the process of technology’s integration in the life of the user as well as the actual uses made when utilizing the technology.

Appropriation processes are identified in three phenomenal levels; the *discursive level* during which alterations are evident in language, grammar, and semantics; the *institutional level* in which new forms of organization and regulation are developed; and most relevant to the present examination, the *practical level* which concerns changes in individuals’ behaviour/identity, procedures and routines concerning the use of the technology (Jamison & Hard, 2003). Appropriation can be expressed in



three modes each one indicating the degree of users' conflict with designers. These are identified with the intentional technological space given by designers for personalization by users, the recombination of technology's elements to create something new and, the destruction over technology to produce something new (Bar *et al.*, 2007).

It is evident that appropriation modes range between user-initiated personalization<sup>18</sup> (Monk & Blom, 2007) to unintended by designers uses. In respect of the latter, game literature demonstrates multiple examples. Under the terms "video game appropriation" (Postigo, 2008), "appropriation of an online play space" (Griffiths & Light, 2008) and "artistic appropriation of video games" (Stalker, 2005; Lowood, 2005), subversions of the actual game code or actions that modify gameplay such as mods, animated videos, and scamming are discussed. This reshaping of gaming that goes beyond designers' original intentions has created conflicts between the "modders" and their supporters, and copyright owners (see Postigo, 2008; Griffiths & Light, 2008).

Appropriation can be graphically represented as two vertically intersected axes denoting the *process* of appropriation on the one hand, and the *nature* of appropriation on the other (see Figure 4.1). The appropriation process points to the *procedure* during which a technology is appropriated by the user and the *factors* that reinforce the process. It answers the question of how technology is incorporated into people's everyday activities. Thus, the process is the contextual framework of appropriation. On the other hand, the nature of appropriation stresses the *actual uses* of the technology or modes of use (see Bar *et al.*, 2007) as shaped by the user<sup>19</sup>. It is

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<sup>18</sup> In the field of ICT, *personalization* has been used to denote (i) the system-initiated provision of content (e.g., interface, information) tailored specifically for the user's profile and (ii) the user-initiated personalisation referring to the user's act on the distinctiveness or appearance of a product/technology (Monk & Blom, 2007). The latter has also been identified under the terms *customization* or *user initiated adaptability* (Oppermann *et al.*, 1997) (e.g., writing macros, reassigning keys).

<sup>19</sup> It is akin to appropriation, specifically incorporation, as discussed by Silverstone and Haddon (1998). Appropriation as one of the phases of the consumption process refers to objectification (i.e., the space occupied by the commodity) and incorporation (i.e., the

the “product” or “outcome” of the process of appropriation. In Jamison’s and Hard’s terminology, the nature of appropriation corresponds to the alterations implemented in the discursive, institutional and practical level of technology’s use. The nature of appropriation is characterized by creativity. In accordance to Degele (1997) and her perspective on appropriation as a creative process, when the technology offers a range of possibilities it forces users go beyond designated limits, shape, invent and create the usage, thus appropriating the system.

For instance the use of mobile phones as framed by Carroll *et al.* (2003; 2002) indicates that the process of appropriation is gradually implemented through constant evaluations of the mobile use (*procedure*) influenced by, among others, control, fashion, cost and social management (*factors*). The nature of appropriation is evident in the examination of telephones by Brown and Perry (2000) and in particular, telephones’ design that does not support a switch off key. Users in order to avoid answering a phone call appropriated telephones by engaging services such as “Caller ID” and “Voice mail” (*actual uses*).

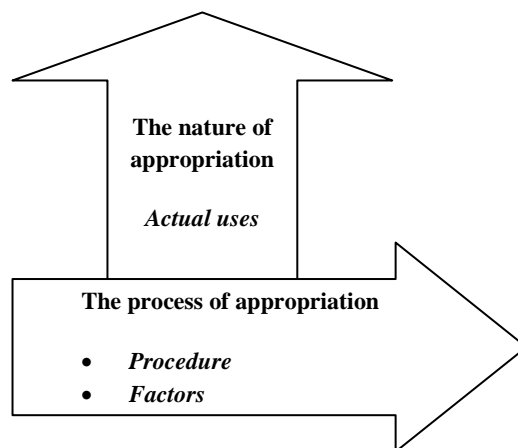


Figure 4.1 The intersection between the process and nature of appropriation

In order to examine the process and nature of appropriation and obtain a more in-depth understanding of the topic, existing approaches to appropriation and use of

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pattern of domestic use or the functions of a commodity that may differ from designers or advertisers intentions).

technology have been analysed. These approaches are the Adaptive Structuration Theory (AST), the Model of Technology Appropriation (MTA), the Concerns-Based Adoption Model (CBAM), Instrumental Genesis and the Activity System Tool Appropriation Model (ASTAM). The aim is to produce a coherent and multifaceted account of appropriation generally in order to assist the examination of game appropriation. The choice of these models was a result of a selective review of the related literature. With the exception of CBAM, the rest of the models constitute common models examining appropriation. CBAM has been chosen due to the detailed explanations given to the process of innovation adoption. Therefore, the model had potential for illuminating game appropriation. In addition, CBAM implies notions of appropriation as renewal by the user.

### 4.2.1 Adaptive Structuration Theory

The Adaptive Structuration Theory (AST) has been developed and proposed by DeSanctis and Poole (1994). The theory draws from Anthony Giddens' Structuration Theory. In brief, Giddens' theory challenges existing theoretical traditions of social life by departing from conceptions of structure as a priori constructs that shape social life or as inherent in the mind of human beings (Poole & DeSanctis, 2002). More accurately, structures are viewed "as systems to be structured" by social agents through social *praxis* (Cohen, 1989). Structuration involves the *duality of structure*; "the structural properties of social systems are both the medium and the outcome of the practices that constitute those systems" (Giddens, 1979, p.69). This conceptualization points to the recursive dimension of social life (ibid); structuration is the production and reproduction of social structures through the actions of individual agents across time and space. DeSanctis and Poole have adapted structuration theory and applied it on smaller social structures, the group or the organization. Through AST the organizational change as triggered by the use of advanced information technologies is examined. AST extends Giddens' theory by analyzing the interplay between not only social structures and human agents but also information technologies.

AST criticizes technological determinism by stressing the influences of social groups on the use of a technology. It considers technology's social structures and action's social structures as mutually constituent. Similar to Giddens, the process of producing and reproducing (not necessarily replicating) social structures during interaction is defined as *structuration* (DeSanctis & Poole, 1994). Structuration leads over time to institutionalization of social structures. "The immediate, visible actions that evidence deeper structuration processes" are conceived as *appropriations* (ibid, p. 128). Appropriations are not determined by technology but through the active adoption and adaption of technology's structures through social interaction. Through appropriation it is indicated that the use of a technology varies among people. In particular, DeSanctis and Poole (1994) identify four aspects of appropriation: 1. Appropriation moves (use/non-use of a structure, blending of two structures, interpretation of the structure in use, and judgement of the usefulness of the structure). 2. Faithful or unfaithful to the spirit use (i.e., consistency with the structural potential of technology). 3. Appropriation may be implemented for different instrumental uses (purposes). 4. During appropriation various individual attitudes (e.g., confidence in use, perception of the technology's value, willingness to excel) are evident.

More precisely, the theoretical foundations of AST are the following (see Figure 4.2): 1. The social structures of a particular technology are its *structural potential*; the structural characteristics and the *spirit* of the technology. The former dimension points to the capabilities of a given technology that affect the manipulation of information by the users. These features have been influenced by the given social structures (e.g., organizational knowledge, standard operating procedures), within which technology was designed. The latter, the spirit of technology's social structures concerns the purpose that technology has been designed for, the "legitimate" use, the "official line" of use presented to the users. Spirit is not defined either by the designers' intentions nor the users' interpretations but by "the researcher's current interpretive account (based on multiple sources of evidence) regarding the values and goals of the technology" (DeSanctis & Poole, 1994, p.127). 2. The use of technology's social structures varies due to the interplay with other

sources of social structure; the nature of the task (content and constraints) and the organizational environment (e.g., modes of conduct, pressures to reduce spending within the implementation of a project). 3. When technology, task and organizational structures intersect via social interaction emergent sources of structure are created. 4. New structures emerge as the social structures of technology are appropriated by a group of people in a specific context and reproduced in their practice over time. 5. The nature of appropriation influences group decision processes. 6. The choices of a group on how to use a technology are affected by members' particular characteristics including among others, the style of interacting and knowledge and expertise related to the technology. 7. Desired outcomes are achieved when all structures are ideally appropriated to task decision processes.

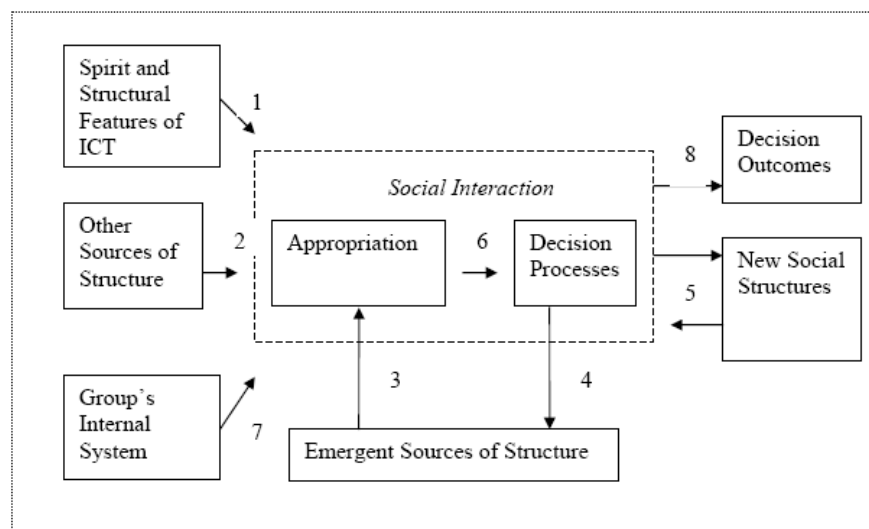


Figure 4.2 An adapted version of the AST model (Sørnes, 2004)

As a model, AST has been positively charged as an appropriate for examining the use of innovations due to the emphasis given to the reciprocal influence between technology structures and social structures (Halawi & McCarthy, 2006). AST has been also criticised as underestimating the role of the individual user (Waycott, 2004) and being “inadequately elaborated” by focusing on individuals and organizations and not considering structuration processes implemented at a higher level of analysis between different organizational fields (Thatcher *et al.*, 2006). Additional critique refers to AST conception of structure as being traditional and

contradicting to Giddens' "somewhat rarefied structure". More precisely, it has been argued the concept of structure is analysed through notions such as spirit and appropriation that are not substantially justified (Jones, 1999 in Rose, n.d.). Also, the causality framework given by AST (i.e., a number of social structures plus ideal appropriation processes plus decision processes that fit the task, equal to desired outcomes of IT use) is positivist-oriented and of little acceptance by Giddens (ibid).

### **AST and gaming**

The acknowledgement of contextual factors that influence the use of technology constitutes an essential contribution of AST in the examination of gaming. AST indicates the design of technology does not determine use. On the contrary, it stresses the influence of social praxis and the importance of social interactions on technology's structures. In relation to the use of games, it is suggested that the design of the game is neither passively accepted by the gamer nor used in accordance to design principles. Instead, it is negotiated through gamers' interactions that affect and in a sense predict end-use. Moreover, AST by analysing the four aspects of appropriation suggests that each user can make a distinct use of technology. For gaming it is advocated that it is more likely an individual-specific activity in terms of degree and purpose of use, actual uses and individual attitudes (see aforementioned aspects of appropriation in AST). Furthermore, AST is also suitable for understanding game use from the perspective of the group and the related variables that explain the appealing nature of games. What raises concerns in applying AST in the case of games is theory's application to organizational settings. The analysis of DeSanctis and Poole (1994) corresponds to the function and elements identified within organized institutions. Gaming on the contrary, is an entertaining activity with a context that is much more fluid and defined subjectively by the gamer (see Chapter 2).

### **4.2.2 The Model of Technology Appropriation**

The appropriation of mobile phones has been extensively studied (see Cook *et al.*, 2008; Jones & Issroff, 2007; Bar *et al.*, 2007). The work of Carroll *et al.* (2003; 2002), particularly the Model of Technology Appropriation (MTA), is deployed here

due to its focus on youth and its explicit analysis of the factors and process of appropriation.

MTA moves beyond the organizational context and employees (see AST) to examine appropriation in leisure conditions through the analysis of young people's attitudes and use of new technologies (ICTs). It is a broad conceptual framework in which a technological artefact is designed, supplied, adopted, used and integrated in daily use. Within this context, the process of appropriation indicates the transformation of the technology as shaped by the designer to the technology as modified and used by the user (see Figure 4.3). By explicitly analysing the process of appropriation, as indicated by Carroll *et al.*, future practices will be informed resulting in the design of technological artefacts that will be appropriated by young people.

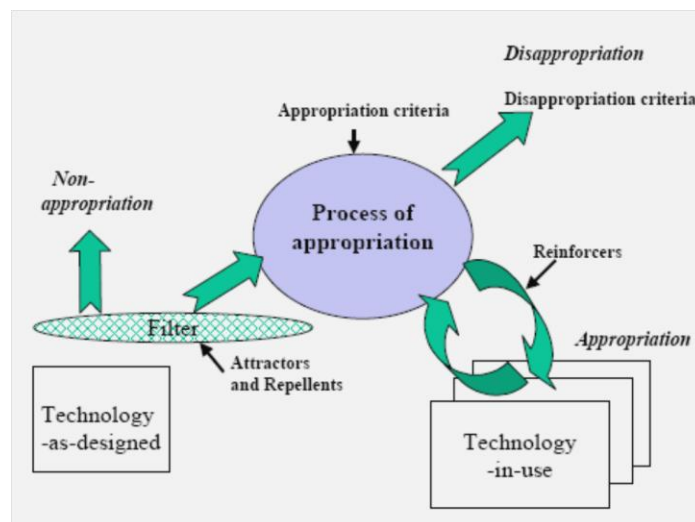


Figure 4.3 The process of appropriation within MTA (Carroll *et al.*, 2002)

The MTA offers an explicit understanding of the process (see Figure 4.3) and the influential factors leading people to make use of mobile phones (see Figure 4.4). The users are initially exposed to the release of the technology. Factors including, for example, the expected cost and usefulness, fashion/style, and ease of use, shape the decision for purchasing the artefact. The ignition of the process of appropriation is the decision to adopt. The adoption of technology is followed by a deeper evaluation of the technology through usage. The users experiment with the technology and

identify its constraints and capabilities. The technology is appropriated if its capabilities satisfy users' needs. The identification of, for instance, hidden costs, usability and learnability constraints signals the end of use and the disappropriation of the technology. The final level of appropriation concerns long-term use. It indicates the fusion of technology in everyday practices. The appropriation persists if "higher-order drivers" reinforce use. These drivers are identity/sense of belonging, power and dealing with fragmentation. According to Carroll *et al.* (2002, p.7):

"As long as the technology fits with the needs and lives of young people, its use will be reinforced and stabilised; it may become a mundane part of their everyday lives. At the same time, it will shape their needs and lives, offering new ways of living and interacting in the world".

The appropriation process is a gradual shift between levels, since factors affecting adoption may persist during adaption and use (Carroll *et al.*, 2003).

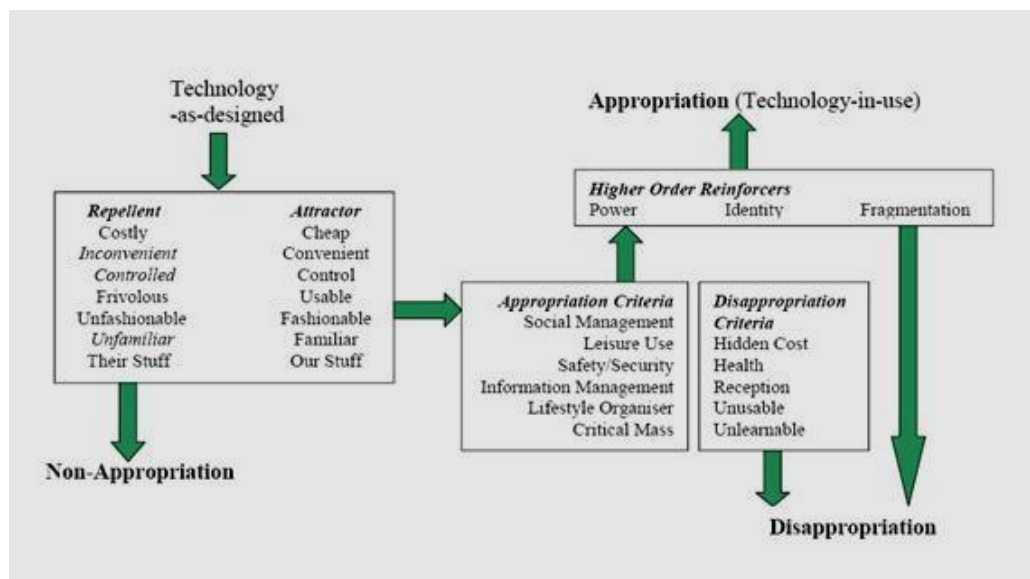


Figure 4.4 Factors of the MTA (Carroll *et al.*, 2002)

MTA's development has been based on the examination of a single technology, mobile devices by a particular audience, the young. It is thus extremely contextualized hindering application to the use of other artefacts or activities. In addition, it defines appropriation in the level of individual user and his/her personal perceptions and needs. It does not acknowledge "learning in context"; the socio-



cultural features possibly affecting appropriation (Jones & Issroff, 2007). Technology appropriation as stated by Overdijk and Van Diggelen (2006) is implemented at various levels including the level of group of users. In respect of games, this inefficiency is crucial, since the use of games is defined through joint activities, within the discourse of constant interaction and communication among gamers (see Chapter 2).

### **MTA and gaming**

In contrast to AST and the focus on organizational settings, MTA investigates appropriation as emerging from the persistence use of an artefact. The application of the model is more akin to the use of games since it refers to leisure conditions and the use of new technologies in the micro-level of use (i.e., the level of the individual user). However, the factors mediating the process of appropriation are specific to mobile devices and thus of less relevance to gaming. The straightforward description of the appropriation process as facilitated or hindered by specific factors though (see Figure 4.3) could be applied in explaining the process of game appropriation. Moreover, MTA views appropriation as a goal-directed activity during which the user constantly evaluates the artefact. This is not the case for gaming since playing games is more of an emotional process the gamer attends for its own sake (see Chapter 3). In addition, MTA by not considering the influence of social context dismisses a crucial aspect of gaming; the existence and communication between social agents surrounding gaming (see Chapter 2). Finally, drawing from MTA, the appropriation of mobile phones ends when users incorporate mobile use in daily practices. The appropriation persists as long as individual needs are satisfied through the use of the technology. It is therefore implied that all users reach at the same certain point of usage. The MTA does not consider the possibility of having degrees of appropriation after integrating an artefact in everyday practices. By assigning the characteristic of *depth* to the examination of game appropriation process, the variability observed between gamers in terms of frequency and duration of gameplay (see Yee, 2006a; Castronova, 2005) can be better explained.

### 4.2.3 The Concerns-Based Adoption Model

The Concerns-Based Adoption Model (CBAM) constitutes a developmental, stage-defined model describing human change when adopting an innovation<sup>20</sup>. Originally proposed in 1973 by Hall, Wallace and Dossett, its application has been influential throughout various other examinations (Hall & Hord, 1987; Loucks-Horsley, 1996; Horsley & Loucks-Horsley, 1998; Sweeny, 2003). The concept of adoption as applied by Hall *et al.* (1973) denotes not only the decision to use an innovation but all actions aimed at the incorporation of the innovation in the structure of an organization. The use of the term innovation is not restricted in a newly introduced configuration; it broadly defines any process or program to be implemented (Hall & Hord, 1987). The CBAM presents innovation adoption as a change process and not a static event, for which time is required if to be implemented. Its significance lies on the fact that it departs from a deterministic approach of implementation in which innovation is delivered in a “box” (Hall & Hord, 1987) to recognize users’ influential role during this process. The model, though initially applied in educational settings (see Hall *et al.*, 1973) has also been utilised by other organizations in the pursuit of professional development, to investigate behavioural changes and to form the basis for concern-based projects (see examples presented in Hall & Hord, 1987). The CBAM is not innovation-specific; its scales are applicable to any kind of change (Hall & Hord, 1987).

The structure of the CBAM has been described through two main dimensions; the levels of use and the stages of concern<sup>21</sup>. Various individuals make different usage

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<sup>20</sup> Innovation adoption has also been analysed by Rogers (2003) in five stages; knowledge, persuasion, decision, implementation and confirmation. CBAM has been utilized here due to the inclusion in the examination of the adoption process of levels identified after confirmation (e.g., routine level) as well as the presentation of stages of concern accompanying use.

<sup>21</sup> A third dimension of the CBAM, *innovation configurations* emerged during the evaluation studies of the two other dimensions. Innovation configuration indicates the need to identify the specific characteristics of an innovation and use them in the production of materials (i.e., check lists of the components and component variations of an innovation) which could be used for the better operation of the innovation (Hall & Hord, 1987).

of the innovation which composes of eight hierarchically distinct levels for implementation (see Table 4.1). Each level of use defines the users' depth of theoretical knowledge and degree of expertise when actually using the innovation (Hall *et al.*, 1973). The initial three levels constitute various phases of being a "non-user" (level 0: *non-use*, level I: *orientation* and level II: *preparation* to adopt). In contrast to the preparation level, during the *non-use* and *orientation* levels no commitment is observed in using the innovation. The remaining five levels of use refer to the phases of mastery. The CBAM suggests that after adoption and training in using an innovation not all individuals master it in the same degree. These phases are level III: *mechanical* during which users experiment with innovation in order to become more efficient, level IVA: *routine* the use becomes stabilized since users have mastered innovation's routines, level IVB: *refinement* users act in order to increase the effectiveness and impact of the innovation, level V: *integration* users through coordination with other users, attempt to achieve a collective impact when using the innovation, and level VI: *renewal* it is the level of major alterations to the innovation "by adding significant new and different components, or perhaps they [users] are exploring alternatives that could be used to replace it altogether" (Hall & Hord, 1987, p. 86).

Table 4.1 The levels of use within CBAM (Hord *et al.*, 1987)

Levels of Use	Behavioral Indicators of Level
VI. Renewal	The user is seeking more effective alternatives to the established use of the innovation.
V. Integration	The user is making deliberate efforts to coordinate with others in using the innovation.
IVB. Refinement	The user is making changes to increase outcomes.
IVA. Routine	The user is making few or no changes and has an established pattern of use.
III. Mechanical	The user is making changes to better organize use of the innovation.

II. Preparation	The user has definite plans to begin using the innovation.
0I. Orientation	The user is taking the initiative to learn more about the innovation.
0. Non-Use	The user has no interest, is taking no action.

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The levels of use are accompanied by the stages of concern (see Figure 4.5). Hall *et al.* (1973, p. 14) explained that “The overt manifestations of the initial checking-out process, the subsequent knowledge and skill needs, and the problems encountered in preparing for and actually using the innovation will be observed as expressed concerns”. In each stage of concern there is a need for resolution which when implemented leads to a next level of use (*ibid*). As Hall and Hord (1987) hypothesize, while concerns are arisen after the initial use of the innovation, at later phases they drive higher levels of use. The stages of concern follow a developmental process and are characterized in terms of focus on self, task or impact. More precise, individuals’ little concern when involved in the innovation is conceptualized as stage 0: *awareness*. Stages 1 and 2 are self-focused; the user is interested in learning generally about the innovation (stage 1: *informational*) and there is uncertainty in respect of the user’s role and demands when using the innovation (stage 2: *personal*). Stage 3 (*management*) is task-oriented; the user is engaged with the skills, materials and time demands of the innovation. In stages 4, 5 and 6, impact concerns evolve. Users are focused on the impact of the innovation (*consequence*), they coordinate with others for better and more beneficial use (*collaboration*), and they seek to implement major changes or effective alternatives (*refocusing*).

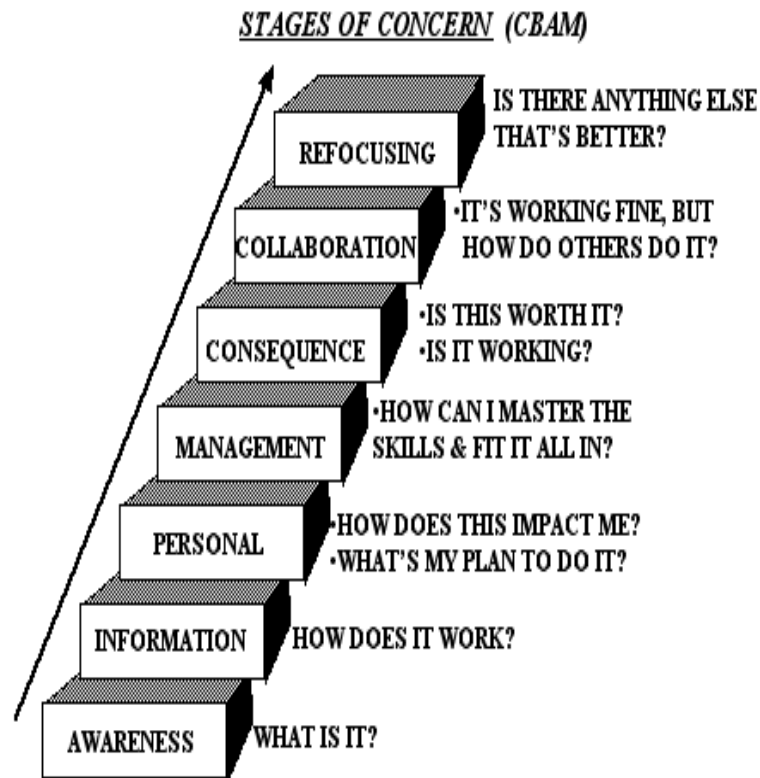


Figure 4.5 The stages of concern within CBAM (Sweeny, 2003)

During the implementation of an innovation, the role of change facilitators or “adoption” agents is crucial. Their role is highly influential since they are concerned with the changes faced by those individuals using the innovation, within the user system (e.g., the organization, the school) and the innovation itself. The purpose is to maintain a high level of use for the innovation. Adoption agents are either external or internal. The former work as consultants and trouble-shooters and based on users’ needs design action plans for overcoming problems. The latter is the agent communicating change within the organization to the external agent. Adoption agents are connecting the external resources to the internal system of the user (i.e., organization); they are a more knowledgeable resource about the innovation that assists internal system cope with the innovation.

Despite the broad application of CBAM (particularly in educational settings) the model presents various inefficiencies. Hall *et al.* (1973) have argued that concerns and level of uses are “deceptively simple”. They are complex and hardly measured since each innovation has specific interactions between learners and instructors that define its effectiveness. In addition, a major drawback of the model is the

consideration of context. Within CBAM, context is perceived as the external system of resources and the internal system of the user (e.g., the school). However, these dimensions are not analysed into particular components, and in respect of the rest of the model (Anderson, 1997). Overall, the relationships between the different components of the model (i.e., stages of concern, level of use, innovation configurations, see also footnote 20), the role of change facilitators and user and external context in the face of change have not been thoroughly examined and thus are little understood (ibid).

### **CBAM and gaming**

In relation to gaming, CBAM, even though focused on the adoption and not the appropriation of innovations, is a useful tool for conceptualizing the process of game appropriation. Foremost CBAM constitutes a theory of learning that explains how users' knowledge and skills grow while learning for an innovation. Thus, the application of CBAM to gaming assists in understanding game appropriation as a process of learning about games (acquisition of game knowledge) and becoming expert in gameplay (development of game skills). Game appropriation can be perceived as being a continuum of growth in knowledge and skills from non-use to expert use. Such conceptualization resolves the lack MTA faces by not counting for the depth of appropriation. However, the stage-oriented conceptualization of CBAM is problematic for gaming. As illustrated in Table 4.1 and Figure 4.5 the use of innovation is analysed into distinct phases. This scenario is less likely for gaming since prior game experience can influence progression through levels of use. Thus levels can be merged or not be distinguishable. Similarly, the stages of concern are less likely to be identified during gameplay since prior game experiences can assist gamers resolve obstacles faced while gaming. The presence and communication with other gamers in games such as MMORPGs (see Chapter 2) can also contribute to resolving concerns since co-gamers can work as "adoption agents" and thus trouble-shooters. Finally, CBAM conceives change as a personal experience by acknowledging the individual user and his/her different level of skills and concerns without ignoring though the role of the social context and the collaboration between users. This dimension of the model points to distinct game uses made by the single

gamer as well as to the collaboration between gamers. It is thus indicating that game appropriation is both a social and personal process.

### 4.2.4 Instrumental Genesis

Instrumental Genesis originates from activity theory and Piagetian Constructivist Theory (Rabardel, 2002). It is structured upon the dichotomy between the tool or artefact and the instrument. A tool/artefact is any object used to carry out a task. It is the products the designers produce or any natural objects (e.g., maps, symbols, drawings)<sup>22</sup> (Verillon, 2000). Instruments are greater entities since they are comprised simultaneously of tools and the person's activity of using the tool. Instrumental Genesis is the birth (genesis) of an instrument from a previous artefact (see Figure 4.6). Tools are becoming instruments via user's mental utilization schemes. These cognitive schemes comprise the connection between the tool and the ways it can be used within a task, which results in the construction of instrumented action schemes (Andresen, 2005). The active psychological participation of the user is the transformation channel from tool to instrument. According to Verillon and Andreucci (2006, p.412) "When in use, an artefact is caught up in a system of action schemes, representations, knowledge, intellectual and motor skills that alone actualizes its function." Instrumental Genesis stresses the dynamic nature of tool use as this is affected by users' aims and intentions which in turn define personal schemes of use. As Rabardel and Waern (2003) clarify, Instrumental Genesis is not implemented due to design deficiencies; rather it is "an expression of the concept embodied by the artefact that is in all ways instantiated by the user" (p. 643).

Appropriation is conceived as the action of "genesis". It describes the process of Instrumental Genesis and in particular the two dimensions towards this process is implemented; the self and reality (Verillon & Andreucci, 2006). Self-oriented

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<sup>22</sup> Except from the technical instruments, Instrumental Genesis expands to theorize on semiotic instruments (e.g., maps, symbols, drawings) and semiotic instrumented activity. The direction of the action is the influence on the feelings and behavior of another person and thus it concerns the interaction between two subjects; a transmitter and a receiver through the object (referent) there is information for (Verillon, 2000).

appropriation indicates the adaptation and integration of the tool in the user's cognitive schemes and sequentially the evolution of the schemes. The assignment of specific ends - probably innovative uses- is the appropriation within an external context. Genesis in contrast to the design as a predetermined construction denotes the “exploratory trials leading to partially unpredictable practical consequences” (Lorino, 2007). In the level of education, the appropriation of mathematic ICT tools (e.g., the graphic calculator, computer algebra systems) is “a learning process of making sense of symbolizations by working with the tool in a socio-cultural praxis” (Gravemeijer, 2002, p. 19).

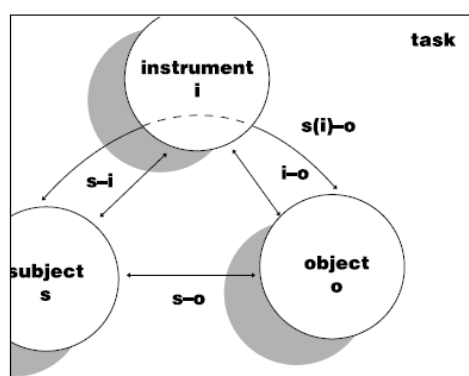


Figure 4.6 Situated Instrumented Activity:

The relations between subject/user, object/tool and instrument (Verillon, 2000)

Instrumental Genesis, in contrast to the rest of the approaches analysed in this chapter presents a distinct characteristic. It analyses appropriation to the very personal level of cognition and the change implemented in thinking, due to the use of the instrument. However, it presents the actions of appropriation as solely defined through the interaction between the individual and the tool without considering for instance, the influence of other contextual factors (e.g., teaching, the role of peers). As stated by Hegedus (2005, p.2) “this process lacks a deeper, fundamental role of the environment and co-actions with the user's intentions of a tool”. Through the examination of “hot-spots” (i.e., an application of a dynamic software system that allows construction of mathematical figures), Hegedus argues that action does not reside in the individual but in the collaboration and co-action between the individual



and the software application. The “reaction” from the environment is identified in the infrastructure of the software that assists the accuracy and efficacy of the tool.

### **Instrumental Genesis and gaming**

Appropriation within Instrumental Genesis points to two directions; as change within the cognitive schemes of the user and as innovative ends resulted from the use. The former can be used to illuminate the process of game appropriation as situated within the individual gamer. More notably, the acquisition of game skills and knowledge through game use can be understood as the adaptation and evolution of existing cognitive schemes. Thus the process of appropriation while in a phenomenal level has been perceived as the procedure during which games are appropriated, in an internal, personalized level can be perceived as the changing process in cognition resulting from game use. The latter dimension of appropriation is directly related to the nature of game appropriation and actual game uses. It is the external indicators of appropriation evident in the different uses made by the gamer. As a theory, Instrumental Genesis though adequate in explaining the nature of appropriation, cannot explain the process of appropriation as no information is given in respect of the integration of artifacts in the life of the user.

### **4.2.5 The Activity System Tool Appropriation Model**

The Activity System Tool Appropriation Model (ASTAM) has been developed by Waycott (2004) through the examination of the way a particular technological artifact, the PDA is used. Tool appropriation is defined as “the integration of a new tool into the user’s activities [...] new tool is both the object of this activity and a mediating tool in other activities” (Waycott, 2004, p. 92-93). Therefore, tool appropriation is a two-way process during which social factors influence the shaping of the tool while also the use of the tool influences the formation of the activities. In order to examine the process of tool appropriation, Waycott adopts the activity system framework based on which ASTAM is developed. Within ASTAM the process of tool appropriation is perceived as “an activity system in itself, where the objective of the activity is the tool being appropriated” (p. 286). Tool appropriation

is mediated by the tools used in support of the activity (e.g., manuals, community knowledge), the existing artifacts within which the tool will be integrated, the subject's previous experience and knowledge, the community (i.e., other people involved) and the rules and division of labor (i.e., expectations on how the tool is to be used and sharing of responsibilities to overcome technical problems). The outcome of this process is the integration of the tool into existing activities (see Figure 4.7). ASTAM stresses the user's active adaptation of the tool being evident in the various unique ways the tool is used in order to meet the user's purposes (Waycott, 2005). As stated by Waycott (2004, p. 95), ASTAM views tool appropriation as "an individual activity that is socially situated". What differentiates ASTAM from the activity system perspective is that ASTAM does not only view tools as mediating the activity (tool mediation) but also the activity has the potential to motivate the use of a tool (tool appropriation).

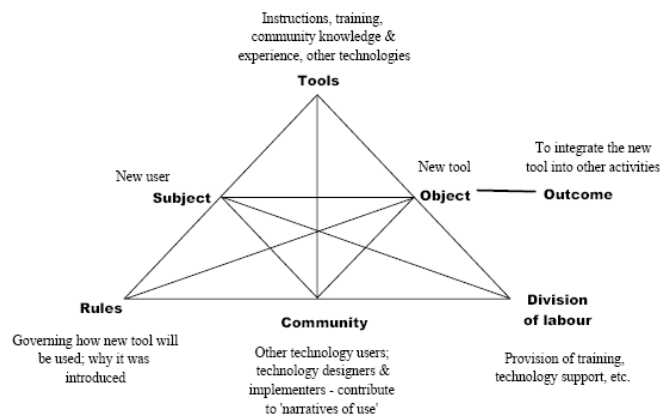


Figure 4.7 Tool appropriation as an activity system:

The Activity System Tool Appropriation Model (Waycott, 2004)

ASTAM is akin to the Model of Technology Appropriation (MTA). Both approaches, perceive appropriation as the shaping of a technology by users' needs. ASTAM further stresses the bipolar nature of appropriation; the mutual influence between tool mediation and tool appropriation. In addition, ASTAM treats appropriation as an activity system; an ongoing evolutionary process instead of stages as proposed in MTA. Moreover, drawbacks within activity theory are also applied on ASTAM. As indicated in Waycott (2004), the relationship between the

concepts of the activity theory are open to interpretations hindering researchers apply the framework in the “proper” way. Also, while activity theory asserts that activities are constantly developed, it does not offer the different representations of this development over time.

### **ASTAM and gaming**

In relation to game appropriation, ASTAM is a descriptive tool for understanding differences between individuals when appropriating games. The perception of tool appropriation as an activity system assists in understanding the process of game appropriation as the interaction of various sociocultural and individual factors leading to variation of use. More notably, it is hypothesized that gaming is a personal activity situated within social conditions. What was also observed by Waycott in relation to the use of PDAs is the necessity to use a technology that fits and interacts with other technologies already used by the individuals. This aspect of ASTAM can be an indication that the appropriation of games is tightly related to the appropriation of other technologies such as the computer and the internet. The co-influence between technology and gaming is evident in their parallel social development (see Chapter 2). ASTAM though detailing the factors influencing the process of appropriation does not explain the procedure *per se* and the nature of appropriation.

### **4.3 Game appropriation**

The relatively scant literature on game appropriation (see 4.2) perceives the appropriation of games as gamers’ practices identified beyond designers’ original intentions such as code subversions and modifications on gameplay (e.g., mods, videos, scamming). These practices comprise examples of the nature of appropriation (i.e., actual uses) (see 4.2). This thesis investigates the issue by adopting an innovative, *motivationally-oriented* perspective; it investigates game appropriation as the process of games’ incorporation in gamers’ everyday life as well as the nature of their gameplay. The lack of previous research made requisite the reference to studies of appropriation identified within other domains. The aim is

to produce a multifaceted account on appropriation in order to inform the study of game appropriation. Each model demonstrates weaknesses in relation to gaming hindering application to game appropriation. Therefore, these models have been utilized as guiding conceptual tools. In particular, the account that follows integrates certain dimensions from the aforementioned approaches, considering for the recent transformation of games and the consequences for the gamer (see Chapters 2 and 3), and develops an initial theoretical conceptualization of game appropriation requesting oncoming empirical exploration. The following paragraphs detail the assumptions underlying the concept of game appropriation. The next step is their empirical elaboration (see Chapter 6) using as analytical tool the model presented in the end of this chapter.

*a. Game design does not define gameplay*

What is implicit in the discussed approaches on appropriation and explicitly stated by Bar *et al.* (2007) and Carroll *et al.* (2002), is the adversary relationship between appropriation and technology's design; open design platforms permit greater experimentation and innovation. The material and technical potentials of a technology that are shaped during its production thus pertain to specific uses and constraints. The Williamson's (1986) example of the use of Walkman (in Mackay & Gillespie, 1992) demonstrates the restrictions raised by the artefact's physical configuration. In particular, Walkmans can be used in a single way and by a single person denoting restricted social potential and use. Similarly, when using a phone, little space is given for appropriation and creation by use, as a result of technology's shaping (Degele, 1997). However, when an artefact is appropriated, it is implied that technological design does not define use. Instead, a reciprocal influence exists between social practice and design. Compared to the use of other artefacts such as the Walkman, game appropriation presents a distinct asset particularly overt in the development of MMORPGs and the transformation of games into social spaces. When released to the market, MMORPGs neither remain unchangeable nor considered to be the final version of the product. On the contrary, game developers contribute constantly to the design reconfiguring game structures by updating

content or releasing expansion packs with new content. Game appropriation differs from other technologies since the role of the game developers remains active throughout the usage of the game. In addition, the choice of gameplay is up to the gamer and not predefined by the design. The proposed game structures are negotiated by the users within a socially abundant space. The game design is neither passively accepted nor used in accordance to design principles. The changing role of the game designers along with the active contribution of the gamers demonstrates that game appropriation moves away from technological determinism towards collaboratively defined forms of play.

*b. Game design is requisite for game appropriation*

Drawing from AST, the design of the game can be analysed into structural characteristics and spirit. The former stresses the affordances of the design that enable certain actions by the gamer and the latter the “legitimate use”; how the game is expected to be used. Game design permits or inhibits a certain degree of freedom of choice during gameplay. The more open-ended the design is, the greater the extent of appropriation evident in the plethora of game actions gamers can implement. This is particularly the case for MMORPGs and their flexible game applications in contrast to more traditional game forms in which appropriation is minimal or nil due to the imposition of a single pathway for gameplay. Game appropriation requires a relatively open game design. By arguing that design does not define appropriation, it is not to be assumed that the role of game design is peripheral. First, game structures provide the game choices based on which gamers configure gameplay and second, regular updates and expansion packages contribute to game appropriation. It is thus assumed that game design is requisite for game appropriation.

*c. Game appropriation is personal and individual-specific*

Great emphasis by MTA and Instrumental Genesis is given to the individual user. CBAM, AST and ASTAM also acknowledge the role of the individual when making

use of a technology. Appropriation is perceived as a personal experience that varies among users. Similarly, it is hypothesized that the way games are appropriated is unique for each gamer. In accordance to CBAM and the levels of use, game use varies between non-use and persistent use. In addition, game appropriation privileges human choice as each gamer makes distinct use of games. Following Bartle (1996) and more recently Yee (2007a; 2006a), gamers' preferences vary within MMORPGs. Gamers have the potential to actively engage with a rich and changing repertoire of game activities and thus appropriate games the way they prefer to. Thus game appropriation is differently shaped by each gamer. Following ASTAM, it is hypothesised that game appropriation is an individual phenomenon implemented within social conditions. Further examination is required to identify whether the variability in the degree of use and personal preferences for play is associated with individual differences, for this thesis trait EI and basic psychological needs (see *d*).

### *d. Game appropriation and individual differences*

By arguing that game appropriation is personal, it is noted how the gamer as an individual influences the process and nature of game appropriation. In existing approaches to appropriation, the role of the individual user within appropriation signifies different meanings. In the workplace it has been applied to denote the style of interacting with others and the knowledge and expertise related to the technology (DeSanctis & Poole, 1994). The latter is also identified in leisure situations (Waycott, 2005; 2004). Within leisure it additionally denotes the satisfaction of users' needs when using the artefact and the "higher-order drivers", namely, identity/sense of belonging, power and dealing with fragmentation (Carroll *et al.*, 2003; 2002). Finally, from a more psychological perspective, it signals the (re)organization of users' cognitive schemes and more broadly their aims and intentions (see Verillon, 2000). In the field of games, the limited references examining the gamer as an individual have been focused on identifying different game preferences within MMORPGs (see Yee, 2007; 2006a) and investigating the role of gamers' prior game experiences. In respect of the latter, the familiarity with

specific genres and the quantity of prior game experience, indicate different game preferences and sequentially the necessity for a broad repertoire of game choices (Oliver & Pelletier, 2005). Such analyses however, could penetrate deeper into understanding what underpins these choices for play examining individual differences, particularly trait EI and basic psychological needs. Existing literature already suggests that particular personality characteristics are associated with the choice of specific games (Ravaja *et al.*, 2004) and the degree of game use (Parker *et al.*, 2008) (see Chapter 3).

*e. Social praxis configures game appropriation*

Both AST and ASTAM stress the role of social praxis and social settings accordingly during appropriation. Technological structures are adopted and adapted socially. In the case of games, gamers and broadly the community of gamers negotiate proposed game structures through collective practice. Joint activities and constant interaction either within the virtual world or within its physical surroundings configure game appropriation. In particular for MMORPGs, it is assumed that game appropriation is socially configured as influenced by other gamers leading to innovative forms of play. In contrast to other leisure activities such as reading or listening to music, gaming is an activity not subjectively but collectively defined both online and offline. It is hypothesized that game appropriation results from interaction with other gamers identified in collective game sessions and game discussions either in-person or in game web-forums. Such interactions entail communication concerning the game *per se*, game practices and exchange of game knowledge and support (see Chapter 2). Social praxis is heavily considered in the case of game appropriation.

*f. The micro-level and macro-level of game appropriation*

The approaches presented in this chapter examine appropriation in various contexts; within organized structures (see AST, CBAM), in learning and workplace settings (see Instrumental Genesis, ASTAM) and in everyday practices (see MTA). MTA by

analysing the appropriation of mobile devices is the approach most closely related to the use of games due to its reference to leisure conditions. However, despite the similarity of context, games are not a single artefact embedded in the life of the user. They comprise an activity involving a great repertoire of games for use, actualized in diverse ways and related to a rich game culture developed by gamers (see Chapter 2). Understanding game appropriation is a comparatively more complex task than the appropriation of mobile devices. More notably, gaming can be analysed into two levels; the micro-level and macro-level of use. The former refers to the level of the gamer as an individual. It is more akin to the *practical level* of use and the alterations in the user's behaviour, procedures and routines when using technology, as discussed by Jamison and Hard (2003) (see 4.2). It refers to the distinct characteristics of the gamer and the influence these have on game preferences (see *c* and *d*). Furthermore, game appropriation works at the macro-level of use; the level of the group and more accurately, the broader community of gamers. This level is characterized by social praxis. The constant social interactions and communication between gamers (see *e*) are perceived to comprise the higher level of game use. The relationship between the micro and macro levels of use is an issue that requires greater elaboration in order to identify how gamers as individuals relate to the community of gamers involved in gameplay. This aspect of game appropriation is addressed in the empirical examinations of this thesis (see Chapter 8: 8.8 and Chapter 9: 9.4).

*g. Game appropriation is mediated by game design, the gamer as individual, and social praxis*

In the sphere of AST, the structural potential of technology (i.e., spirit and technical characteristics), the task and environment structures and the particular characteristics of the users are interacting, influencing the emergence of social structures. Within the MTA, the appropriation of mobile phones results from users' desires, the capabilities and implications of mobile use and the actual uses inhabited by users (Carroll *et al.*, 2003; 2002). From the perspective of ASTAM, tool appropriation is mediated, as in activity theory, by the subject, tools, rules and division of labor, and



the community. Similarly, it is hypothesized that the process and nature of game appropriation are mediated by various factors. These factors are identified in the affordances of game design (see *a, b*), the gamer as individual (see *c, d, f*) and the social interaction within the community of gamers (see *e, f*). While within MTA the factors contributing in mobile appropriation are evaluated and logically examined by users, within game appropriation they work emotionally. Drawing from Chapter 3 (see 3.2.1 and 3.2.2) it is assumed that game appropriation is more likely emotionally driven.

*h. Game appropriation as a developmental continuum defined by iterative cycles of use*

Game appropriation is conceived as a dynamic process of change better described as a developmental continuum of use. In contrast to MTA and the implicit assumption that all users reach the same certain point of use, game appropriation presents degrees of involvement with games. Not all gamers make similar use of games in terms of frequency and duration of gaming (see Yee, 2006a; Castronova, 2005). Therefore, the greater the frequency and duration of gaming is the more in-depth the incorporation of games in daily practices. Drawing also from CBAM and the perception of adoption as a learning process, it is assumed that the progressively-developed process of game appropriation is accompanied by growth in game knowledge and skills.

Theoretical evidence for the *nature* of game appropriation is limited. According to AST, the interaction between technological and social structures leads to emergent sources of structure. Considering the flexible design of MMROPGs, actual game uses are continually negotiated through gamers' collective actions. Gameplay is constantly renewed due to the changing relationships between gamers, their game choices, alterations in the design of the game (i.e., updates and expansion packages) and broadly the context within which gameplay is embedded. Thus it is hypothesised that the nature of appropriation resembles iterative cycles of change during which

new structures emerge (e.g., new forms of gaming, routines during gameplay) and old structures are transformed.

### **4.4 Game Appropriation Model (GAM I): A model framing game appropriation**

Based on the aforementioned assumptions, the Game Appropriation Model (GAM) is proposed (see Figure 4.8). GAM I is the first version of a model framing the process and nature of game appropriation. Three empirical examinations follow leading to more improved versions of it (see Chapters 6, 7, 8).

#### **4.4.1 Description of GAM I**

The Game Appropriation Model (GAM I) is a theoretically-oriented model aiming to explain the nature and process of game appropriation. It has been developed drawing from the issues discussed in section 4.3. GAM's constituents are game design, the gamer and social praxis (see Figure 4.8). Game design is viewed as the enabling component of game appropriation. Open-ended and flexible game designs present gamers a rich repertoire of choices for play. Thus the configuration of gameplay is not predetermined by game structures but shaped through the actions of the gamer. In addition, proposed game structures are not immutable, since game developers contribute during game appropriation by constantly upgrading game design. The release of updates and expansion packs repurpose game structures and renew gameplay.

The gamer enters the process of game appropriation as an individual with certain psychological characteristics. Due to flexible game design, the gamer is not a passive recipient of game technology; s/he makes innovative use of it by choosing his/her gameplay. GAM privileges individual choice since each gamer shapes gaming based on individual differences, particularly trait EI and basic psychological needs. The gamer-specific dimension of game appropriation is evident in making different game choices as well as gamers' progression through the various phases of appropriation. In respect of the latter, the integration of gaming in gamers' daily

practices (i.e., frequency and duration of gaming) as well as the level of game knowledge and expertise are distinct to each gamer.

Social praxis is the core constituent of GAM. The role of social interaction is prominent in game appropriation. Social praxis is identified both *within* and *around* gameplay. The multiplayer orientation of specific games (i.e., MMORPGs) pertains to social interactions within gameplay, expressed in collaborative and competitive forms of play and more generally the virtual communication while gaming. Social praxis is also identified around actual gameplay; it refers to face-to-face communication between gamers while gaming or when discussing about games. It also points to the game culture flourished around game use as expressed in web forums dedicated to gaming and the productive work of gamers (e.g., modifications, game movies). The process and nature of game appropriation is more akin to Dourish's (2003) conception of appropriation as inherently collaborative; the adoption and adaption of games are implemented through collective practices leading to reconfiguration and repurpose of use.

Therefore, the interplay between game design, the gamer and social praxis shapes the nature of game appropriation. The observed game uses constitute the outcome of the process of appropriation. These uses point to the specific ways gamers act within the game, implement game goals and collectively negotiate game structures. The outcome of appropriation is not stable but in a process of constant renewal. Due to the dynamic relationship among game design, the gamer and social praxis, it is under an ever-changing condition.

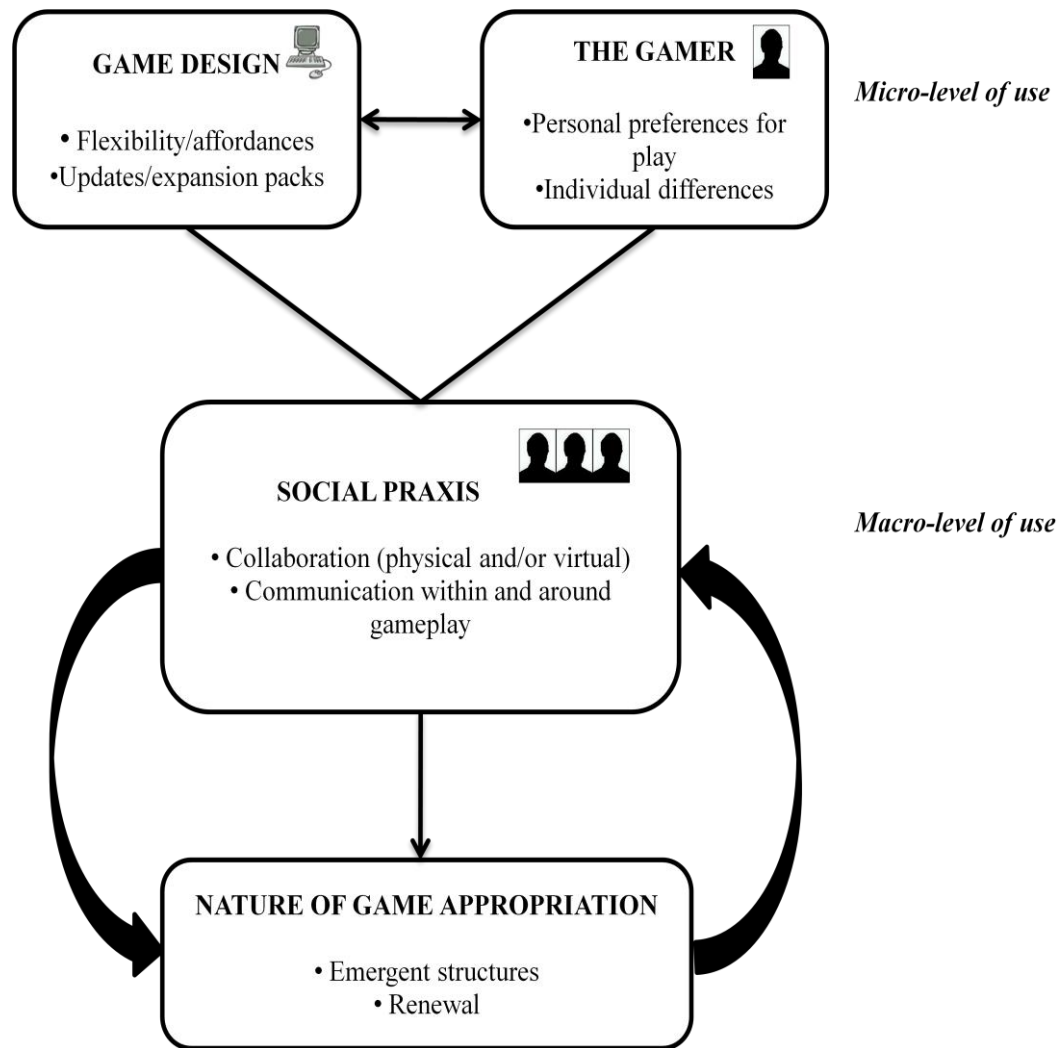


Figure 4.8 GAM I: The process and nature of game appropriation

#### 4.4.2 The function of GAM I

GAM I is a dynamic model explaining game appropriation. It perceives the process of game appropriation as a continuum of growth during which the gamer progresses through various phases of use. Change is observed in the degree of games' integration in the daily practices of the gamer; the frequency and duration of gaming and thus the centrality of game activity in the life of the gamer. Also, alterations are evident in the development of game knowledge and skills; the shift from non-use to expert use. As the process of game appropriation develops greater involvement in gameplay and more experienced forms of gaming are observed. The appropriation

process is progressively developed through iterative cycles of game use. Each cycle signals distinct game uses defining of the nature of game appropriation; the progression through phases of appropriation is characterized by specific patterns of use. Game appropriation is also emotionally oriented. The observed change is facilitated by the positive emotions gamers experience when involved with gaming.

The process of game appropriation is initiated by the mutual interaction between game design and the gamer as an individual. Game design when flexible, enables the process of appropriation by presenting to the gamer a range of choices and a rich environment for action. For instance MMORPGs, by being open-ended, allow greater freedom to choose gameplay facilitating game appropriation. In cases of strictly designed games, game appropriation occurs only when gamers' preferences and design structures match. The potential of specific game designs to support appropriation favours different game preferences rendering a dynamic relation between the game and the gamer. The gamer, as an individual is called to choose from a repertoire of game choices and thus configure gameplay in accordance to personal preferences for play. The bipolar relationship between the gamer and game design constitutes the micro-level of use. It is the foundation unit based on which the process of game appropriation is to be developed. It is the micro-level of use since game appropriation is solitarily-defined between the single gamer and game design.

Game appropriation moves to the macro-level of use when the relationship between the gamer and game design is mediated by social praxis. The proposed game structures and gamers' personal preferences for play are collectively negotiated. Social interaction is the key component that defines both the process and nature of appropriation. In relation to the process of appropriation, social praxis influences the progression through the various phases of appropriation; it facilitates the shift from non-use to expert use and the greater integration of games in gamers' daily practices. In respect to the nature of appropriation, social praxis determines actual game uses during gameplay. Even though socially-defined, GAM acknowledges that game appropriation is a highly personal experience since social praxis is differently shaped by each gamer. For instance, social praxis can be formed around actual gameplay in

gamers' communication on game-related issues either physically or virtually. Also, it can be expressed as collaborative gameplay online or between physically situated gamers.

The process and nature of appropriation are not stable. They are in a constant alteration due to the contextual character of appropriation. In particular, the dynamic relationship between GAM's components, i.e., the changing relations between gamers, their game choices and the context within which gameplay is situated, leads to the renewal of game structures and the emergence of new forms of play.

### **4.5 Concluding remarks**

The theoretical examination of game appropriation indicates how the process and nature of game appropriation are more likely contextual. As in the case of other artefacts or technologies, it is suggested that game appropriation is mediated by multiple factors, namely, game design, social praxis and the gamer. The dynamic relationship between these factors results in constant change and renewal of gameplay. It is assumed that progressively-developed iterative cycles of use determine the process of game appropriation. Each cycle is conceived as a distinct outcome of the process which mirrors the nature of game appropriation (i.e., actual game uses). Considering the transformation of games into socially-configured game experiences, it is hypothesized that game appropriation is collectively rather than subjectively defined. Moreover, it is suggested that individual differences in trait EI and basic psychological needs' satisfaction relate to game preferences. These assumptions are empirically examined and GAM I is iteratively developed in Chapters 6, 7 and 8. In the following chapter (see Chapter 5) the methodological design of this thesis is detailed.

# Chapter 5

## Methodology

Chapter 5 discusses the research rationale of this thesis and how this guided the empirical work undertaken for addressing the issues under examination. In particular, it describes the overall research cycle, based on which the research objectives and methodological design were structured. The choice and use of certain methods and methodologies is then justified by detailing the purposes of this enquiry and also, by outlining its epistemological and ontological assumptions. In brief, in order to answer the research questions of this thesis, mixed-methods research was conducted utilizing as methods of data collection, questionnaires and interviews.

### 5.1 Research rationale

In formulating a theoretical perspective for studying motivation and gaming, discipline-based literature reviews and prior studies of appropriation were utilized, leading to the development of the GAM model. Through the lens of appropriation, the intrinsically motivating nature of gaming is investigated. A multifaceted account of the game experience is produced, which considers gaming as an integral part of gamers' lives (see Chapter 4). In particular, examination of existing appropriation models across technologies in differing settings, as well as the recent socio-technological reformation of gaming, motivated a multidisciplinary basis for the study of game appropriation. This draws from psychology and sociology and the field of game studies. Psychological accounts focus on the gamer as an individual, and thus offer insights at the micro level of analysis. Sociological accounts provide an insight into the structure of engagement between individuals and therefore illuminate examination at the macro level. Game studies, specifically game design, provide the necessary insight into the changing nature of gaming (see Chapter 2).

More notably, the models of appropriation discussed in this thesis, focus on the *individual user* to a greater (see MTA and Instrumental Genesis) or lesser degree (see CBAM, AST and ASTAM). In terms of the MTA and Instrumental Genesis, they analyse the process of appropriation as implemented in the level of the individual and his/her needs (see MTA) and changes in cognitive schemes (see Instrumental Genesis). The role of the individual user is also acknowledged by AST, ASTAM and CBAM. However, these models consider also the centrality of *social settings* in appropriation. In particular, AST perceives appropriation as the result of social praxis, ASTAM counts for the influence of socio-cultural factors when appropriating a tool and CBAM conceives higher levels of use and stages of concern as practised in collaboration with other users (see Chapter 4). Overall, existing appropriation approaches are focused either on the individual user or social settings as core dimensions of the appropriation process. These models presented limitations when applied in the case of gaming (e.g., MTA makes no reference to the social context, an essential aspect in the case of gaming) but nevertheless provided a starting point for developing GAM. GAM accounts for the recent socio-technological transformation of games and its implications for gaming (see Chapter 2). It frames investigation of the gamer as an individual, the social and technological context of gaming and the relationships between these components.

In terms of the socio-technological transformation of gaming (see Chapter 2), it was identified that games have been transformed into open-ended, socially oriented, multi-player applications. The gamer generates his/her own forms of gaming through collective work and negotiation since s/he chooses what is and how is to be implemented in the game as well as whom s/he is going to play with. The social transformation of gaming emphasizes *the gamer as an individual is a core dimension of game appropriation*.

Considering existing studies of appropriation as well as the social transformation of gaming, it was concluded that in order to understand game appropriation and adequately address the research questions of this thesis (see 5.3) it was required to develop a



multidisciplinary approach across psychology and sociology, drawing mainly from the former discipline due the focus of this thesis to understand the gamer as an individual. In particular, because of the importance of the *role the gamer* has during gameplay (see Chapter 2), psychological accounts are central to understanding game appropriation. However, such examination would not be representative if the context of gaming was not also investigated. Games have developed into social applications stressing that the gamer is situated within vividly social settings influencing gameplay. Hence, this thesis also draws from the field of sociology. Finally, the technological context needs to be considered, specifically game design as the platform upon which gaming is based. In the case of MMORPGs, this is undergoing a change due to designers' interventions that renew the game experience. Therefore, this thesis is also informed by game studies. In more detail, the gamer as an individual is analysed in terms of individual differences in trait EI (Petrides & Furnham, 2001) and basic psychological needs theory (Ryan & Deci, 1985). This psychological analysis draws from sociological and technological parameters as the context of game experience.

### 5.2 Methodological design

GAM frames the relationships between game design, social praxis and the individual gamer to describe and explain the appropriation of games (see Chapter 4). Its main assumptions and hypotheses are: (i) game design, social interaction and individual differences between gamers interplay defining innovative game uses, (ii) individual differences in trait emotional intelligence (trait EI) and basic psychological needs are associated with game preferences, frequency of gaming and the norms (for trait EI), and (iii) to understand game appropriation requires examining social interaction both *within* and *around* gameplay (see 5.3). This section deals with how these assumptions were empirically examined and how, as a result, the model was modified.

In particular, this thesis adopted an iterative, hypothesis testing research design. In general, the research design aimed at the iterative development of GAM through three

studies, each one resulting in a new version of the model. More notably, the first iteration of the model was an exploratory, theoretically driven study focused on gamers and their game experience (see Chapter 6). The lack of previous examinations of game appropriation motivated the use of exploratory research in order to gain a general perspective on the nature of enquiry. Findings from the first iteration of the model informed this examination both conceptually and methodologically. In terms of the former, they led to a more improved version of the GAM grounded on empirical evidence (GAM II). In respect of the latter, they offered insights on how to organize and implement further research, leading to the second iteration of the model. The second and final iteration - for this thesis – was comprised of two studies (Study 1 and 2). It contributed to gaining in-depth understanding of game appropriation and further developing GAM (i.e., GAM III and GAM IV). The process of GAM's iterative development stopped at this point as the research objectives of the thesis were adequately addressed. GAM is a tool constructed to assist the examination of game appropriation. This research was not implemented in order to produce a highly refined version of it or to validate it through application to different situations. Thus, after the aims of the thesis were served, the iterative process ended.

As existing literature suggests (see Routio, 2005) research based on earlier theorization of the object under examination often initiates from what is known, proceeds with enlarging the area under study and finally connects findings with what is theoretically known (see Figure 5.1). This process of evidence-based research was repeated in this thesis informing the empirical generation of a model. The research cycle initiated with considering previous findings (i.e., literature review on gaming, individual differences and existing theoretical approaches on appropriation) to create a general inference, GAM I, which was then empirically examined. Evidence informed and improved the formation of the model configuring a second version that followed a similar pattern of empirical examination. In general, each new version of the model worked as a hypothesis to be tested, revised and retested.

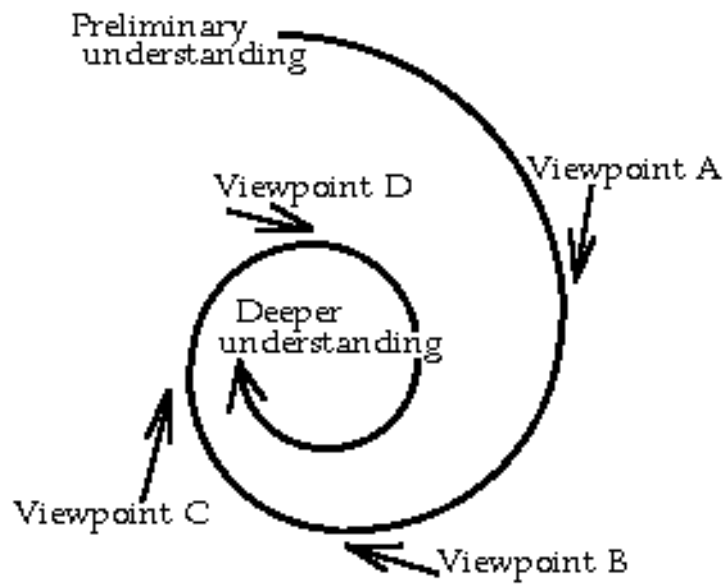


Figure 5.1 Developing theory (Routio, 2005)

The actual research design of this thesis was implemented in three stages (see Figure 5.2). Stage 1 involved the review of existing literature (see Chapters 2 and 3) and the development of a model (GAM I) mapping the main issues identified in the field of games and motivation (see Chapter 4). Stage 2 involved the iterative development of the model through a small-scale exploratory study (Pilot study), the focus of which was the iteration of the main components of the GAM. Data were collected through in-depth interviews and questionnaires with gamers (see Chapter 6) producing a new version, GAM II. Stage 2 also informed the methodological design and research aims of the next cycle of research (Stage 3). In particular, certain methodological shortcomings (i.e., the testing of GAM I on multiple genres of games and not a single game), and specific findings (e.g., gamers' interactions inside and around the game), led to the examination of a single game (see Chapters 7 and 8) and the formation of this thesis' research questions after considering the findings that emerged from Stage 2.

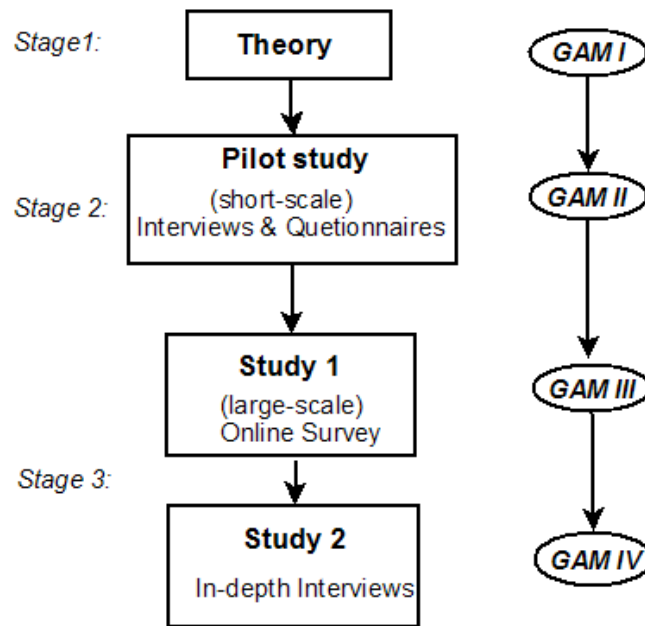


Figure 5.2 The research design of this thesis

In Stage 3, GAM II was elaborated through two studies focusing on MMORPGs, specifically the game World of Warcraft. Insights from these studies addressed the research questions of this thesis. In particular, Study 1<sup>23</sup> was an online survey with high-end gamers of the game World of Warcraft (i.e., gamers that have reached the top game level) assessing individual differences in trait EI and basic psychological needs in relation to game preferences, frequency of gaming and the norms (for trait EI). It also offered initial insights into the nature of game appropriation *within* actual gameplay. GAM III was the final outcome of this study. The actual implementation and details of Study 1 are presented in Chapter 7. Study 2 examined the social dimension of MMORPGs both *within* and *around* gameplay. Data were collected through in-depth interviews, leading to the formation of GAM IV. Methodological details are discussed at the beginning of Chapter 8. GAM III and GAM IV are complementary; GAM II was

<sup>23</sup> Study 1 and 2 comprised the second and third empirical examinations of this thesis respectively. They are referred to as *Study 1* and *Study 2* though as they are the two main studies that addressed the research questions of this thesis.

iterated through two studies that explored different aspects of the model. Both qualitative and quantitative methods of data collection were deployed for the empirical investigation of game appropriation. Overall, Stage 1 assisted in setting the theoretical underpinnings of game appropriation and Stage 2 in gaining related empirical evidence, thus guiding the organization of the two main studies (Stage 3).

### 5.3 Research questions

The research objective of this thesis was to examine game appropriation through the iterative development of the GAM. The aim was to describe and explain the nature and process of game appropriation by focusing on the genre of Massively Multiplayer Online Role-Playing Games (MMORPGs). The social transformation of gaming as represented in MMORPGs motivated this investigation. Gaming from single-player co-located has become an online multiplayer experience. In addition, the nature of actual gameplay is under an ongoing change; game design is constantly updated offering innovative possibilities for play whereas the gamer has become an active agent by generating his/her own forms of gaming. The popularity of MMORPGs is rapidly increasing (see Chapter 2), indicating that games' reformation has revolutionized gaming practices. Examining game appropriation thus contributes to understanding the nature of a recently configured and relatively unknown phenomenon and what motivates its widespread use.

*Aim: to understand the nature and process of game appropriation through the examination of MMORPGs.*

In more details, the social transformation of gaming emphasizes the creation of open-ended flexible game worlds within which the gamers are the agents generating actual gameplay. From being passive recipients of game design principles, they shape their own, personal game experience. Further examination is required in order to identify what motivates gamers' choices and in particular, whether situational factors (i.e., the

communal character of the game) and/or the psychological characteristics of the gamers are associated with gaming. The latter refers to individual differences and, more specifically, differences in trait EI and basic psychological needs. It was hypothesized that there would be significant differences in gamers' scores in trait EI and basic psychological needs when compared to measurements of game preferences (see the definition of the *nature* of game appropriation), frequency of gaming (see the definition of the *process* of game appropriation) and norms (for Trait EI)<sup>24</sup>. The comparison with norms was implemented in order to offer insights with respect of the population under study, by indicating whether and how gamers differ from the general population.

*RQ1: What are the high-end gamers' psychological characteristics (i.e., trait EI and basic psychological needs) in relation to: game preferences, frequency of gaming and the norms (for trait EI)? How do these relate to the appropriation process?*

The focus of research question 2 was to understand the social transformation of gaming by describing the nature of game appropriation. As defined in previous chapters, the nature of game appropriation indicates actual game use. Such uses are identified *within* and *around* gameplay; game uses within gameplay are implemented *inside* the game world and refer to the virtual (technically speaking) aspect of gaming. Game use around actual gameplay stresses *out-of-the-game* practices. These are gamers' activities implemented offline mainly during co-located gaming.

*RQ2: What does the social nature of gaming look like, in relation to game appropriation within and around MMORPG gameplay?*

The aim of RQ3 was to examine the relationship between game design, social praxis and the gamer as an individual. Based on GAM II (see Chapter 6), each component of the model contributes distinctly in the nature and process of game appropriation since each one is required for its implementation. RQ3 was focused on identifying how

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<sup>24</sup> The comparison with norms refers only to Trait EI measurement. It was not possible to obtain norms scores on the Basic Psychological Needs Scale.

psychological, social and design factors influence game appropriation. It also tried to determine the role of the gamer as an individual in game appropriation in order to conclude on how games' social transformation has influenced gamers.

*RQ3: What is the relationship between the technological, social and psychological characteristics of game appropriation? What contributions do social praxis, game design and individual differences make to game appropriation?*

In the following section, the choice of mixed-methods research is detailed as well as how this is situated within pragmatism. The chapter ends with the research questions and how they were empirically addressed.

#### **5.4 A mixed-methods approach**

Prior to deciding on the methods used for data collection, existing research designs related to the topic of interest were scrutinised in order to gain a perspective on how the appropriation of games could be empirically examined. More notably, GAM was developed drawing from five models: the Adaptive Structuration Theory (DeSanctis & Poole, 1994), the Model of Technology Appropriation (Carroll *et al.*, 2003; 2002), the Concerns-Based Adoption Model (Hall *et al.*, 1973), Instrumental Genesis (Verillon, 2000) and the Activity System Tool Appropriation Model (Waycott, 2004) (see Chapter 4, rationale for choosing these models). The methods deployed in the construction of these models are detailed below.

The Adaptive Structuration Theory constitutes an adaptation of Giddens' Structuration theory for studying variations in organizations when advanced information technologies are used. The theory has been applied in various contexts, for instance, group decision support systems (GDSS), through the utilization of multiple methodological approaches including, for instance, experiments, surveys, and case studies. The Model of Technology Appropriation has been structured upon the qualitative research tradition. Carroll *et al.* have reconsidered and extended case-study research by presenting the structured case, as a methodological framework for an iterative research process. In the

next stages of research, various qualitative methods for collecting and triangulating data including focus groups, questionnaires, participant observation, on-line diaries and scrapbook were applied.

The Concerns-Based Adoption Model draws from the real-life experiences of the authors of the model in innovation, in colleges, universities, public schools and industry. Conceptually, it draws upon existing work on teachers' concerns. The authors of CBAM deployed this latter work to identify same or similar concerns in the adoption process from their experience. A case study was conducted at the early phases of the model's formation in order to explore its application at a middle school. In respect of Instrumental Genesis, the authors aimed to model the human-artefact interaction have drawn evidence from the context of technology education in France. They initially searched for theoretical guidelines from Piagetian constructivism and Vygotskian tradition, especially instrumentation. They, then, critically analysed existing empirical work (including their own studies) on pupil-artefact interaction around the conceptualization of volume, interacting with devices for producing ruled surfaces, and reading engineering drawing. These studies present a series of tasks implemented by pupils. The researchers used observation and interviews to collect data. Finally, the Activity System Tool Appropriation Model, in accordance with activity theory, utilized case studies that incorporated some ethnographic methods including semi-structured and open interviews and observations.

It is evident that the empirical examinations around appropriation, with the exception of Adaptive Structuration Theory in which multiple approaches were utilized, incorporate qualitative methods and thus draw from phenomenology for addressing epistemological and ontological concerns. Even though qualitative methods were a fruitful means for data collection and analysis when studying appropriation, such methods were not adequate in the examination of game appropriation. With GAM the examination of appropriation differentiates it from existing approaches; it moves a step forward to account for, and examine the user from a psychological perspective. The



aforementioned studies make reference to rather superficial characteristics of the user (see Chapter 4, 4.3c) failing to take a closer look at the gamer *per se*. GAM contributes to the field by situating the user/gamer as a central component of appropriation and examining this in terms of individual differences. The methodological implications of GAM's contribution pointed to a post-positivist approach. More notably, both trait EI and basic psychological needs are measured through the use of psychological inventories that require statistical analysis in order to test hypotheses and draw conclusions. Adopting the principles of quantitative tradition and discarding the qualitative orientation of appropriation studies, however, raised substantial limitations threatening the validity of the present examination. Social issues surrounding game appropriation could not be sufficiently investigated and thus research outcomes would not be robust enough. Using a single method was inherently problematic prohibiting the proper actualization of this research.

In order to examine game appropriation, a mixed-methods approach was deployed. The empirical examination was based on methodological pluralism; a combination of qualitative and quantitative methods of data collection. Mixed-methods design assists in generalizing findings to the population as well as developing a detailed view of the meaning of a phenomenon as experienced by individuals (Creswell, 2003). Within the boundaries of this thesis, such a design enabled exploration of the nature of game appropriation through gamers' experiences of play and also identification of the relationships between the three variables defining game appropriation, as expressed in GAM. This methodological conceptualization is more akin to the Adaptive Structuration Theory in which certain dimensions of the model, including, for instance, the type of interaction and decision-making processes have been assessed through quantitative methods (e.g., rating scales) while others (e.g., the documentation of a new structure formation) followed longitudinal observation of the group under study.

Combining methods fulfilled purposes of complementarity. Multiple methods were used to assess different components of the study and "enhance the interpretability of

assessments of a single phenomenon [...] via broader content coverage” (Greene *et al.*, 1989, p. 257). Quantitative data informed the psychological aspect of this thesis, and more notably individual differences, whereas qualitative accounts were used to illuminate the sociological dimension of game appropriation. In respect of the latter, semi-structured interviews with MMORPG gamers were conducted in order to explore the social nature of gaming. Both types of evidence contributed to understanding the relationships among game design, social praxis and the gamer. Concerning the examination of the nature of game appropriation, the mixed-methods approach also served triangulation purposes since data were collected from both qualitative and quantitative sources. In particular, the accuracy of quantitative data was explored against qualitative accounts, increasing the reliability and validity of findings.

The choice of methods for data collection was motivated by the research questions of the thesis (see 5.3) and how these could be better addressed. The rationale for these choices was also related to the theoretical perspective – assumptions about reality - within which this examination is situated. By adopting a mixed-methods approach, the methodology - the system of principles, theories and values underpinning research (Somekh & Lewin, 2005) - followed the compatibility thesis in respect of the two opposing paradigms (i.e., positivism versus phenomenology). Instead of following purists’ assumptions within which qualitative and quantitative methods cannot be used in combination due to a contradicting underlying paradigm orientation, the researcher followed a pragmatist approach. She acknowledged the strengths and weaknesses of both paradigms and their accompanied research methods, and combined these in order to enhance the understanding of the enquiry problem. Mixing methods more likely results in “complementary strengths and nonoverlapping weaknesses” and it is thus more fruitful since the outcome of the research will be superior compared to single-method examinations (Johnson & Onwuegbuzie, 2004, p. 18).

Pragmatism constitutes a suitable philosophical paradigm since:

“it offers an immediate and useful middle position philosophically and methodologically; it offers a practical and outcome-oriented method of inquiry that is based on action [...] and it offers a method for selecting methodological mixes that can help researchers better answer many of their research questions.” (Johnson & Onwuegbuzie, 2004, p. 17)

Instead of being committed to the assertions of a single paradigm, pragmatism addresses epistemological questions by utilizing both subjective and objective points of view (Tashakkori & Teddlie, 1998). Within the middle position of pragmatism the researcher can, in some cases, be interwoven with the researched and in other cases can stand apart and be more objective. Additionally, ontological concerns are resolved by accepting external reality as not dependent on individuals' mind and also refuting absolute “truth”. The choice of certain approaches over others is based on whether they better resolve enquiry problems. In terms of axiology, values influence interpretations since the researcher chooses what and how is to be studied based on his/her perceptions of what is important (ibid).

In general, the enquiry problem raised certain issues for empirical examination. The choice of methods for data collection was based upon their suitability to better address the research objectives. Therefore, these choices were underpinned by a “what works” approach theoretically explained under the paradigm of pragmatism. The following figure (5.3) describes the relationship between methodology and methods for data collection. In brief, the epistemological and ontological orientation of this thesis is pragmatism paradigm. Within the context of pragmatism, both post-positivist and phenomenological perspectives were adopted by choosing survey and phenomenological research. The respective methods of data collection were questionnaires and interviews.

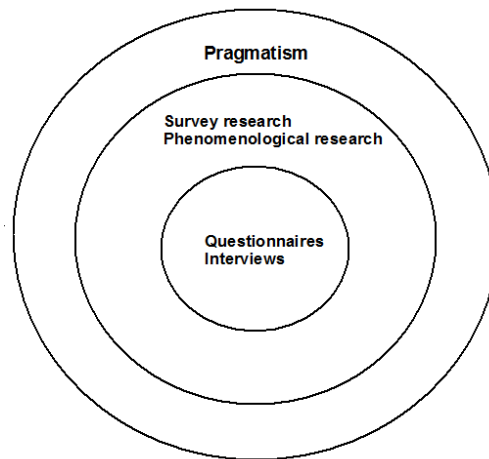


Figure 5.3 Research design within a theoretical context

### Implementation of mixed-methods research

A two-phase, concurrent mixed-methods research was developed. The first phase<sup>25</sup> (Study 1) was mainly a quantitative exploration of the relationships between individual differences and game preferences, frequency of gaming and the norms (RQ1). Qualitative methods were also nested within the main quantitative method to provide preliminary insights into the nature of game appropriation *within* actual gameplay (RQ2). For this purpose, an online survey was designed and completed by 1051 gamers of the game World of Warcraft (WoW) (see Chapter 7, design details). In the second phase (Study 2), the nature of game appropriation *within* and *around* gameplay (RQ2) was explored in more depth using qualitative methods, in particular face-to-face and e-mail interviews (i.e., an interview schedule, in the form of a questionnaire with open-ended questions, was sent to the e-mail address of each participant), with a new sample of 13 WoW gamers (see Chapter 8, design details). The relative weight of the two methods in respect of their frequency is that qualitative methods are identified in both studies. However, their centrality to research objectives is equal. While qualitative

<sup>25</sup> The distinction between first and second phase (Study 1 and 2 respectively) is for purposes of organizing research. They indicate the chronological implementation of the two main studies. Insights from Study 1 had no impact on the design and implementation of Study 2.

methods examined the descriptive dimension of game appropriation (RQ2), quantitative methods assessed the relationships between certain variables (RQ1) (see Figure 5.4).

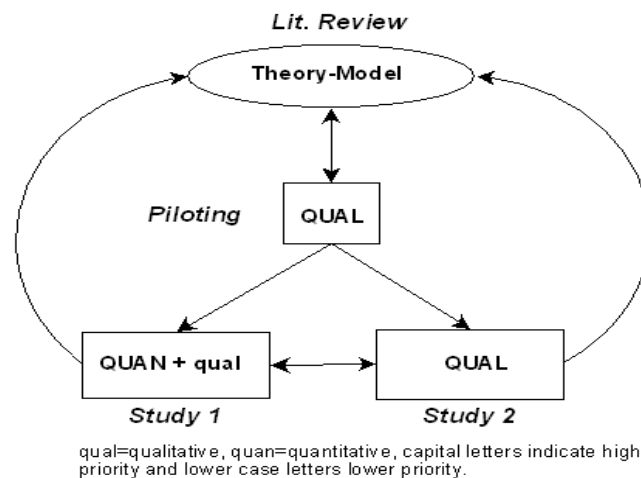


Figure 5.4 Mixed-methods research design

The choice of online survey and interviews was reinforced by the quality of data required to address RQs. In particular, RQ1 aimed to identify the relationships between individual differences and dependent variables, namely game preferences, frequency of gaming and the norms. Individual differences and game preferences are assessed through the use of certain rating instruments and some of them (i.e., individual differences) cannot be assessed otherwise (for instance using another method of data collection). Moreover, a considerably large sample of responses is needed in order to enable statistical analysis of these instruments and address the research objectives. An online survey was a convenient way to identify a large number of participants and, in consequence, to serve research needs. In addition, the web-based format of the survey aimed at a higher response rate, quicker response time and global coverage. The few short open-ended questions incorporated in the survey (see next section) were aimed at bringing about a great breath of data and diverse responses due to the online character of the survey.

On the other hand, RQ2 called for more detailed data sets in order to efficiently describe the nature of game appropriation *within* and *around* gameplay. Interviewing was a useful tool with which to seek in-depth information around the topic of interest. It enables exploration of participants' experiences of gameplay by allowing the interviewer to probe and ask further follow-up questions. With interviews, the perspective of the participant became the core element of examination facilitating the emergence of unanticipated issues and assisting in gathering data for the purpose of developing the "story" that explains game appropriation (RQ3). Inferences were made from data patterns answering RQs. Particularly, face-to-face interviews contributed mainly in identifying the relationships between the three factors of the GAM (RQ3) since each participant could detail his/her own game experience, facilitated by the researcher's clarifying questions. On the other hand, e-mail interviews facilitated the identification of new aspects of the issue under examination since they were completed by a more diverse sample of participants in terms of age, occupation and origin, reachable online. Overall, the deployed methods were consistent with the purposes of this research and its theoretical foundations.

## **5.5 Addressing research questions**

Two main studies were implemented in order to address research questions (see Table 5.1). Methodological details of the two studies are presented in Chapters 7 and 8 along with data analysis and discussion of the findings. The first study (Study 1) aimed to address RQ1; to identify gamers' individual differences in trait EI and basic psychological needs in relation to game preferences, frequency of gaming and the norms. In addition, preliminary data were collected around the nature of game appropriation *within* gameplay (RQ2). An online survey was developed and completed by gamers of the game World of Warcraft (WoW). The survey included two psychological measurements (for assessing Trait EI and basic psychological needs), one scale measuring game preferences in MMORPGs modified for WoW, a set of short open-ended questions around in-game choices as well as a number of multiple-choice

questions on demographics and frequency of gaming. In particular, the two psychological measurements, the scale on game preferences in MMORPGs and multiple-choice questions on frequency of gaming were utilized in answering RQ1.

Table 5.1 Methods used for Addressing Thesis RQs

<b>Research Questions</b>	<b>Methods of data collection</b>
RQ1	<i>Online Survey</i> (Study 1)
RQ2	<i>Online Survey (qualitatively and quantitatively)</i> (Study 1) <i>Interviews</i> (Study 2),
RQ3	<i>Online Survey</i> (Study 1), <i>Interviews</i> (Study 2)

A multi-faceted account addressing RQ2 was produced with Study 2. Study 2 was qualitative in nature. The aim was to explore the nature of game appropriation *within* and *around* gameplay. In order to obtain a rich data set, face-to-face and e-mail interviews were conducted with WoW gamers. In addition, an initial data set around the nature of game appropriation *within* gameplay was also obtained in Study 1. The online survey offered quantitative (i.e., scale on game preferences in MMORPGs modified for WoW) and qualitative (i.e., short open-ended questions on actual game uses) information on gamers' practices inside the game. In particular, the scale on game preferences offered a general picture on gamers' practices inside the game while the set of open-ended questions was a means of collecting more in-depth and rich data.

Evidence from Study 1 and 2 also addressed RQ3 (i.e., the relationships among game design, social praxis and the gamer as an individual). The latter question was addressed at a higher theoretical level by combining findings that emerged from the two studies. Insights from both studies worked complementarily informing how psychological,

social and design factors are interwoven in the case of online gaming. Table 5.1 demonstrates the methods used for addressing each research question.

### **5.6 Concluding remarks**

The methodological orientation of this thesis was motivated by the multidisciplinary nature of enquiry and how research questions could be better answered. The key to adequately examine game appropriation, as revealed in the review of related studies and the construction of the GAM laid in combining qualitative and quantitative methods and collecting data from the disciplines of sociology and psychology as well as the field of game studies. This chapter has outlined and justified the research design, discussed the research questions, and analysed a certain theoretical perspective within which this thesis is philosophically situated. In the next chapters, the stages of GAM's iterative development are presented. Chapter 6 presents the first iteration of the model using a small-scale study (Pilot study) and Chapters 7 and 8 present its second iteration utilizing online survey and interviews respectively.



## **Chapter 6**

# **The first empirical examination of GAM (Pilot study)**

The first empirical examination for the iterative development of the GAM has been implemented through a small-scale exploratory study (Pilot study). The aim was to investigate the nature and process of game appropriation as shaped in GAM I (see Chapter 4). In particular, gamers and their game practices have been examined in order to test GAM. Data were collected from a short game-habit questionnaire and semi-structured interviews. Findings from the empirical exploration of the GAM corresponded to the theoretically-driven version of it. In particular, the second version of the GAM (GAM II) indicates that game appropriation is progressively developed through iterative cycles of use, it is socially situated, individual-specific and extremely contextual. However, the conceptualisation of game appropriation as a process identified in the general use of diverse digital games has been rejected, since both the process and nature of appropriation were found to be game-specific.

### **6.1 Rationale**

The first study for the empirical examination of GAM is presented in this chapter. The specific study is exploratory since the aim is to test the main theoretical underpinnings of GAM I. More precisely, the study seeks to gain a broad perspective on game appropriation as experienced by gamers and count for parameters not included in the first version of the GAM but identified in gamers' practices. By deploying an exploratory study design, the examination of game appropriation is informed by empirical evidence either not hypothesized or misinterpreted within the theoretical model. The overall aim is the derivation of the central dimensions of the GAM. In order to succeed in this aim, the study is focused on the following research questions:

- a. to explain the process of game appropriation by identifying the factors interplay the process and,*
- b. to describe the nature of game appropriation by identifying actual game uses.*

Such examination serves as a guiding tool since findings will direct the development of future studies. The forthcoming sections describe the conduct of the study (i.e., instruments used, sampling, the context of the study, validity, reliability and ethical issues, process of data collection and the presentation and analysis of the results). The last section of the chapter discusses the findings in relation to the first theoretical version of the GAM concluding to a more developed version of the model (GAM II).

### **6.2 Instruments for data collection**

In order to address the research questions, data were gathered through the use of structured questionnaires and semi-structured interviews. The reasons the particular methods for data collection were deployed are presented below. The content of the instruments is also detailed.

#### **Questionnaires**

The primary purpose for using questionnaires was to serve as screening instruments of participants' involvement with gaming and game preferences. They were used in the form of a small-scale survey in order to capture the different degrees of involvement with games in terms of frequency and duration of gaming and identify the range of gamers' preferences. More notably, a short, structured questionnaire was designed for collecting data about participants' game habits. The particular questionnaire consisted of five questions; it involved two multiple choice questions about game frequency (i.e., have you ever played a digital game, how much time do you spend playing games), one question about the preferred genre/s of games, and one question requesting from gamers their favourite games. The last question was optional; it asked for participants' e-mail addresses so that they could receive feedback on study's findings and participate further

in game projects (see Appendix 1). The acquisition of e-mail addresses was a way of contacting participants in the future for interview purposes.

### **Interviews**

The use of interviews has been particularly useful in the iterative development of a theoretically-driven version of the model as interviewing is a way of knowledge excavation (Mason, 2002) and thus facilitates the identification of particular dimensions of game use not anticipated by the model. Overall, interviews were used to illuminate participants' game experiences detailing as a result, the process and nature of game appropriation. In addition, interviewing was used as a way of triangulating data and obtaining more in-depth insights on the issues examined by the questionnaires. Semi-structured interviews were considered to be the most suitable type of interview due to context sensitivity. They allow expansion during interviewing, new themes to be included and generally further exploration based on the interviewees' responses (Cohen *et al.*, 2000).

Interviews followed the interview schedule designed for this study (see Appendix 2) which was comprised of a set of open-ended questions. These questions were developed around four thematic axes that emerged from study's research questions. These are: (i) game situation – general data on both the process and nature of game appropriation, for instance, frequency and duration of gaming, game preferences and practices evolved around gaming, (ii) the evolution of a gamer and (iii) value of gaming in participants' life – data on the process of game appropriation - for instance, how participants became gamers - and their perceptions about game activities, and (iv) actual game uses – data on the nature of game appropriation, for instance, actions and feelings when using a game for first time and alterations in gaming after persistent game use.

### **6.3 Sampling**

Due to the aims of the present study, gamers constitute the population under examination. Gamers can illuminate the process and nature of appropriation by

expressing their game habits and experiences. Insights can be gained about the integration of games in gamers' lives from non-use to expert use by asking gamers to recall the critical period of becoming involved with games. Existing studies have defined the population under study in diverse ways. More notably, gamers have been conceived as those adults used to playing games frequently or moderately when teenagers and thus having grown up playing games (Beck & Wade, 2006). Gamers have also been defined as those persons playing regularly games, who have considerable proficiency in gaming and share knowledge with others identified as gamers (Morris, 2002). Moreover, they have been defined through the distinction between casual and hardcore gamers with the former pointing to those individuals selectively choosing and buying games based on how familiar they are with certain games and the recommendations made by others. The latter spend considerable amounts of money on gaming and have access or own all types of computer and console-based games (Oxland, 2004). The most straightforward and measurable criterion for identifying gamers is considered to be the frequency of gaming. Sequentially, for the purposes of this study, gamers are perceived as those individuals making frequent use of games. In more practical terms, they game systematically with a minimum frequency of use of once per week.

Purposive sampling was the method deployed for identifying gamers. In particular, university students studying game-related courses comprised the sample of the study. It was assumed that studying a game course is more likely related to gaming and thus convenient revenue for finding a suitable sample. Even though this sampling technique is considered to be selective and non-representative of the wider population (Cohen *et al.*, 2000), it was however deployed, since the focus of the study was not the generalization of findings beyond the sample in question. Instead the study aimed at acquiring qualitative information in order to test GAM. A particular concern with the choice of student gamers was the influence of study obligations in appropriating games. This issue was addressed through interviewing and more precisely gamers' debriefing of the time they spend on games and the reasons affecting their game habits. In addition, the choice of university students facilitated the identification of adult gamers. Adult

gamers can better illuminate the examination of game appropriation since they can inform the process of appropriation and, in particular, the critical period of becoming involved with games as well as the integration of gaming in daily practices.

The sample of the study was comprised of 81 adult gamers who completed the questionnaire on game habits. For purposes of data analysis, responses from 73 participants were used, since 8 questionnaires contained incomplete or invalid answers and were excluded from the analysis. In addition, three of the participants were contacted for an interview (see 6.4 and 6.6).

### **6.4 Context of the study**

The study settings were three London institutions of higher education (i.e., universities) offering game related courses. The initial step for identifying these institutions was an online search for London universities that offer courses on game studies. Seven universities were found and contacted requesting permission to administer the questionnaires. Positive answers were received from three universities. In more detail, the study involved 15 undergraduate students attending a Game Design course, 33 students attending Computer Games and Visualization and 26 students attending Games and Multimedia technology. The questionnaires were completed in classroom setting after the end of a lecture in the presence of the researcher. In the second phase of the research, three participants were interviewed. The researcher arranged a time and place most convenient for each interviewee to conduct the interview. Interviews took place in a coffee-shop chosen by each participant.

### **6.5 Consideration of validity, reliability and ethical issues**

The quality of an empirical research is established through a series of evaluations regarding the validity, reliability and ethics of the research. The tactics for addressing these issues are discussed in respect of the implementation of this study.

### **Validity and reliability**

Issues of validity and reliability can be addressed via triangulation (Cohen *et al.*, 2000). In the present study, data collected from the questionnaires on game habits were triangulated through interviews. A correspondence between the data collected from the questionnaires and the data from interviews indicates a high degree of validity and reliability. Indeed, insights from the interviews provided a more detailed account of the data gathered from questionnaires.

In addition, issues of validity and reliability were addressed by securing objectivity of the researcher. More notably, during the process of allocating and collecting the questionnaires, the researcher, prior to completion, gave the same oral explanations about the purposes of the study to all participants in the different universities whereas during completion she did not intervene in any way. A more critical approach was adopted during the interviews since the role of the interviewer may be prone to subjectivity and bias (Cohen *et al.* 2000). In particular, during the interviews, the interviewer was careful not to influence the process with her opinions and attitudes and by seeking answers to support the initial hypotheses. In order to avoid bias, any misunderstandings of what the interviewees were saying were followed up by questions that asked for clarification. In accordance with Cohen and Manion (1994), the formation of the questions was clear and straightforward and the interviewer was trained and aware of all possible drawbacks when conducting research.

Finally, both the interview schedule and the questionnaire about game habits were piloted with two gamers identified in the close environment of the researcher. Piloting is essential when conducting research since it increases the reliability, validity and practicability of the questionnaire (De Vaus, 2001). The results of the piloting of the instruments improved the formation and clarity of the questions, modified the layout of the questionnaire and instructions given, and generally enhanced the design of both the questionnaire and the interview (e.g., greater range of choices in frequency questions). Thus questions were not leading or confusing ensuring that a false response would not be given due to misunderstanding.

### **Ethical issues**

The ethical lines proposed by the British Educational Research Association guidance (2004) were adhered to throughout the study. More precisely, the participants were informed prior to providing any data that they retain the right to withdraw at anytime they wish to, even during the completion of the questionnaires or after the interview has commenced. In addition, the researcher informed all participants about the purposes, rationale and possible outcomes of the study. Moreover, the completion of the questionnaires requested personal information (i.e., personal details on game habits and e-mail addresses) that probably constituted an intrusion into the respondents' privacy. In order to address this issue, the researcher both orally and in writing (in the case of questionnaires) stressed her responsibility in preserving the confidentiality, anonymity and non-traceability of participants, safeguarding the data collected and using it strictly for the purposes of the study.

Ethical issues are raised throughout the process of conducting the research, during and before data collection and analysis. The ethicality of the research is heavily based upon the researcher's interpretations and abilities in implementing research. Thus, the researcher carefully planned, conducted and reported results having a broad knowledge of the content of the study and awareness about the drawbacks and ethical issues around the methods in use. In particular, she carefully chose the set of questions keeping in mind issues of sensitivity. During the interviews, she tried to establish a comfortable atmosphere for the interviewees so that they could freely express their opinions.

### **6.6 The process of data collection**

The researcher arranged with the tutor of each game course a day and time for allocating the questionnaires. All students present on the arranged day of allocation completed the questionnaire. The tutors either left the room or stayed watching the process. However, they were not involved in the process and did not influence in any way students' responses. The participants spent approximately 5 minutes completing the questionnaires and at the end of the process, handed them to the researcher. The collected questionnaires were then counted and numbered.

E-mails were sent to those participants who had provided email addresses to thank them for completing the questionnaires. They were also asked whether they could take part in an interview concerning their game habits. Three male participants were willing to be interviewed. The number of responses was more likely affected by the lack of incentives for participating in the interview and/or students' academic obligations. Even though data were collected only from three interviews, it was not perceived as inadequate due to the in-depth and detailed insights gained. The number of interviews is defined by the purposes of the interview, in this case to get in-depth, individual data, and the ability of the interviewees to provide the necessary data (Cohen *et al.*, 2000). The interviews followed a predefined semi-structured interview schedule which offered the guiding themes of the conversation (see Appendix 2). During the interview, the researcher facilitated the interview process by motivating participants to express their thoughts, experiences and feelings about gaming and ensuring interviewees' privacy and comfort.

### **6.7 The process of data analysis**

#### **Questionnaires**

The first multiple-choice question (i.e., frequency of gaming) was statistically analysed. Based on the choice of frequency, the percentage of participants that gamed at least once a week comprised the sample of the study (see 6.3). All other participants were not included in the analysis. In particular three groups of gamers were formed; the first playing everyday more than once, the second almost everyday and the third 1-2 times per week. The analysis of the second (i.e., duration of gaming) and third question (i.e., game preferences) was based on the distinction between the three groups. More precisely, the time spent on gaming as well as the game preferences were analysed for each group. Thus comparative charts were produced for the three groups. The final question (i.e., use of specific games) was analysed in terms of which games were more frequently used by each group.



### **Interviews**

Interviews were thematically analysed (Kvale, 1996) based on the research questions and to extend the four thematic axes discussed in 6.2. More precisely, quotes were analysed into three categories: a. Factors influencing game appropriation, b. Actual game uses and, c. Procedure through which gamers go through phases of appropriation.

In particular, quotes from each interview transcript were delineated in respect of relevance to the research questions and clustered in units of related meaning. Themes were then assigned to each cluster of meaning (Cohen *et al.*, 2000). The qualitative data analysis software, Atlas.ti (atlasti.com) was used for grouping and coding the data. All three interview transcripts were entered into the software as separate documents. Prior to coding the data, in order not to miss out or misinterpret findings by de-contextualizing quotes of speech, each interview transcript was carefully read as a whole and notes were taken and considered during the analysis. The next step was to assign a general thematic category to each bit (3 to 4 lines) of the transcript based on relevance to the research questions. After all chunks of speech were coded, they were cut out of the transcript and pasted with similar items under the related category. In this way, an account with relevant quotes for each category was produced.

## **6.8 Results**

### **6.8.1 Questionnaires**

From the 73 participants in the study, 23 of them stated that they play games everyday more than once, 23 that play almost everyday, 18 play 1-2 times per week, 3 play 1-2 times per month, 3 play once every 2-3 months, 1 had played 1-3 times in his/her lifetime and 2 mentioned that they may play once in a while. It is evident that the degree of games' integration in gamers' daily practices varies. For some gamers, gaming is more central in their lives since more time is devoted to gameplay. In contrast, the participants who game less than 1-2 times per week are more of occasional gamers. The

following figure (6.1) shows the sample distribution based on the hours spend on gameplay.

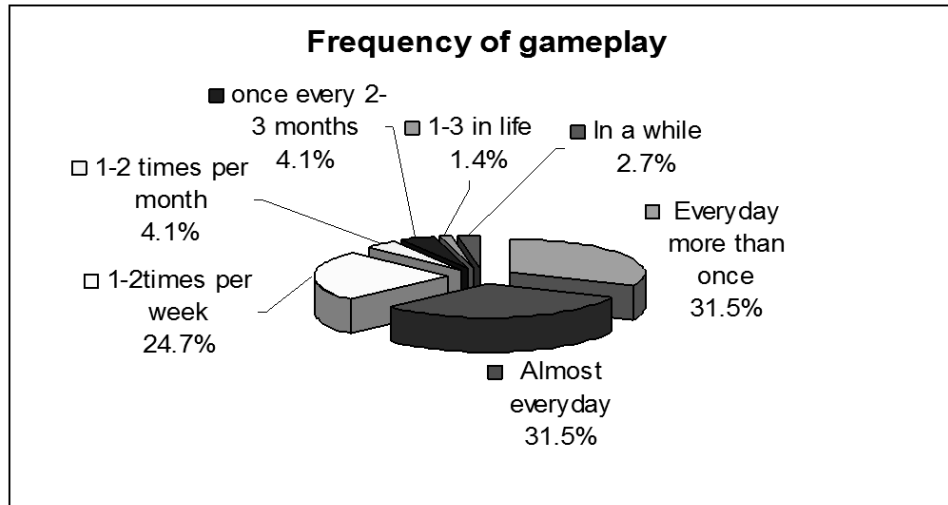


Figure 6.1 Percentages of participants based on frequency of gameplay

As the aims of the research are better served by examining gamers (see 6.3), only the first three groups of participants were included in the analysis:

*A. Group A: plays everyday more than once,*

*B. Group B: plays almost everyday and,*

*C. Group C: plays 1-2 times per week.*

As far as the hours gamers spend when engaged in gameplay, the majority of people in all three groups indicated that they spend 2-4 hours per day gaming. Overall, 47.7% of Group A, 44% of Group B and 56% of Group C spend 2-4 hours playing games per day. A large percentage of Group A (39.1%) additionally spends more than 4 hours per day. Finally, the percentages of people playing games for less than 2 hours per day are comparatively low for all groups (Figure 6.2). In general, more time is spent when the frequency of gaming (i.e., days per week) increases.

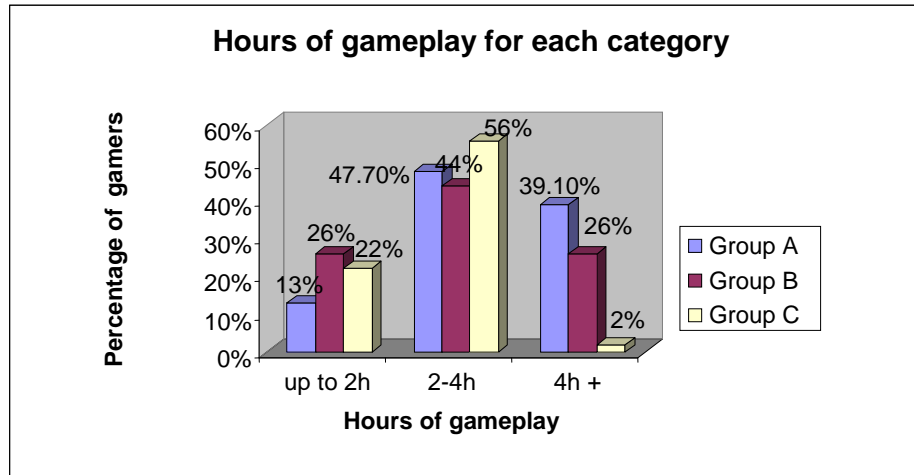


Figure 6.2 Comparisons between the three groups based on hours spent on gameplay

The last questions of the questionnaire concerned the identification of the types of games participants mostly prefer. Group A favours role-playing games (86.9%) and action games (78.2%). Group B mostly prefers action (78.2%) and strategy games (73.9%) whereas Group C mostly chooses to play action games (83.3%), fight games (72.2%) and adventure games (61.1%). In general, role-playing games are more popular among Group A whereas action games are the first preference for Group B and Group C (Figure 6.3). It is evident that gamers are simultaneously involved with different genre of games.

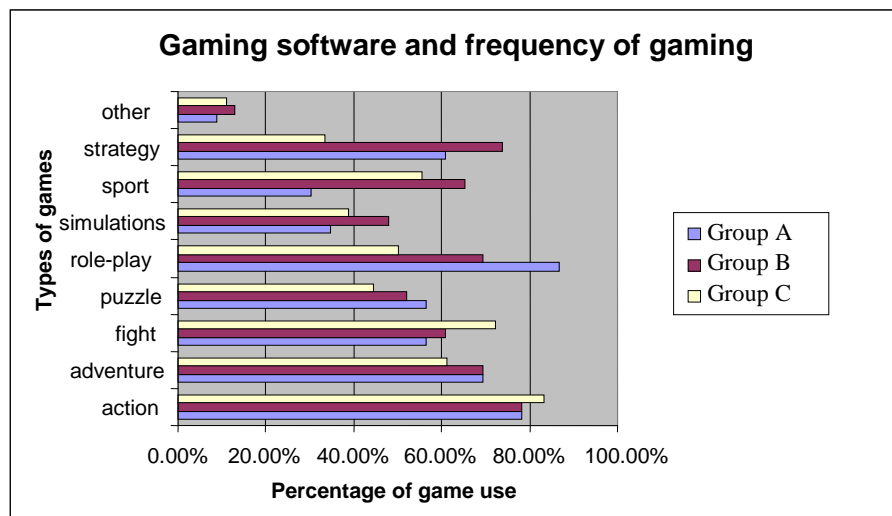


Figure 6.3 Comparisons between the three groups based on game preferences

The last question concerned specific games that participants play the most. Among Group A, most popular games were Counter Strike, World of Warcraft and Half-Life. Among Groups B and C, Counter Strike and Pro Football were mostly preferred. More frequent gamers are prone to role-playing games and Massively Multiplayer Online Role-Playing games (MMORPGs). Less frequent gamers are prone to role-playing and sport games. As game preferences indicate, gamers tend to play various games and have multiple game preferences. In addition, more frequent gaming is identified with role-playing games and multiplayer online games.

### 6.8.2 Interview analysis

Following the principles of thematic analysis (see section 6.7) findings from the three interview transcripts are presented below. Evidence addressing each question is discussed in separate parts. The first part concerns the identification of the factors influencing game appropriation, the second part discusses actual game uses and the last part describes the procedure during which gamers go through different phases of appropriation.

#### Part 1: Identification of the factors influencing game appropriation

Gamers tend to own a repertoire of games from which they choose and play different games at different moments. Gaming is foremost an activity enacted in various forms (i.e., various game genres) and not restricted to the use of a single game. The interchangeability among games is detailed in the following quotation:

*“most of the games at the DS cause I have tons I have a quick through and then leave it and go on to something else and then come back...just to find that sense...you know some games you stop playing for a while...there is a game at the DS like a rhythmic game...is really really [emphasis]<sup>26</sup> addictive but there are other games which have been of critical success like Mario or...I went to them move on something else and then may come back to them.” (Inter.2).*

Each gamer is prone to and uses different games indicating that games are related to personal preferences for play. More notably, gamers choose to play specific games

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<sup>26</sup> Interview quotations: In [text] are interventions or clarifications by the researcher.

because they like particular elements within the game. In the following quotation the choice of role-playing games is explained by the fantasy elements embedded in their design.

*“I actually like adventure RPG I like games that go somewhere, travel, see places... games that skip from reality. [So mostly fantasy games?]...yah this kind of games...more creativity goes into this kind of games...I don’t like ones that pick real life...” (Inter.3).*

Overall, gamers enjoy playing particular games as long as these satisfy preferences such as the freedom of choice, immersion, and experiencing a fantasy world. These dimensions are detailed in the game design elements that are considered to be essential in gaming. As expressed by gamers, “good” games motivate further gaming due to the positive emotions experienced while gaming.

*“Playing games became a habit; like smoking but it depends entirely on the game you play. After playing a good game, it would leave a sweet taste in your mouth and within a few days or maybe a few hours, it would call to you again, urge you, and entice you to play once more” (Inter.3).*

There is no single answer on what is a “good” game since this is defined by the personal preferences of each gamer and his/her perceptions around “good” games. More notably:

*“For me the story is very important...I don’t think you can say this is the most important thing cause it could be a lot of things that you enjoy...maybe a game has story and gameplay and its ok....or it may not have such a good story but gameplay is good and you still enjoy it...”(Inter.1).*

Another interviewee argues that:

*“I think is all about gameplay... Forget graphics...It’s very important if they don’t have it there is no point of playing.” (Inter.3).*

Although a personalized approach on which game elements are important is observed, a common approach in terms of games’ level of difficulty is identified. There was total agreement supporting that too hard or too easy games are discouraging and frustrating.

*“There is another game, a shooting game, in that you get points and you sort of go up in the rank, get weapons etc [...] so you can sort of show everyone look what I did you know...look at me...[Do you like this kind of games?] I like that because it’s after a night of play you have something to show.” (Inter.1).*

### Part 2: Identification of actual game uses

The above quotation additionally points to the social dimension of gaming. Gamers communicate with other gamers in order to discuss game issues and present their game achievements. Gaming is not restricted to the actual moments of gameplay but expands in conversations on gaming widespread in the daily life of gamers. This is an indication that gaming is more than a virtual activity; it blurs with real life merging the boundaries between offline and online reality. Such convergence is also identified during gameplay. Gamers tend to talk to their friends-gamers while gaming in order to catch up or help each other.

*“You know Skype...we prone Skype and talk about play.. and you can do that in WoW [World of Warcraft]. It’s only me and him really and we have another friend that sometimes joins us plays the same game as you talk you sort of catch up and then enjoy the game...like we play a shooter game you can say like come back me up or look behind you...” (Inter.1).*

The use of Skype while gaming demonstrates the innovative uses invented by the gamer. Skype is used not only as a mean of general communication but also as a channel for support in multiplayer games. Social forms of play are also identified offline when gamers gather together to game. Gaming resembles traditional social activities during which people come together to spend time with friends. As argued:

*“a lot of the time I play because my friends play as well and they will come over and play a game together [...] it depends what friend [girlfriend] of mine do.. if she plays games... for example last night she was bored and I found some games for her to play. We played together.” (Inter.1).*

Game use is influenced by the surroundings of the gamer and, more notably, by other gamers. Choosing to play a game is not only affected by the gamers’ personal preferences but also by friends-gamers and their perceptions about the specific game. A deep social mechanism is developed around gaming emphasizing the strong interconnection among individuals with a common interest in games. Finally, as revealed in the following quotation, gaming with friends constitutes a source of satisfaction.

*“I might buy it [The Sims] too because a couple of my friends play and they just love it and they may persuade me to buy” (Inter.1).*

Social praxis is prominent in the descriptions of gamers. Gamers communicate and collaborate while playing online games or they meet with friends and play games in the same physical space. It is evident that games’ sociality is not only identified in the mere moments of gameplay. Gamers discuss their game experiences and influence each other about game choices. Game experience is not restricted in the moments of gameplay but extended as a trigger for after-gaming conversation among gamers.

### **Part 3: Description of the procedure during which gamers go through different phases of appropriation**

The degree of integration of games in gamers’ daily practices is identified through the examination of the time gamers spend on gaming. As evident from the interviews the time dedicated on gaming is a mutable dimension. Everyday commitments such as studies prohibit gamers from gaming as much as they would like to. Gamers used to spend more time gaming when they were younger (i.e., school years). At the moment, even though they desire to game more, they do not have the free time to do so. However, this is the case for some gamers since for others, growing up was accompanied by greater use of games due to the development of game skills and degree of expertise.

*“In the present I just do not really have enough time to play games any more... indulge yourself in that...but lately I’ve managed to play 1 hour and half every other day...[so in the past you played more?]Yes a lot more... I had a lot more time...but now it’s slightly different.” (Inter.3), “...not as much as I used to [play]obviously because of uni [university] stuff but try and get an ...you know...hour in a day...it would be nice to have more time I used to when I was at school.” (Inter.2).*

The importance of gaming in gamers’ daily practices is identified in their efforts to find spare time for gameplay or find other ways to increase game time such as the use of portable game devices during travelling periods.

*“If it’s spare time now I’d be on a game...like a 3d animation package. I spend probably about 4 or 5 hours a day so it’s not much it’s on a level when I live uni*

*[university]...but now I guess an hour a day on a train...so sometimes I play there.” (Inter.2).*

The mutability of time spent on gaming is also revealed in situations when frequency and duration of gaming increases. More notably, gaming becomes a priority when there is free time or when particular games are released. The latter points to the release of specific games gamers have been waiting for or the involvement with a particular genre of games (e.g., MMORPGs).

*“If I don’t have work to do and she [girlfriend] is not busy or I have nothing to watch then I play a game [...] If it was to get a new game that I was waiting for a long time I would tell my friends to come over and sort of watching me playing... it’s very weird its only because is a game I’ve been waiting ages.” (Inter.1).*

Overall, gamers, when they have free time they tend to dedicate a considerable amount of time daily on playing games. However, frequency and duration of gaming are mutable since they are affected by various parameters external to the gamer, indicating that gamers control the time they game so that gaming does not interfere with other social activities. As stated:

*“[if you had more time or no university?] I’d play games more but I won’t be so addictive to the point where to become very antisocial...because when I used to play that MMO[MMORPGS] would be times to say you played enough now...after 4 hours of play I just go to bed.” (Inter.1).*

The degree of games’ integration in gamers’ daily practices is also identified in the value gamers’ assign to the activity of gaming *per se*. Gaming constitutes a unique form of multimodal interactivity that cannot be compared with other activities such as music or television. However, the centrality of this activity in gamers’ lives varies. For some gamers, life is unimaginable without gaming while for others, gaming can be replaced with other internet activities such as sketching and drawing or television. As stressed by one of the interviewees:

*“[So you wouldn’t mind if one day games were forbidden?] No I couldn’t have done that...is like singers and stuff...dancers and then...you know...because I couldn’t imagine anything else...I cannot picture...games is like basic.” (Inter.2).*



The process of game appropriation is detailed through the gamers' personal experiences of incorporating gaming into their daily practices. Gaming comprised an integral part of the gamers' lives since childhood. They have been growing up using games. At the age of six or seven years old they got their first game console, a fact that initiated the process of appropriation. The acquisition of that first console was followed up by the purchase of the latest releases of consoles and game software. At that point, gameplay turned to be a daily habit.

*"..I think my mum just brought it...and there it was...there is a play and if you want to play you play...I don't think I expressed any interest in playing games" (Inter.3). "We told our mum that it [power cable] costs hundreds of pounds to fix and so we might sort just get a playstation and we got a playstation then...yes every year a new football game comes out and he [my brother] gets that and then get my games." (Inter.1).*

Playing games constitutes a form of play that does not finish by the end of childhood but gradually and effortlessly develops into a daily practice. The gradually-developed character of game appropriation is also revealed in gamers' perceptions on how to engage non-gamers. One of the interviewees pointed out:

*"It's a gradual thing [...] my mother never never [emphasis] sits down to play Pro cause... she doesn't get it. She probably sits down and plays Tetris....and then she starts to play Mario....that progression... it has to start at a certain point....you can attract [emphasis] non gamers but you can't bring them in and tell them "now you are a gamer you have to play Zelda"...you have to give them what they want...it's kind of integrating things that people like." (Inter.2).*

What is also evident from the above quotation is the relation of specific game genres with the process of appropriation. Integrating gaming in daily practices is facilitated by choosing suitable games in terms of level of difficulty and relation to personal preferences in order to attract non-gamers.

Game appropriation is additionally emotion-driven. Gaming is a rich source of emotions that sustain the desire to play games. These emotions derive from the fact that gaming is perceived as an enjoyable activity. One of the interviewees sketches the emotional experience of gaming as following:

*"...you get so many different emotions when you play a game [...] I would say [that I play] to get that feeling again you know when you have as a child [...] that feeling when*

*you actually want to play a game...you have this urge to keep playing....I can't really explain to you ... [Do you experience the same emotions you experienced when you were a child?] Yah that's what I mean...[Do you think that is the main reason you keep playing games?] Yah it's...to find that child in it." (Inter.3).*

In particular, gaming is viewed as a pleasurable and fun activity during which gamers experience satisfaction. More notably, the successful completion of a game session or a whole game evokes a sense of achievement leading to feelings of joy.

*"...when I completed [the singing game] I felt so powerful with myself...my arms my hands were aching...it was a very hard song I was so pleased...like smile at myself!" (Inter. 1).*

In addition, games are viewed as a gateway from real life and everyday problems. Gamers tend to play in order to escape from reality, forget everyday worries and relax. This sense of escapism is brought into being through the design of the game and specific game elements such as story-line.

*"I can concentrate on the story cause the story the experience is like that... rather than is to play a game and having fun. [Do you feel that you live in this world?] Yah...the escapism the immergence [...] get away from life's troubles that's why I play a lot of RPGs [Role-Playing games] like fantasy games cause they have very in depth stories... it's easier to sort of get lost in them rather than the shooter games..."(Inter.1).*

Gaming as an emotional experience also evokes negative emotions. As gamers argue, when a game is too hard to complete, they feel frustrated. The lack of achievement during gaming is a factor that discourages gamers causing them to quit the particular game. However, for some others frustration motivates further gaming in order to overcome obstacles and achieve the game goals. As argued:

*"Of course frustration is a negative, but it plays a key role. The more you are frustrated, the higher satisfaction you will receive when you overcome the problem." (Inter.3).*

Game appropriation is overall an emotional process. Gamers identify that the reasons they keep playing games is the emotionally-oriented nature of gaming. Emotions are the factor sustaining involvement with games, in gamers' terms, the 'addictiveness' of games.

*“After playing a good game, it would leave a sweet taste in your mouth and within a few days or maybe a few hours, it would call to you again, urge you, and entice you to play once more[...]I suppose I continued to play games because it allowed me to feel these feelings. We are all addicted to certain emotions so we try to create events where we can feel this way again and again.” (Inter.3).*

### **6.9 Discussion of the results**

The overall aim of this study was the empirical iteration of the Game Appropriation Model (GAM I). Study’s findings illuminated the central theoretical foundations of the model. In the next sections, the factors determining the process of game appropriation as well as a descriptive account of the nature of game appropriation are detailed. The new elements added in the model are summarized, commenting also on specific dimensions of the GAM requiring further examination.

#### **The factors defining the process of game appropriation**

Drawing from the analysis of the data, the gamer presents specific game preferences from which s/he chooses gameplay. Gamers’ preferences determine which games are to be played by the gamer. In particular, gamers become involved with games that satisfy personal preferences for play. Thus the choice of particular games is revealing of gamers’ individual preferences for play. What leads a game to be characterized as “good” depends on whether particular elements in the game accord with gamers’ preferences. In addition, game design requires being at an appropriate level of difficulty to match gamers’ skills. In the case of newcomer gamers and in order to become engaged in gaming, this is requisite since gaming is appropriated when it matches gamers’ skills. Thus game design needs to include such elements that satisfy gamers’ preferences for play and a moderate level of difficulty in order to suit gamers’ level of expertise. Overall, greater game affordances facilitate the process of appropriation. Thus flexibly designed games encourage progression through phases of appropriation. In particular, MMORPGs are related to more frequent gaming compared to other genre of games.

The gamer-game design interaction moves to a higher level of use when it becomes mediated by social praxis. Social interactions facilitate the process of game appropriation and influence game uses and preferences for play. The former is particularly evident in newcomers since involvement in gaming is influenced by more expert gamers who introduce newcomers to gaming. In terms of the latter, game design and gamers' preferences are socially negotiated. Though game preferences are defined by the gamer, existing real life friends-gamers influence the choice of particular games as well as the formation of game practices. The design of a game is appropriated by gamers developing innovative game structures. An illuminating example is the connection to Skype during collaborative gaming as a channel for game support and catching up.

The process of appropriation, even in cases of solitary gameplay, is socially defined. Game practices surrounding actual gameplay reveal that gaming is inherently social. The nature of game appropriation is thus collectively defined. Firstly, the actual gameplay can be socially configured as in the case of MMORPGs. Game design favours in-game collaboration facilitating social interactions. Gamers communicate while gaming, not only in order to support and help each other but also chatting and catching up with real-life friends. Secondly, collective gameplay is experienced when gamers are physically present and game. Gathering around a game screen is an opportunity to discuss game practices and exchange game knowledge and expertise. More importantly, the social dimension of game appropriation is manifested in situations of solitary gameplay. Even when the game supports gameplay by a single gamer, game experience can be socially situated; other gamers are physically gathered around the gamer and communicate or the solitary game activity comprises the spark for after-gaming discussions among gamers. A remarkable game culture has been developed around actual gameplay sustained by game discussions related to game achievements, successful game sessions, and choice of game genres. The sociality around gaming indicates that gameplay is not a virtual activity disconnected from real life, but blended in gamers' daily practices and real-life relationships. Various social forces converge during game appropriation making appropriation dynamically social.

The dynamic relationship among game design, the gamer and social praxis, situate the nature of game appropriation in an ever-changing condition. The outcome of appropriation is not stable but in a process of constant renewal. More notably, gamers are simultaneously involved with more than one game and also they tend to renew their game software and hardware. Depending on the game they play, game practices differ. Actual gameplay is either socially defined or a more solitary activity. The former is experienced when using multiplayer games and when gamers are physically located and game. Single-player games point to solitary forms of gameplay. The nature of appropriation is determined by game design affordances. Gamers play differently when using different games. Distinct uses are assigned to each game, indicating that the study of game appropriation is game-specific. If it is to examine game practices and uses, this is feasible only when focusing on particular games, since each game facilitates or hinders specific practices and shapes respectively game appropriation (see Figure 6.4).

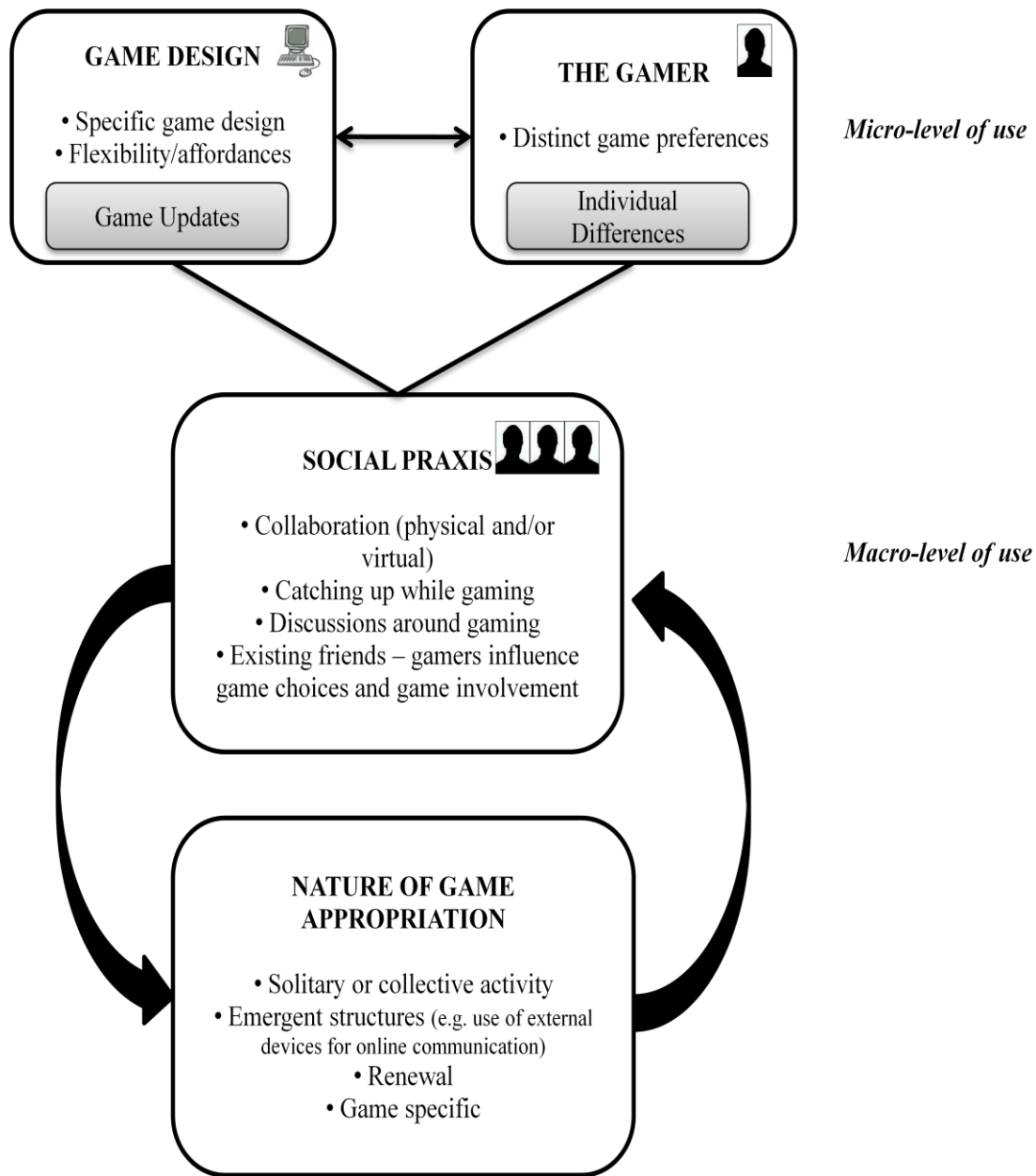


Figure 6.4 GAM II: The process and nature of game appropriation

### Description of the process of game appropriation

The process of game appropriation constitutes a highly complex process, socially oriented but also individual specific. It is neither homogeneous nor common among gamers. Instead, it varies among gamers. The diverse character of game appropriation is

evident in the choice of specific games based on gamers' personal preferences for play, the diverse nature of appropriation demonstrated in collectively defined innovative game uses, and the use of different games, while gamers progress through various phases of appropriation. Even though socially situated, it is implemented in a distinct way for each gamer. The multiple preferences and practices by gamers, social interactions, specific design affordances, and the changing nature of appropriation indicate that game appropriation is foremost context-sensitive. The interplay of various situational factors configures a unique implementation of appropriation for each gamer.

As a process, game appropriation resembles a continuum of growth during which the gamer progresses through various phases of use that indicate the depth of games' integration in gamers' life. It is gradually and effortlessly developed. It requires time to become systematically involved in gaming. It can be a long-term procedure since it can begin in childhood. In particular, the progression through phases of appropriation can initiate during childhood and develop through to adulthood where gaming becomes a daily practice. The process of game appropriation is characterised by depth. Not all gamers make use of games to the same degree. However, persistent gamers when involved in gaming, dedicate a considerable amount of time per day gaming. The more frequent gamers they are the more time they tend to spend on gaming. However, frequency of gaming is a mutable dimension; it is affected by various extraneous factors. Alterations in gamers' lifestyles (e.g., life obligations or studies) restrict the time for gaming. Conversely, the frequency of gaming is increased when free time is available, when playing particular genre of games (e.g., MMORPGs), and in the presence of other social agents. The fact that gamers do not game as much as they would like to indicates that the frequency and duration of gaming are not adequate indicators of the degree of appropriation. In order to evaluate the depth of game appropriation, the value gamers' assign to gaming needs also to be examined. The centrality of gaming is evident in their perceptions around the role of games in their life. For some gamers, gaming constitutes a unique and irreplaceable form of entertainment. These gamers cannot "live" without games. For other gamers, it is only one form of

leisure which could be replaced by other activities such as television or internet drawing.

The developmental process of game appropriation consists of iterative cycles of game use, which, in turn define the nature of game appropriation. For instance, the game practices of a newcomer differ from the practices of a more expert gamer. Similarly, differences in use are observed between expert gamers. Thus the progression of the gamer through phases of appropriation demonstrates distinct game uses. The nature of appropriation becomes different as the continuum of appropriation develops. The observed change within GAM is facilitated by the experience of particular emotions such as satisfaction, sense of achievement, enjoyment, and escapism. Gaming is motivated and sustained when positive emotions are experienced. On the other hand, negative emotions such as frustration, more likely prohibit further involvement with specific games. Game appropriation is thus an emotionally driven process.

In summary, the process of game appropriation is initiated with the interaction between the gamer and a specific game design. When gamers' preferences become satisfied by game affordances, the process of appropriation is progressively developed. When there is a mismatch and also a lack of social influence promoting the use of a specific game, the process of game appropriation starts anew with a different game. The relationship between game design and the gamer is negotiated by the presence of other social agents. More notably, social praxis online and offline influences gamers' personal preferences for play leading to the use of games never anticipated before. Also, collective gaming, particularly collaboration with other gamers or existing real-life friends, enforces greater enjoyment and progression through phases of appropriation. Moreover, the affordances of game design are socially negotiated creating innovative game uses. In particular, flexibly designed games facilitate gamers' progression through phases of appropriation. Overall, both the process and nature of appropriation are constantly being altered due to continuous social interactions, different preferences for play and design affordances.



### **New elements added to the model**

GAM II mainly confirms the theoretically-oriented version of the model. The factors defining game appropriation as well as the description of the process of appropriation have been empirically iterated. However, the most important limitation of the first version of the model is the perception of game appropriation as a phenomenon commonly identified among different game genres. The investigation of game appropriation can only be implemented when focused on the use of a specific game and the practices surrounding its use since GAM II was found to be extremely contextual. Moreover, no evidence was collected in respect of the process of game appropriation as a developmental continuum of gamers' skills and knowledge. Therefore it is concluded that the improvement of game skills and knowledge is less likely to work motivationally and thus influence game appropriation. In addition, the social dimension of the GAM as analysed in the second version of the model is much more complex than hypothesized. Game appropriation is situated within a vivid social context. The notion of context corresponds to Cole's (2003; 1996) perception of context as creation. In the case of gaming, such innovative social practices are identified both within and around actual gameplay. Social context is constructed inside the game world through constant interactions among social agents virtually present in the game. In parallel, social activity is observed around gameplay when co-located gamers communicate about game-related issues or play collaboratively or competitively. Virtual and physical social contexts become blurred since game practices are identified in both contexts. A rich social environment also surrounds solitary gameplay; this is more likely situated within a virtual environment populated by other gamers and post-play communication about gaming.

Finally, though this study's research questions have been addressed, specific aspects of the model require further examination. These are the examination of game appropriation for a specific game, the role of updates/expansion packs and individual differences and more in-depth insights around the nature of appropriation. These issues are addressed in the subsequent two empirical examinations (see Chapters 7 and 8). In these studies, the

role of games' moderate level of difficulty is not examined further due to the focus on MMORPGs. Existing examinations suggest that the specific game genre comprises a prominent field for gamers' skills to fit the challenges of the game (see Chapter 3: 3.2.2) due to design qualities (i.e., a progressively-oriented platform upon which challenges and gamers' skills match).

### **6.10 Concluding remarks**

The first empirical examination of game appropriation revealed that gaming is an inherently social activity better understood if analysed in relation to specific games. Even though the account of game appropriation has produced some valuable insights mainly in relation to the *process* of appropriation, further game-specific investigation is required to detail both the process and nature of appropriation. Due to the transformation of games into socially-configured game spaces and the open-endedness of game design (see Chapter 2), MMORPGs evoke particular interest and will constitute the focus of examination in the next studies. From this point forward, the thesis will focus on the examination of a specific genre, MMORPGs and specifically the game World of Warcraft. The term game appropriation will explicitly refer to the appropriation of MMORPGs. The reasons for this choice and the research design of future studies are analysed in the following two chapters.

## Chapter 7

# GAM III and the case of World of Warcraft

### (Study 1)

Evidence from Chapter 6 indicated that game appropriation is game-specific. Therefore, this chapter is explicitly focused on the empirical investigation of MMORPGs and more precisely the game, World of Warcraft (WoW). The study aims at the iterative development of GAM II by examining the role of individual differences in gaming as well as illuminating the nature of game appropriation *within* MMORPGs. Data have been collected through an online large-scale survey completed by *high-end gamers*<sup>27</sup> of WoW. Findings showed that the nature of game appropriation is distinctly configured by each gamer based on individual differences in trait emotional intelligence and basic psychological needs. Implications are discussed in relation to the nature and process of game appropriation.

#### 7.1 Rationale

Game appropriation as presented in GAM II is game-specific. Thus further examinations require to be focused on a single game. A specific MMORPG, World of Warcraft (WoW) has been chosen as the platform for such investigation. The reasons motivating the choice of the genre of MMORPGs as well as the particular game are analysed in the following paragraphs. In addition, the choice of high-end gamers as the target population is also detailed.

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<sup>27</sup> High-end gamers or end-gamers are those gamers that have reached the ultimate game level, for this thesis level 70.

### 7.1.1 Justifying the study of MMORPGs

The recently configured social transformation of games (see Chapter 2) reinforced the choice of Massively Multiplayer Online Role-Playing Games (MMORPGs) as the focus of examination. MMORPGs constitute the prominent game genre reflecting game alterations. In brief, within MMORPGs, gamers become actively involved in the construction of game experience. Through constant social interactions, they generate social forms of play renewing game experience and also produce game material. The former dimension of productivity points to the way gameplay is shaped by gamers and their game choices (e.g., questing, raiding, soloing), the presence of particular others and the potential for collaborative gaming and updates to game design. The latter dimension stresses the constructive work of gamers evident in, among other, the creation of game guides, maps, play norms, modifications, and strategy guides (Taylor, 2006a). The changing role of the gamer is evident in the fact that succeeding in these games is not feasible without first experiencing gameplay and participating in shared practice. The necessity for participation is overt in the great discrepancy between the official descriptions of gaming for particular MMORPGs and actual game uses and practices (Jakobsson & Taylor, 2003). The study of MMORPGs contributes to understanding the social transformation of games and its consequences for the gamer.

In addition, MMORPGs and game appropriation are inherently related. In particular, the study of game appropriation has been *enabled* by the transformation of games into flexibly designed open-ended spaces. MMORPG game design opened-up the space for appropriating games. According to Dourish (2003) particular technological features encourage appropriation by breaking up the rigid boundaries of the application and allowing independency and creativity through which users are allowed to communicate their own meanings. More appropriable technologies can be designed when information and the structures and encodings become separate, offering users the potential to manage the information (ibid). Pearce (2002) commenting on gamers' emergent authorship due to design points to the "Open Source" movement and the

encouragement of gamers to go “under the hood” and make their own games. Due to design qualities, MMORPGs are a highly suitable genre for examining game appropriation. In the case of WoW though, the potential for alternations does not include actual design parameters such as the construction of artifacts inside the virtual world (as in games such as Second Life). The active role of the gamer is identified in defining in-game social relationships and personal forms of gameplay and producing game material such as game guides and modifications.

### **7.1.2 Justifying the choice of World of Warcraft (WoW)**

The reasons motivating the choice of the specific MMORPG are twofold. Initially, World of Warcraft (WoW) is a widely used computer game and a widespread MMORPG within the game market. According to the Entertainment Software Association (ESA, 2007), members of which are leading interactive entertainment software publishers, including, among others, Microsoft, Sony, and Nintendo of America, WoW holds the first place in the top 20 selling computer games of 2006 by unit of sale in America. The popularity of the game is pronounced since it has reached 11.5 million subscribers worldwide (Quillen, 2008) while, as discussed by Ducheneaut *et al.*, (2006b), the game managed to revolutionize the genre of MMORPGs by engaging 240,000 subscribers in less than 24 hours on the first day of its release. WoW presents an increasing number of active subscribers since the date of its release (November, 2004, see WoW official website) and comparatively higher subscriptions in contrast to other MMORPGs available in the market (Woodcock, 2008, see Appendix 7). In addition, due to the relatively recent release of the game, its design and graphics are highly developed and refined. As a result, it demonstrates a rich and in-depth game world flourished with a variety of choices for game action. By being a hit game, WoW raises the interest in identifying what factors motivate its popularity.

### 7.1.3 Justifying the focus on high-end gamers

Drawing from Chapter 2, gamers' practices within MMORPGs are social in nature. Gamers appropriate MMORPGs through constant social interaction. They communicate with other gamers and collectively generate their game experience. The question yet emerging is whether social interaction within MMORPGs is a homogeneous and universal phenomenon and thus experienced similarly by all gamers or whether distinct forms of social interaction are identified during gaming.

Existing studies examining social interaction within MMORPGs advocate that sociality is more likely to be multifaceted. Initially, sociality can be expressed as *socializing per se*; getting to know and chatting with other gamers (Yee, 2007; 2006a) resembling the activity taking place in third places (Ducheneaut *et al.*, 2007) where people voluntarily communicate and have humouristic conversations. Moreover, the social aspect of gaming can be demonstrated in the creation of *meaningful relationships-friendships* between gamers (Yee, 2007; 2006a). In addition, it can be expressed as *altruistic, helping behaviour* in the form of sharing knowledge or practically helping others (Ducheneaut & Moore, 2004b). Moreover, sociality can be perceived as *instrumental teamwork*; via group creation in which gamers strategically plan and coordinate their actions in order to achieve. The asymmetric characters' abilities fostered by game design, promote communication concerning strategic issues (Koivisto, 2003). The social mechanics needed for a guild (i.e., large-number organized group) to succeed, blend instrumental action with social work (Taylor, 2006a). Finally, sociality does not necessarily presuppose communication between gamers; gamers experience social interaction while playing a *single-player game*. Ducheneaut *et al.* (2006a, p.9) commenting on WoW observe:

“...joint activities are not very prevalent, especially in the early stages of the game. WoW's subscribers, instead of playing with other people, rely on them as an audience for their in-game performances, as an entertaining spectacle, and as a diffuse and easily accessible source of information and chitchat. For most, playing

the game is therefore like being “alone together” – surrounded by others, but not necessarily actively interacting with them.”

Single play in MMORPGs has been observed only prior to reaching end-level gaming<sup>28</sup>. While gamers tend to play alone, after a certain point (specifically after level 55) they are most frequently identified in groups. It has been suggested, therefore, that social interactions do not characterize an entire game but only end-gameplay (ibid). This discrepancy is explained by the proposed social structures. Reaching ultimate game goals is almost impossible to achieve without being in a group (Wolf, 2007).

Drawing from the aforementioned studies social interaction within MMORPGs presents variability. In some cases gameplay may actually be a solitary activity, taking place within a populated environment. Individual gameplay, however, does not constitute a choice for high-end gamers since social structures, as proposed by game design, enforce gamers to group and collaborate in order to progress. The sudden shift to exclusively social forms of gameplay is not without consequences. End-gamers might either alter their game style by joining end-game groups or start over with a new character (Ducheneaut *et al.*, 2006b). This social form of play, however, might not satisfy all gamers. As Myers (2007, p.8) stresses MMORPGs attempt to restrict the diversity of human play, which is better understood as “originating within *individual* players – in and according to *self*”. By restricting the diversity of individualistic forms of play, MMORPG impose social control (ibid).

The choice of high-end gamers for examination is therefore of great interest since end-gameplay is intensively social. As the related literature suggested, game structures force gamers to group in order to progress. End-gamers comprise a representative sample of gamers to utilize in examining the nature of game appropriation since they facilitate the collection of rich data around the social nature of gaming and contribute to adequately

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<sup>28</sup> End-level gaming, end-gaming or high-end gaming denote gameplay implemented after gamers reach the highest game level, for this thesis, level 70.

addressing the study's research questions. Deploying a sample of lower-level gamers, and in particular gamers identified in levels lower than 55, would be less fruitful since solitary forms of gaming would have more likely been observed hindering the examination of the social nature of online gaming. Finally, the fact that for end-gamers leveling up does not comprise an engaging possibility for play makes even more attractive the study of game appropriation and the exploration of the factors that keep this group of gamers in the game.

### 7.2 The design of World of Warcraft

The game World of Warcraft, widely known as WoW, has been developed by Blizzard Entertainment and released in November 2004. It constitutes the fourth game in the Warcraft series, the first introduced by *Warcraft: Orcs and Humans* in 1994. The planet of *Azeroth* in the Warcraft universe hosts the lore of the game. With the two expansion packages following, *World of Warcraft: the Burning Crusade*, in January 2007, and *The Wrath of the Lich King*, November 2008, the lore expands in the planet of *Outland* and *Northrend* respectively<sup>29</sup>.

According to the design line of other MMORPGs, WoW gamers enter the game world with the personas of WoW heroes (avatars). The introductory interface of the game calls gamers to choose between the various available realms. Realms are identical game servers created to accommodate the millions of WoW subscribers. While game mechanics are the same among different types of realms, PvP realms emphasize person versus person combat either in special places (e.g., battlegrounds) or randomly within game world. PvE realms are more focused on person versus environment interaction (e.g., questing, fighting monsters, collecting experience points, trading and leveling up). Fighting with gamers from the opposite faction is optional. Role-playing realms (RP)

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<sup>29</sup> The descriptive account on WoW design counts for the game as modified through the last expansion package released in November 2008.



are suitable for gamers that want to remain in-character and experience the story line of the game through their avatar. Realms are also combined (i.e., RP-PvE and RP-PvP).

The choice of realm is followed by the customization of the avatar. Gamers are prompted to shape their character choosing from a diverse range of classes, races, factions and gender. Faction refers to the choice between *Alliance* and *Horde* and represents the armoury gamers fight for. Horde has a negative quality by signifying the force of evil whereas Alliance is positively charged as the bastion of good. Gamers can communicate meaningfully only with members of the same faction while they can battle only the opposing faction. Each faction has its own races. The Alliance consists of the *dwarfs*, the *gnomes*, the *humans*, the *night elves* and the *draenei*. The Horde is comprised of the *orcs*, the *tauren*, the *trolls*, the *undead* and the *blood elves*. Each race presents specific potentials and limitations compared to the rest of the races.

The choice of race is followed by the choice of class. Each race is accompanied by specific classes, namely, *Warrior*, *Warlock*, *Shaman*, *Rogue*, *Priest*, *Paladin*, *Mage*, *Hunter*, *Druid*, and *Death Knight*. Class determines the skills and spells the avatar can master. For instance, priests are exceptional healers whereas warriors are distinct for their attack movements and dealing with enormous amount of damage. In addition, the appearance of the avatar is customizable; a selectable repertoire of hairstyle, hair and skin colour, facial markings, earrings and horns are available for each race and gender. Appearance and gender are aesthetic dimensions and do not affect avatar's abilities.

Avatars function based on their attributes; *strength*, *agility*, *stamina*, *intellect*, *spirit* and *armor*. It is upon gamers whether they will increase and at what level the power of particular attributes. Additionally, avatars have two primary and multiple secondary professions. The nature of these professions is identified in gathering, production and service. Some examples are alchemy, blacksmithing, cooking and herbalism. Professions assist gamers gather money by selling products and items and enhance their skills by creating their own items and gear.

The game currently consists of 80 levels. Gamers progress through levels by accumulating experience points and implementing quests (i.e., special missions). When reaching level 10, the first talent points are received allowing enhancement of the avatar, for instance, increasing the power of spells or the acquisition of new skills. Gaining reputation is another dimension that contributes to empowering the avatar since it permits the purchase of specific items and the undertaking of quests not available otherwise.

The multiplayer character of the game permits simultaneous gameplay by hundreds of gamers that interact within the same virtual world either in collaboration or competitively. The collaborative dimension of the game is evident in the formation of parties, raid groups, guilds and arena teams. Parties are five-player formations that act collaboratively facilitating the completion of difficult quests. Raid groups are larger organizations of gamers (up to 40 gamers) that enable access to the most dangerous areas of the game and the implementation of special raid quests. Coordination among members is facilitated by the raid warning channel and the potential for splitting gamers into five-member groups that communicate privately. The most prominent social formation of the game is guilds. Guilds are created, organized and sustained by gamers. As indicated in the official website of WoW (see WoW official website), these formations enhance gaming by offering opportunities to identify other gamers for grouping, to create friendships and to access trade skill ingredients and masters. Guild masters are of crucial importance in the survival and quality of the guild since their leadership skills and recruitment policies influence the organization and coherence of the guild. Arena is another social structure available only to high-end gamers. Arena teams are comprised by 2, 3 or 5 gamers that enter the arena (i.e., a special place for fighting) to fight teams of equal size but of the opposite faction. A high degree of coordination and communication is required since no information about the strengths and weaknesses of the opposite team are known prior to entering the arena.

The overall game experience is based on the constant progression and growth of the avatar within a vast visually cohesive virtual world. The design of the game encourages collective work and competition in terms of gear, skills and beating opposite faction gamers. The periodic release of game updates renews game content by offering new quests to undertake, lands to explore, items to acquire and monsters to kill. Game events such as Arena Tournament are also organized differentiating, from time to time, gameplay. The most essential change in the game is implemented by the release of expansion packages. *World of Warcraft: the Burning Crusade* was the first expansion package released, increasing the level cap from 60 to 70. The second expansion pack, *The Wrath of the Lich King*, features ten new levels (up to level 80) enriching game experience by offering new content and challenges (see WoW official website).

### **7.3 Methodological design of Study 1**

In the next sections the design of Study 1 is detailed.

#### **7.3.1 Aim and research questions**

Study 1 aims at examining individual differences in order to identify whether the process and nature of game appropriation is influenced by gamers' distinct psychological characteristics. More notably, trait emotional intelligence (trait EI) and basic psychological needs are the psychological constructs measured in the study and relate to gamers' preferences for play, frequency of gaming and the norms (for trait EI). In terms of the norms, gamers' scores on trait EI are compared to the norms in order to obtain a picture of how gamers differ from the general population.

*RQ1: What are the high-end gamers' psychological characteristics (i.e., trait EI and basic psychological needs) in relation to: game preferences, frequency of gaming and the norms (for trait EI)? How do these relate to the appropriation process?*

As evident in previous discussions, gamers' practices within MMORPGs are closely related to the design of the game. The social structures presented in MMORPGs influence the nature of game appropriation particularly during high-end gameplay which requires intense social interaction. However, are the social patterns of play followed by all high-end gamers? The aim of Study 1 is the examination of the nature of game appropriation in WoW for high-end gamers. The identification of the way high-end gamers appropriate WoW will detail the social character of game appropriation and contribute to detailing social interaction *within* MMORPGs.

*RQ2: What does the social nature of gaming look like, in relation to game appropriation within MMORPG gameplay?*

### **7.3.2 The research method used for data collection**

In order to address the aforementioned research questions, data have been collected through a large-scale online survey completed by high-end gamers of WoW. In the following paragraphs the web-layout and content of the questionnaire deployed for the survey are detailed (see also Appendix 3, document format of the questionnaire).

#### *a. Web layout and formatting of the questionnaire*

According to Hewson *et al.* (2003), a well-designed presentation of the questions as well as the provision of affiliation details establishes a professional piece of research increasing response rates. Therefore, the questionnaire used in this study was carefully designed in order to have a clear and straightforward layout and formatting. In addition, questions were introduced by debriefing the aims of the study, declaring anonymity, confidentiality and data security and use strictly for research purposes, and by informing participants of their right to withdraw at any time and having their data destroyed. The contact details of the researcher (i.e., e-mail address) were provided in case participants requested any additional information.

The questionnaire, in order to be user-friendly, was developed following some fundamental techniques specified when administrating surveys online (see Sue & Ritter, 2007; Schonlau *et al.*, 2002). Initially, in order to avoid having to scroll down, only a few content-related questions were placed on each web-page of the questionnaire. Participants were allowed to go back and forward on the same page and answer questions in a preferred order. In order to avoid missing data, progression to the next page presupposed response to the entire set of questions presented on the page. An error message appeared directly above the missing value facilitating identification of gaps. The navigational options allowed return to previous pages in case participants wanted to modify their responses. No withdraw button was included on each page in order to discourage easy abandonment of the questionnaire. However, the right to withdraw from the study was safeguarded by the fact that closing the web-page hosting the questionnaire ceased the process of completion.

In order to control the quality of the questionnaire and avoid misunderstandings and ambiguities (Miller & Salkind, 2002), the online version of the questionnaire was pre-tested. A web-link to the questionnaire was emailed to a small number of colleagues involved in game research and acquaintances playing WoW requesting their comments about the structure of the questionnaire and the formation of questions. The received feedback improved the questionnaire in multiple ways. Initially, the questionnaire's instructions were refined and ambiguous wording was restated clearly. Multiple-choice questions presented all possible alternative answers by providing a detailed range of choices and by including the choice of "other" in order to address unanticipated answers. Some of the open-ended questions (i.e., descriptive information about the game and the avatar) did not require an answer. Pilot results suggested that gamers may not know or be able to recall this kind of information. Consequently, the answers were optional in order to avoid fake answers and facilitate participants. Overall, open-ended questions were kept to minimum and required only short answers.

### *b. Content of the questionnaire*

In order to attract the interest of participants, the initial web-page of the questionnaire included simple introductory questions closely related to WoW game practices as well as some demographic information. Questions around demographics requested gender, age, occupation and home country information. Game-related questions asked for the frequency and duration of gaming (in general), and duration and time period playing WoW. The second web-page included exploratory questions about the game (i.e., the two main reasons for playing WoW) and descriptive questions about the choice of faction, race, class, realm, membership in a guild, and game level.

In the following web-pages, three scales adopted from other studies were presented. More precisely, in order to measure gamers' preferences in WoW, Yee's Motivations of Play scale within MMORPGs was deployed (Yee, 2007; 2006a). The scale consisted of 41 statements modified and applied to WoW gameplay. It measured the level of importance, enjoyment and frequency of game practices on a five-point likert scale. The layout and format of the questions in the original scale were also modified in order to occupy less space improving instrument's coherence. Instead of having five-point multiple-choice questions, the questions were turned into a five-point likert scale that measured degree of importance or enjoyment or frequency according to the original questions. In addition, one of the items, by being a double question (i.e., would you rather be grouped or soloing?), was split up into two questions (i.e., how important is to be grouped, how important is to solo) to correspond to the likert scale formatting. Thus the final scale, instead of 40, included 41 items. The scale was piloted to ensure that the aforementioned changes in formatting did not affect understanding. Also, a factor analysis of the 41 items was implemented to check correspondence with the original scale. Results confirmed the presence of the three overarching factors namely achievement, social and immersion (see Appendix 11).

Two psychological measurements were also deployed from existing studies (see also Chapter 3). In particular, the short version of the Trait Emotional Intelligence

Questionnaire (TEIQue-SF; Petrides, in press; 2001) was used to measure trait EI. The inventory includes 30 items on a seven-point likert scale. Due to the length of the overall questionnaire, the short version of the TEIQue was used, in order to reduce response time and prevent frustration by participants. In addition, the Basic Psychological Needs Scale (BPNS; Deci & Ryan, 2000) was utilized to examine satisfaction of the needs for autonomy, competence and relatedness. BPNS consists of 21 items on a seven-point likert scale. At the end of the questionnaire, participants were thanked for taking the time to complete the questions. Their e-mail addresses were optionally requested.

### **7.3.3 The process of data collection**

The data collection was in the form of an online web-based survey. The use of the internet to conduct primary scientific research has been widely applied due to the large number of responses collected and the low cost and effort (Hewson *et al.*, 2003). A commercially available survey construction package (QuestionPro.com) was deployed for structuring and formatting the questionnaire, publishing the survey on a web server, storing the collected data and implementing a preliminary statistical analysis.

In order to advertise the survey and identify WoW gamers, an announcement was posted in the forum section of the two official WoW sites (WoW-europe.com and worldofwarcraft.com) and in other game discussion forums, most of them dedicated to WoW (worldofwar.net, entertainment.upperdeck.com, thedruidsgrove.org, forums.penny-arcade.com). The researcher gained access to these websites by subscribing to the forums (i.e., creating a free account). By deploying game forums, the type of internet users to view the announcement would be controlled and constrained to gamers. The announcement called for volunteers to complete a questionnaire about WoW gameplay. Those interested could follow the web-link to the survey. In order to enhance response rate (Cobanoglu & Cobanoglu, 2003), it was also stated that two participants would win a price of one-month free subscription to WoW. Participation in

the survey depended on WoW gamers coming across the announcement and deciding to volunteer.

The survey remained online for two weeks until a considerably large sample of responses was collected. According to the survey statistics report, a sample of 3003 people viewed the questionnaire. From this sample 2528 started the questionnaire and 1406 completed it. The number of people that actually completed the questionnaire comprised the 46.8% of the sample that viewed the questionnaire. The reasons more than half of the participants did not finish the questionnaire can be attributed to the length of the questionnaire and the inclusion of, among others, questions less related to gaming (i.e., psychological scales). From the sample of 1406 WoW gamers completing the questionnaire, only high-end gamers were chosen for further examination, specifically 1051 gamers.

By the end of two weeks, the link to the webpage hosting the survey was deactivated. The participants completing the questionnaire were entered into a prize draw from which two were informed about winning one month's free subscription to WoW.

### **7.4 Issues of concern around the use of web-based survey**

#### **7.4.1 Sampling bias**

The sampling procedure constitutes one of the central concerns when implementing web-based research. The argument made is that the internet population is skewed in relation to the general population by being solely comprised by professional, technologically aware individuals. The proliferation of the internet though and its diverse uses for educational, recreational, commercial, and communication purposes has increased the diversity and number of users. As Hewson *et al.* (2003, p.31) argue “the Internet is extraordinary in that it affords the possibility of accessing far more diverse samples than has ever been practically possible before”. Issues of internet and computer access do not constitute a threat to the present study since the study's population is



online gamers playing WoW. By examining MMORPG gamers it is indicated that computer and internet access are preconditions of game use. The aim of the study is a specific online population with narrowly defined interests. In addition, due to the web-based nature of the survey, a diverse sample was identified otherwise not feasible due to time and place restrictions. More notably, the origin of the study's participants indicates that the study transcends geographical boundaries. Web-based research enabled WoW gamers mainly from Europe (44.9%) and North America (46.9%), and also Asia, Australia and Africa (see Appendix 8) to be approached.

The survey was completed by WoW gamers who came across the announcement and were willing to participate in the survey. The sample was self-selective/non-probabilistic. Though random sampling procedures eliminate sample bias and increase sample representativeness, it was not feasible to follow such method of selection since the sample frame was unknown. There were no means by which to obtain a list of WoW gamers of at least a particular geographic area since such information is safeguarded by the game company. In order to control for bias due to the self-selective sample, particular research guidelines were followed (see Hewson *et al.*, 2003). The survey was announced in various WoW forums in order to obtain a more diverse and representative sample. Also, a considerably large sample of gamers was gathered (1406 participants from which 1051 were high-end gamers). Moreover, despite the fact that the sample was non-probabilistic, an idea of a sampling frame was produced by estimating the number of people viewing the announcement compared to those who completed it. More precisely, a percentage of 84.2% of those who viewed the announcement decided to start completing the questionnaire. A relative low unit of non-response is an indication of high data quality (Schonlau *et al.*, 2002). In addition, responding to the questionnaire implies a specific interest in the announcement as well as involvement with game forums. The former might have been motivated by either the incentive given or a pure interest in taking part to the survey. The latter is more critical; it reveals that

respondents are gamers who are deeply interested in actual gameplay as well as the game culture surrounding gaming (e.g., participation in game forums).

Overall, the “gamer” participant has been playing the game systematically for a considerable period of time as s/he has reached the highest game level. Therefore, s/he is more likely an expert gamer with a broad game knowledge. Also, s/he is interested not only in actual gameplay but also game-related issues including participation in game forums.

### **7.4.2 Researcher’s control over study**

The lack of researcher’s control over the study’s materials is an issue threatening the reliability and validity of the study. The role of the researcher was to prepare the questionnaire and upload the announcement about participation in various game websites. In contrast to more traditional methods of data collection, “the researcher is less able to judge the extent to which responses are sincere and genuine, the conditions under which the questionnaire was answered, the state of participants at the time of participation (for example, intoxicated, distracted, and so on), and the identity of participants” (Hewson *et al.*, 2003). In order to address issues of sincerity of responses, the time completion rate was examined. Participants with unreasonably low completion rates were excluded from the analysis. In particular, the average time taken to complete the questionnaire was 19.6 minutes with 12.6 minutes standard deviation. In order to increase the validity of the responses the number of participants completing the questionnaire in less than 7 minutes (equal to or less than 401 seconds), were not included in the analysis (i.e., 32 participants). Extremely high time ratings were considered less problematic since long completion time might only suggest that participants were answering the questionnaire in segments, during different time intervals. Such an approach may actually suggest more careful completion. In addition, essential demographic information was collected including gender, age and occupation.

In order to increase the validity of the results and control over the age of the participants, the youngest group of participants (between 10 and 15 years old) was not included in the analysis (i.e., 107 participants). The final sample comprised of 1051 high-end gamers. Moreover, descriptive statistical analysis was performed in order to identify unacceptable responses such as text entered where a numeric string was required and vice versa or use of a numeric string with a value out of the acceptable range. Finally, in order to secure legitimately collected data, the deployed software package checked for duplicate responses. No such cases were detected.

### 7.4.3 Ethical issues

Compared to offline survey methods, internet-based survey research is more sensitive in violating participants' privacy (Cho & LaRose, 1999). Considering the topic of examination and the online nature of data collection, participants' privacy is less likely to have been threatened. More notably, confidentiality, anonymity, non-traceability, security of data and the right to withdraw were declared by the researcher and stated at the beginning of the questionnaire along with the debriefing on the purposes of the study. The web-based form of the research ensured confidentiality and anonymity. The only request for personal details was the optional provision of an e-mail address. As evident from other studies, the great majority of internet participants are not worried about giving their e-mail addresses, even in cases of political studies (Kaye & Johnson, 1999 in Hewson *et al.*, 2003).

Concerning the ethicality of giving incentives to participants, in accordance to the Revised Ethical guidelines for Educational Research (BERA, 2004) these were used in "good sense" and did not constitute a threat of bias in sampling or participants' respondents. More precisely, two prizes of one-month free subscription to WoW were given as incentives. Considering the large number of WoW subscribers (around 11.5 millions) (see 7.1.2) and the long-lasting subscription to the game of the majority of

participants (see Figure 7.5), the quantity and quality of the prize was not valuable enough to motivate participants to answer merely for winning the prize. Incentives, as promised, were randomly allocated to two gamers that completed the questionnaire by the end of the process of data collection.

A final ethical consideration is whether participants should be allowed to skip questions. The design of the questionnaire did not allow unanswered questions, with the exception of open-ended questions (see 7.3.2 b). The reasons for this choice are identified in the fact that demographic and game-related questions (e.g., frequency of gaming) less likely forced participants give information about private issues. Also, psychological measurements required responses to all items for purposes of future statistical data analysis.

### **7.5 Data analysis**

Demographic information, frequency of gaming, choices in relation to faction, race, class, and realm, game preferences within WoW, and psychological constructs are analysed below.

#### **7.5.1 Demographic information**

The sample of the study consists of 1051 WoW high-end gamers<sup>30</sup>. The great majority of participants are males (96%) and only 4% females. Concerning their age, 80.5% of participants are between 16 and 25 years old. The increase in age is accompanied by a decrease in the number of gamers identified in each age group. In addition, as also indicated by age, most of the gamers are students (59.9%). In contrast to unemployed gamers (8.4%), the percentage of employed gamers is considerably greater (28.7%). This is an indication that despite work obligations, gaming is an activity for which gamers are willing to dedicate time. The participants originated mainly from North

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<sup>30</sup> Study 1 was implemented during June 2007, prior the release of the last expansion package and the increase of the level gap up to level 80. Therefore, high-end gamers participating in this study have reached level 70.

America and Europe, with comparatively smaller percentages from Australia, Asia, South America, and Africa (see Appendix 8). Therefore study's sample is mostly from English speaking world. This could be explained by taking into consideration that the game package is released in English, though recently attempts are made in releasing the game also in other languages (see WoW official website).

### **7.5.2 Frequency of gameplay**

In order to obtain information about the centrality of gaming in participants' daily practices, the frequency and duration of gaming have been examined. The majority of participants (67.6%) plays everyday whereas 23.7%, 5 to 6 days per week (Figure 7.1). The amount of time dedicated, generally, to gaming is considerably large since 79.4% plays more than 3 hours per day (Figure 7.2). In particular for WoW, gameplay per day is more than 2 hours for the great majority of gamers whereas for 48.2% it is more than 4 hours per day (Figure 7.3). Comparing the time dedicated to general gaming with the time explicitly devoted to WoW, it is identified that 70.5% of high-end gamers plays exclusively WoW (Figure 7.4). Finally, the great majority of participants (91.7%) has been playing the game for one or more years (Figure 7.5). This is an indication that WoW is an established habit in gamers' daily practices.

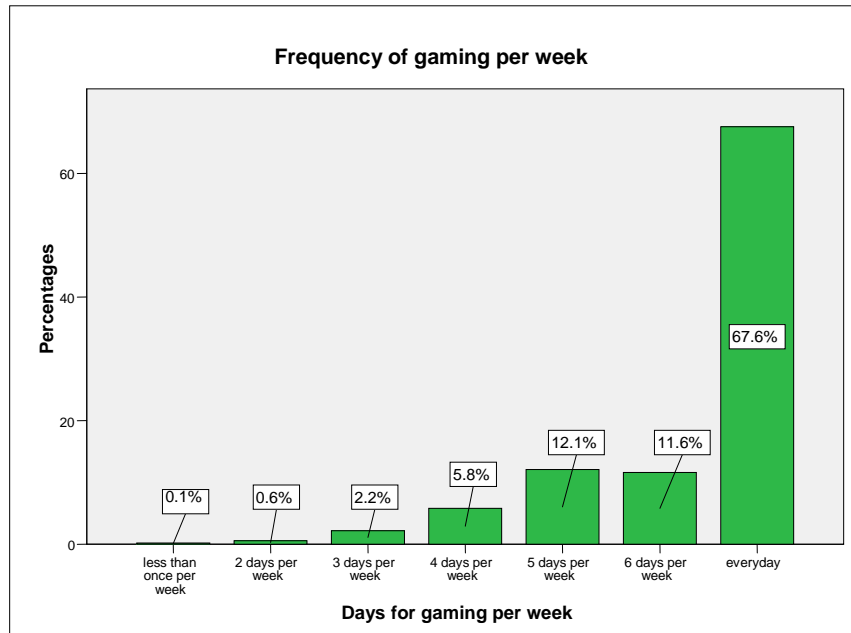


Figure 7.1 Number of days per week dedicated to general gaming

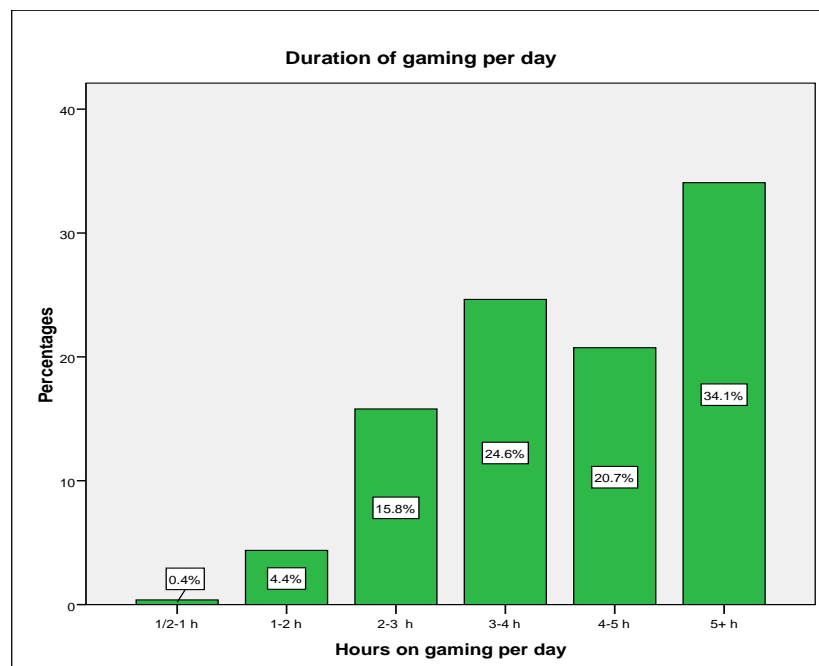


Figure 7.2 Duration of general gaming per day

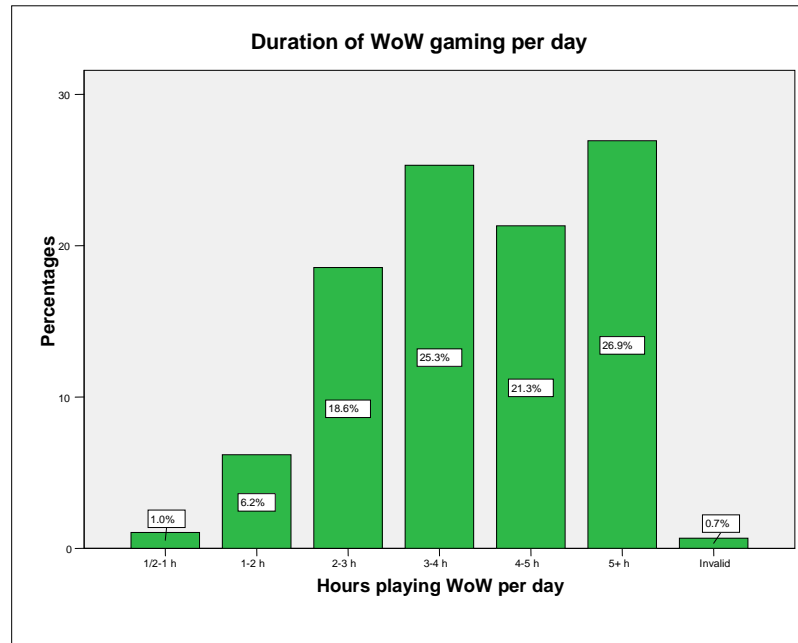


Figure 7.3 Duration of WoW gaming per day

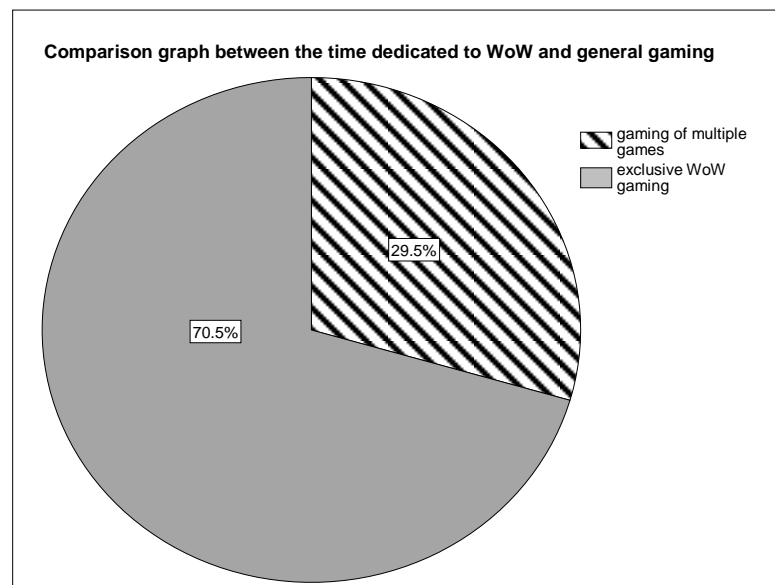


Figure 7.4 Comparison between the overall time dedicated to gaming and specifically WoW

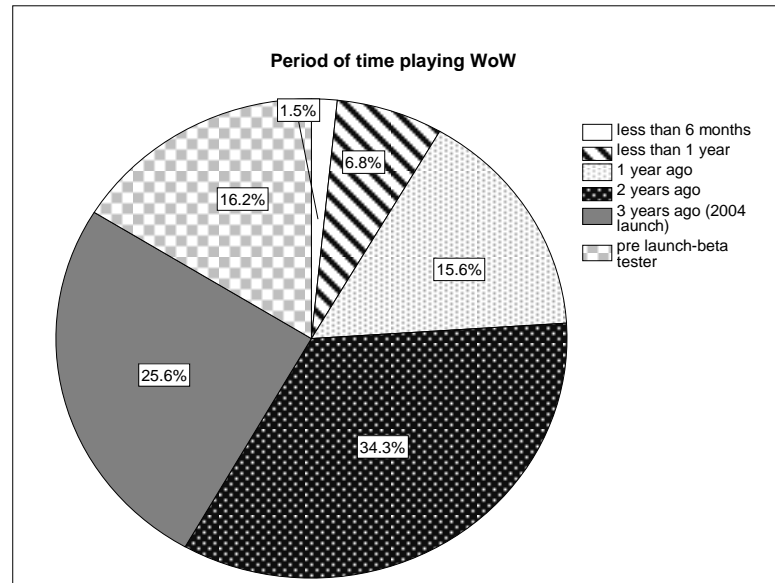


Figure 7.5 Length of involvement with WoW

### 7.5.3 The choice of faction, race, class and realm

A descriptive account of gamers' choices in respect of faction, race, class and realm is presented below. Due to the open-ended nature of questions, missing values were observed. The first aspect concerns the choice of faction (Alliance or Horde). Horde represents the force of evil whereas Alliance the bastion of good. The analysis demonstrated that horde (47.3%) and alliance (50.1%) are almost equally preferred by gamers (see Appendix 9). What is worth illustrating is that 2.6% of gamers have more than one avatar identified in both factions. A percentage of high-end gamers thus create and play with more than one character.

The above findings were consistent with gamers' choice of race. Slight differences were due to double or missing answers. In more detail, the alliance faction consists of dwarfs, gnomes, humans, night elves and draenei while the horde is comprised of orcs, tauren,



trolls, undead and blood elves<sup>31</sup>. Due to the fact that some gamers tend to have more than one character, their responses included more than one race choice or answers such as “various” or “multiple” were identified. Answers indicating races both on Alliance and Horde were grouped as “both factions” whereas the few unspecified answers (i.e., various, multiple) were included in the missing answers. A percentage of 47.7 % chooses races from the Horde faction and a percentage of 50.9% races from the Alliance faction. The most popular race in Horde is undead (19.4%) and in Alliance, humans (18.5%) and night elves (17.2%) (see Appendix 9).

As far as the class of the avatar is concerned, participants’ preferences were less discrete since relatively high percentages are identified in all categories. Slightly higher preferences are observed in mage (15.5%), warrior (12.9%), warlock (12.2%) and rogue (12.1%) (see Appendix 9). These numbers indicate that gamers tend to experience all type of classes.

Concerning the choice of realm, the majority of gamers prefer PvP realms (59.9%) whereas a 30.8% chooses to play on normal (PvE) realms. A small percentage (4.5%) prefers RP realms. Playing on a realm which combines game aspects (i.e., RP-PvP and RP-PvE) seems to be a preference for a minor portion of gamers (i.e., 4.1% both combinations) (see Appendix 9).

### **7.5.4 Game preferences within WoW**

Gamers’ preferences within WoW have been assessed quantitatively through the use of Yee’s Motivation of Play scale (Yee, 2007; 2006a), and qualitatively through a set of short, open-ended questions including self-reported reasons for playing WoW, and justifications around the choice of realm and guild.

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<sup>31</sup> Death knight has been added with the last expansion package and thus is not included in this study.

### a. *Motivations of Play scale*

Yee's Motivation of Play scale assesses gamers' preferences within MMORPGs. The scale items have been modified explicitly for WoW gameplay ( $\alpha=.82$ ) (see Appendix 10). The three overarching motivational components of play are *Achievement* ( $\alpha=.74$ ), *Social* ( $\alpha=.70$ ) and *Immersion* ( $\alpha=.78$ ). The *Achievement* component includes three subcomponents: *advancement*, *mechanics* and *competition*, the *Social* component refers to *socializing*, *relationship* and *teamwork* and finally, the *Immersion* component consists of four subcomponents: *discovery*, *role-playing*, *customization* and *escapism* (see also 7.3.2 b, Chapter 2: 2.6).

The relationships between the three main components and ten subcomponents have been examined through the Pearson correlation coefficient (see Table 7.1). The basic patterns that emerge are presented below. In particular, positive relationships exist between the *Immersion* and *Achievement* factors ( $r=0.130$ ,  $DF=1049$ ,  $p<0.001$ ) and the *Immersion* and *Social* factors ( $r=0.236$ ,  $DF=1049$ ,  $p<0.001$ ). In addition, the *advancement* subcomponent is negatively related to *socializing* ( $r=-0.186$ ) and *teamwork* ( $r=-0.065$ ) and positively related to *escapism* ( $r=0.082$ ) and *relationship* ( $r=0.087$ ,  $DF=1049$ ,  $p<0.001$ ). The *mechanics* subcomponent is positively related to *relationship* ( $r=0.184$ ,  $DF=1049$ ,  $p<0.001$ ). It is not correlated though with *socializing* and *teamwork*. The *competition* subcomponent is negatively related to *socializing* ( $r=-0.107$ ) and *teamwork* ( $r=-0.065$ ).

In respect of the *Social* factor, the *socializing* subcomponent is negatively related to the *Achievement* factor ( $r=-0.139$ ,  $DF=1049$ ,  $p<0.001$ ) and positively related to *escapism* ( $r=0.131$ ,  $DF=1049$ ,  $p<0.001$ ). The *relationship* subcomponent is positively related to *escapism* ( $r=0.219$ ,  $DF=1049$ ,  $p<0.001$ ) and *Achievement* factor ( $r=0.135$ ,  $DF=1049$ ,  $p<0.001$ ). The *teamwork* subcomponent is negatively related to *escapism* ( $r=-0.073$ ,  $DF=1049$ ,  $p<0.05$ ) and the *Achievement* factor ( $r=-0.073$ ,  $DF=1049$ ,  $p<0.05$ ).

Table 7.1

*Interrelation Matrix for Overarching Components and Subcomponents of Motivations of Play scale*

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Advancement	-												
2. Mechanics	.383**	-											
3. Competition	.390**	.172**	-										
4. Socializing	-.186**	.010	-.107**	-									
5. Relationship	.087**	.184**	.039	.394**	-								
6. Teamwork	-.065*	-.028	-.065*	.177**	.107**	-							
7. Discovery	-.020	.103**	-.022	.313**	.209**	-.136**	-						
8. Role-playing	-.030	.112**	-.041	.300**	.232**	-.029	.398**	-					
9. Customization	.192**	.200**	.155**	.131**	.135**	-.079*	.286**	.365**	-				
10. Escapism	.082**	.171**	-.012	.131**	.219**	-.073*	.158**	.274**	.164**	-			
11. Achievement	.845**	.672**	.688**	-.139**	.135**	-.073*	.021	.012	.245**	.106**	-		
12. Social	-.085**	.073*	-.068*	.758**	.694**	.634**	.180**	.237**	.085**	.126**	-.044	-	
13. Immersion	.070*	.208**	.023	.337**	.293**	-.122**	.746**	.753**	.630**	.539**	.130**	.236**	-

\*\* p < .01, \* p < .05.

Note: Underlined are the three overarching components/factors.

Summarizing findings, immersion choices accompany achievement as well as social preferences. Greater preference for advancement is accompanied by greater preference for mechanics, competition, relationships and escapism and lower preference for teamwork and socializing. Moreover, gamers who are highly interested in competition show less interest in socializing and teamwork. A greater concern on mechanics is also related to a higher concern on relationships. As far as the social factor is concerned, the higher the interest in socializing, the lower the interest in achievement and the higher the interest in escapism are. Also, a greater concern on relationships is associated with greater interest in achievement and escapism. Finally, the greater the preference for teamwork is, the lower the interest in achievement and escapism.

### *b. Self-reported reasons for playing WoW*

Participants reported the two main reasons motivating their WoW gameplay. Responses were analysed following content analysis (Gillham, 2000) drawing mainly from Yee's Motivations of Play scale in MMORPGs (2007a). More precisely, after careful reading, responses were categorised using the components identified by Yee. Data were gathered around *Achievement* factor, and in particular, the *advancement* and *competition* subcomponents, and the *Social* factor, specifically *relationship*, *socializing* and *teamwork*, as well as the *escapism* subcomponent. All other responses were analysed through thematic analysis; they were organized in clusters of relevant meaning and reduced into summary categories. These categories are *design-oriented reasons for play* and *boredom*.

Socially-oriented reasons popularize participants' responses. The great majority of participants stated specific social dimensions such as relationships, socializing, teamwork and sense of community as reasons for gameplay.

### Relationships

Real-life friendships constitute a central reason for playing WoW. Gameplay is viewed as a virtual arena for social interaction. Gamers keep in touch and have fun with real-life friends. Instead of meeting physically, in a cafe, bar or house, the game is transformed into a virtual place for meetings and communication. Due to its online character, gaming becomes a convenient space for interaction since it is available continuously and free of space restrictions. As indicated:

*“I often return from work to meet up with my real life friends” (c.<sup>32</sup> 25), “Got friends who play WoW, so I can chat with them while playing” (c. 343), “having a good time with my friends I know from real life” (c. 500), “It’s a fun way to keep in touch with my friends back home while I’m at school.” (c. 978), “To interact with friends on a daily basis. It’s a great way to keep in touch.”(c. 996).*

Real-life friends-gamers influence the choice of specific games by encouraging their friends to start using certain games. This interaction indicates that game issues preoccupy gamers not only during gameplay but also offline, when communicating with real-life friends. As stated:

*“I always wanted to play some MMOs [MMORPGs] and my friend told me that I should buy WoW” (c. 202), “My friends said it was good” (c. 887).*

In addition, gameplay works as a platform for maintaining family bonds. Playing WoW overcomes the restricted boundaries of teenagers’ entertainment and is transformed into a virtual space in which family relationships are practised and distant family members are brought into contact. As argued:

*“It is something my wife and I both enjoy doing together” (c. 644), “Spend time with family that doesn’t live close” (c. 235), “Spend time with my wife and daughter” (c. 879), “a way to interact with my wife when she was in Florida” (c. 929).*

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<sup>32</sup> C. stands for case. It denotes the case number for each participant.

Moreover, the game facilitates the creation of online friendships since constant social interaction enables people who are strangers to become friends. In some cases the game is the only way to have such relationships since meeting physically is not feasible. As gamers stated they play for:

*“Socializing with friends I’ve met in-game” (c. 295), “Because of the friends I’ve made through WoW” (c. 493), “I have lot of guild friends there” (c. 749), “the people I’ve come to meet and consider long distance friends” (c. 951).*

Overall, relationships either refer to the practice of existing friendships and family relationships online or the development and maintenance of exclusively online emotional bonds. Yee’s conceptualization of “relationships” points to meaningful conversations among gamers and support for real-life problems. Straightforward evidence supporting this notion was not collected. However, gamers’ perceptions of gameplay as a means of sustaining friendships imply such a notion.

### **Socializing**

Socializing *per se* constitutes another reason for play. Acting within the game world serves as a means of meeting other people and communicating. This form of social interaction is enabled by the online multiplayer nature of the game, a common interest in gameplay and the sharing of a single game reality. As stated:

*“I play mostly for the interaction; it’s like finding a group of people that have the same interests as yourself. Who wouldn’t want that? (c. 357), “I played to have fun chatting with people like me” (c. 831).*

The online application of the game offers the unique opportunity to socialize with people from all around the world. Such social encounters are free from space and time restrictions since worldwide communication is enabled at any time from the comfort of a chosen physical space. With MMORPGs socializing is not restricted to specific physical places in which people gather at particular moments of the day to socialize. As gamers indicate, they play for:

*“Interaction with people all over the world (c.598), “The social aspect of the game; always someone new to talk to” (c.685), “I have an immune system problem, so MMOs [MMORPGs] help me get the social interaction I crave without exposing myself to serious illness” (c.889).*

### **Teamwork with “guildies”**

Another group of gamers uses descriptions such as “guildies” or “guild mates” to explain the why of gaming. Such references stress the role of group settings in gameplay. In the case of WoW, guild mates constitute the means for in-game progression since teamwork is required to complete end-game goals. Good guild members motivate play since gamers enjoy sessions of meaningful teamwork.

*“The fun of playing with large groups of friendly people” (c.11), “good guildmates” (c.240), “Guild mates from other MMO decided to play WoW” (c.466), “The people in my guild, I really have a good time with them” (c.950).*

The social character of the game and the sharing of common interests create a sense of community which is valued by gamers. As noted, aspects of the game such as guilds and friends enhance the game experience:

*“I enjoy the social community that has developed as a result of my gaming experience.” (c.435), “sense of community with guild and friends” (c.558), “I enjoy the ‘massive’ online community that WoW creates” (c.608).*

### **Achievement: Advancement and Competition**

The sense of progression and *advancement* is another central reason motivating gameplay. Gamers play either to advance their character or progress in end-game content. The in-game advancement is perceived to be similar to the attendance to real-life goals, and self-progression, however without real-life consequences.

*“The main reason I play WoW is endgame progression”. (c. 432), “I find it enjoyable to watch a virtual character grow and become stronger”. (c.262), “You’re always working to improve yourself, much like real life, just with armor and weapons instead of housing and food. (445), “To raid, I am a raid leader and guild master, so my role in WoW helps me to grow as a person to be a leader in the future” (c.791).*

Achievement is often viewed as *competition* among gamers; competing and imposing other gamers, and generally power demonstrations reinforce gameplay. In the case of WoW, to be one of the best gamers implies persistent involvement with the game since periodic updates renew game content requesting further gameplay if it is to maintain a highly advanced avatar.

*“It's the rewarding feeling of having others depend on you” (c. 958), “To be one of the best players” (c. 883), “Owning everyone in pvp” (c.204). “I like the gear competition between players” (c.14).*

### **Design-oriented reasons for play**

Specific game characteristics have also been stressed as reasons for gameplay among which the variety of classes to play with, instant rewards, quest goals, crafting, the game universe, and game mechanics. In addition, great focus was given to the innovative and endless nature of the game during which new content is added contributing to a continuous change. In particular, expansion packs and updates renew gameplay offering a dynamic game experience. The freedom to choose gameplay and experience diverse actions when entering the game world is an attractive possibility for gamers.

*“Particular interest in the end-game content; New content is always being added.” (c.913), “Never-ending” (c.122), “the diversity” (c.127), “I don't have the money to buy new video games and this one never seems to get old” (c.550), “freedom of doing anything and different” (c.955), “I like walking around in a virtual world and be free” (c.503).*

### **Escapism and boredom**

Game preferences as configured up to this point, originate from elements and actions identified inside the game. For some other gamers though, gaming is the result of external conditions, specifically the need to escape from reality or beat boredom. More notably, playing WoW is viewed as an escape from reality and daily problems, a way to relax and forget real-life worries. Being in an imaginative world offers the possibility of experiencing a different, “second” life, an alter ego. Gamers state that:



*“WoW is an escape from everyday life and troubles.” (c.1019), “relaxing from work” (c.707), “Free my mind from day to day life issues” (c. 667), “Since I saw certain Movies on the TV I dream of an alter ego in a fantasy World...WoW gave me that dream!” (c.154).*

Gameplay is also practised when gamers have spare time. For those gamers, playing WoW is not a priority but an interesting activity to attend to when bored. As noted, WoW is:

*“time killing” (c.941), “It gives me something to do when I’m bored” (c.80), “When I’m bored at home it beats reading or watching TV” (c.444), “I play WoW when I don’t have something to do better” (c.330), “What else is there to do if I’m requested by the doctor to stay at home all day?” (c.808).*

Concluding, self-reported reasons for play indicate that the importance of gaming varies between high-end gamers. The responses of gamers demonstrate that WoW is something more than only gameplay; it involves emotional bonds among gamers, it serves self-motivated ends such as in-game progression and becoming one of the best gamers, and it is a way to beat boredom or escape real-life problems. Thus gameplay is distinctly utilized by gamers.

### *c. The choice of realm*

Realms are the different types of servers hosting gameplay. They are categorised in PvP (person versus person), PvE (person versus environment), RP (role-playing), and combinations of realm styles including RP-PvE and RP-PvP. The justifications given by participants for the choice of realm illuminate further game practices.

*PvP realm* is preferred by gamers who are prone to the constant action entailed in the nature of PvP environments. In particular, the unexpected continual risk of attack by other online gamers is perceived to be more exciting than the nature of PvE in which hostile interaction with other gamers is restricted to battlegrounds and arena. Part of the enjoyment of game experience is derived from competing and contrasting skills with other gamers instead of AI (Artificial Intelligence) creatures. In addition, the nature of

PvP contributes to experiencing a variety of emotions such as excitement, the thrill of being surprised by unexpected actions and a constant feeling of danger. Actions promoting these feelings are considered to be alluring and enhance game experience. As stated:

*“PvP, I enjoy playing versus other brains, not Ai's” (c.4), “PvP. Your life's on the line all the time ;)” (c.105), “PvP, Love the danger of being backstabbed at any moment” (c. 458).*

In the PvP servers, competition is expressed in various forms including ganging, killing and imposition on weaker gamers. End-gamers favour “owning” others, disturbing their gameplay and generally demonstrate their skills and power. As indicated, such activities are either implemented in group settings or solitarily.

*“PVP. So I can gank lowbies if I get bored” (c.909), “PvP, I love the ability to be merciless upon weaklings” (c.102), “PvP, I enjoyed the thrill of never knowing when you will get killed when I leveled. I also enjoy going with some friends to gank in the evening” (c.432).*

In contrast to PvP, the *PvE or normal servers* become the choice of gamers not prone to ganging or being ganged while playing. In particular, gamers on PvE servers perceive themselves as more “peaceful” gamers who dislike human combat and the frustration caused by unexpected attacks. They are more focused on gameplay and game purposes rather than disturbing the gaming of others. In addition, PvE servers offer the possibility of choosing when to PvP. This characteristic justifies the choice of PvE by another group of gamers who prefer to customize gameplay rather than having gameplay predefined by game design. Overall, PvE satisfies the preferences of a broader range of gamers.

*“PvE, because I want to play the game, not defend myself against egocentric children” (c.529), “PvE...no tolerance or liking for PvP” (c.594), “Don't like pvp, more of a peaceful player.” (c.944), “PvE, I don't like the idea of being ganked in the open field*

*unless I choose to flag” (c.565), “PvE- Cause I like to pick if I'm in the mood to pvp or not, some nights I just want to quest or farm” (c. 975).*

Similarly, gamers prefer combinations of realm types (i.e., RP-PvE and RP-PvP) due to a greater variety of game actions and the richer game experience experienced in these types of realms. As stated:

*“RP-PvP, because I can taste all aspect of gameplay here” (c.201), “RP-PvP, I have always enjoyed the mature company on RP-realms [...], and I also like the PvP-ruleset. It adds a whole new aspect of danger to the game.” (c.249).*

Finally, role-playing realms constitute the preference of a minority of gamers who are particularly interested in “living” their character and experiencing the game lore in more depth. As indicated:

*“Roleplaying, ‘cause WoW is meant to continue the lore and it’s funny to live in to your char [character].” (c.728).*

In conclusion, the choice of realm is the result of gamers’ particular preferences for play. While PvP is identified with gamers more prone to competition, ganging and imposing, PvE is the preference of gamers less prone to killing and experiencing interruptions of gameplay by other gamers. Role-playing realms is the choice of gamers focused on game lore and living their character. Despite personal preferences for play, a general tendency to choose to play on a specific realm due to friends-gamers has been also observed. In particular, other gamers (real-life and/or online friends) influence the choice of realm since gamers are prone to social play with people they already know. As noted:

*“RP. Because my friend suggested it. I do not Roleplay though.” (c. 828), “pvp is where my boyfriend was already 70” (c.614), “RP. Many friends from an old guild rolled on the server.” (c. 544), “PvE ‘cause a buddy was on this server that got me started on WoW” (c.809).*

### *d. Members of a guild and guild aims*

The great majority of participants argued that they are members of a guild (90.8%). A minor percentage of 5.1 % stated that they do not belong in a guild (4.1% were missing answers). Not being in a guild was either due to a different style of gaming or it was merely a temporal condition.

*“No. I’m more of a PVP Player” (c.305), “Not at the moment, after some drama, I am guildless” (c.963), “no I recently left my guild because I’m xfering servers soon” (c.1028).*

Diversity in game preferences is also observed in guild aims. In general, guilds are progression-oriented, casual/social or combine elements of the former two types of guilds.

### **Progression-oriented guilds**

Progression-oriented guilds aim to succeed game goals such as PvE progression, accumulating arena points, and raiding. They are focused on achievement and advancement.

*“The guild’s aim is to progress to the tougher bosses of the game and down them.” (c. 823), “clearing all the current available content in the game.” (c. 731), “our guild’s aim is doing 25-man raid content. (c. 742), “My guild’s target is to have good Arena ratings” (c. 373).*

Progression-oriented guilds are not only focused on immediate game goals such as completing end-game content. They are also concerned with more personalized long-term aims such as becoming the best guilds in the game or increasing their reputation and fame.

*“Our aim is to continue being the first or second guild (horde or alliance) to complete end game content.” (c. 332), “notorious, gaining more server firsts” (c.793), “becoming the top guild in PVE” (c. 781), “My guild’s aim at the moment is to be one of the leading guilds on the server” (c. 1021).*

Such guilds are perceived to be a convenient way for individual progression since they contribute to avatar's development by obtaining better gear. Grouping is therefore utilized instrumentally in order to satisfy gamers' personal goals.

*"character development through raid encounters to get better gear to survive and defeat the next higher instance" (c.767), "Killing bosses to get better loots" (c.724).*

Some other progression-oriented guilds feature a more social character. Such guilds implement a supportive role within the game. They aim at assisting guild members reach end-game content or level up. They are also concerned with recruiting new members in order to achieve end-game goals.

*"To help our members to explore and get done as much of the game as they have time for (c.799), "our primary goal is helping members reach 70" (c.729), "getting people to 70 to start doing heroic dungeons and then to begin raiding" (c. 541), "My guild aims for PvE and is recruiting new people for raiding with 25 man raids" (c. 392).*

### **Casual/social guilds**

Casual/social guilds are less organized and formal compared to achievement-oriented guilds. Even though they are interested in achievement, guild members are occasionally involved in end-game progression.

*"Member of a casual guild which aims to progress through 10/25-man content at a leisurely pace." (c. 956), "having fun with no stress on doing anything if no one feels like it" (c. 644).*

In other cases, casual guilds accommodate intense social interaction. Guild members either perceive different forms of gameplay as platforms for enjoyment and fun along with other guild mates or they are explicitly focused on socializing.

*"the guild is just a casual guild for people to have fun." (c. 555), "Pvp and fun, it's a friendly chatty guild." (c. 912), "I am in a guild, and our aim at the moment is to have fun with each other while at the same time progressing through the end game instances." (c. 345), "It's a laid back social guild." (c. 777).*

Game practices of casual guilds do not restrict within the game world. Game experience becomes the ignition for out-of-the game social practices. It becomes evident that social reality within and around gameplay is blurred.

*“On Alliance, we're a small social/RP guild and we raid a little. On Horde, I belong to Exit/Dead Actors Society - we exist to make movies with the game footage. We raid so we can clear out exotic locations and make little films. It's more satisfying than going for loot.” (c. 889).*

In other cases, pre-existing relationships between guild members form a different orientation for casual guilds. In particular, such guilds are not oriented toward game goals; their settings serve communication purposes among real-life friends.

*“the guild is built of members from an old hardcore raiding guild from lvl [level] 60. This means that the guild was only made so old guild-members could stay in touch and have a fun place to hang out.” (c. 936), “it's a real-life group of friends; we don't really have a 'goal' as it were. We just group with each other for 5-man instances; we also PVP” (c. 685).*

### **Social and progression oriented guilds**

Other guilds are neither purely social nor advancement oriented. Instead, by accommodating gamers with diverse interests, they attempt to keep a balance between a sense of community and progression.

*“guild's aim is to progress in raid instances while keeping a sense of community” (c. 916), “To progress through the final instances of the game while making friends.” (c. 584), “In a guild of real life friends just to pvp” (c. 398), “We raid and there are some hardcore people and some casual but we try to get as far as possible in 16 hours a week” (c. 851).*

Overall, while quantitative findings offered a general picture of gamers' choices within the game, qualitative accounts produced a more detailed description of actual game preferences. Gamers' responses confirmed the existence of two main preferences for play (i.e., Achievement and Social). They also suggested some further dimensions of

play not captured by the Motivations of Play scale (i.e., innovative gameplay and boredom).

### 7.5.5 Analysis of psychological measurements

Two psychological constructs have been utilized in this study; the trait EI operationalized by TEIQue-SF (alpha=.90) and the basic psychological needs by BPNS (alpha=.85). TEIQue-SF measures primarily global trait EI. For the purposes of this examination, subscale scores on Well-being (alpha=.80), Self-control (alpha=.75), Emotionality (alpha=.69) and Sociability (alpha=.69) were also obtained following recommended scoring processes (see Petrides, 2006). BPNS assesses the three basic psychological needs: the need for Autonomy (alpha=.60), Competence (alpha=.64) and Relatedness (alpha=.77) (see Appendix 10). In the following sections, separate statistical analysis for each instrument is presented. The final section accommodates comparisons between frequency variables, the two psychological scales and the Motivations of Play scale.

#### *a. TEIQue-SF*

The initial statistical analysis of TEIQue-SF aimed at examining the correlations between trait EI and four subscales. Through Pearson correlation coefficient, *Well-being*, *Self-control*, *Emotionality* and *Sociability* have been found to be related with strong correlations of 0.825, 0.727, 0.816 and 0.774 to Trait EI (DF=1049,  $p < 0.001$ ). Similarly, the intercorrelations between the four subscales indicated strong positive relationships (see Table 7.3). These findings confirm that the four subscales measure a single construct, trait EI.

In the next part of analysis, gamers' scores on trait EI have been compared to the *norms*<sup>33</sup>. Gender has been considered for differences in the scores. A sample of N=536 individuals from which Male=321 and Female=215 was compared to the 1051 sample of gamers from which Female=42 and Male=1009. A two-way unrelated ANOVA with Gender (male/female) and Gamers/Norms as factors was conducted on trait EI and each subscale (see Table 7.2). In respect of trait EI, the ANOVA showed a significant effect for Gamers/Norms ( $F(1, 1583)=7.35, p=0.007$ ) but not for Gender ( $F(1, 1583)=1.31, p=0.253, NS$ ) and their interaction ( $F(1, 1583)=4.02, p=0.450, NS$ ). Gamers ( $M=145.65, SD=24.44$ ) present significantly higher scores on trait EI when compared to the norms ( $M=143.07, SD=24.00$ ). Gender does not differentiate scores in trait EI and between the conditions of Gamers/Norms. Therefore, it is indicated that gamers perceive themselves to have greater emotion-related abilities and behavioural dispositions than norms.

Similar results have been obtained in relation to Well-being (a) and Sociability (b). More notably, the effect for Gamers/Norms was statistically significant (a:  $F(1, 1583)=4.44, p=0.035$ , b:  $F(1, 1583)=3.89, p=0.049$ , at  $p<0.05$ ,) whereas no significant effect has been observed in Gender (a:  $F(1, 1583)=0.85, p=0.358, NS$ , b:  $F(1, 1583)=1.09, p=0.297, NS$ ) and their interaction (a:  $F(1, 1583)=3.86, p=0.050, NS$ , b:  $F(1, 1583)=2.70, p=0.100, NS$ ). Norms have significantly lower means in Well-being ( $M=30.38, SD=6.85$ ) and Sociability ( $M=28.91, SD=5.93$ ) compared to Gamers condition ( $M=30.79, SD=6.64, M=29.27, SD=5.97$ ). Thus gamers perceive themselves to be better at social interaction and also feel happy and positive with their lives than norms.

Concerning Emotionality, the two main effects of Gender ( $F(1, 1583)=5.10, p=0.024$ ) and Gamers/Norms ( $F(1, 1583)=17.45, p=0.001$ ) and their interaction ( $F(1, 1583)=12.13, p=0.001$ ) were statistically significant. Female Gamers were more likely to have

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<sup>33</sup> The data set with scores from norms has been obtained from the director of Trait EI research program, Dr. K. V. Petrides.



higher mean scores in Emotionality ( $M=42.33$ ,  $SD=7.47$ ) compared to Female Norms ( $M=36.95$ ,  $SD=8.12$ ), Male Norms ( $M=37.81$ ,  $SD=7.89$ ) and Male Gamers ( $M=38.30$ ,  $SD=7.68$ ). Therefore, female gamers perceive themselves to have a wider range of emotional skills than male gamers and both male and female norms. Finally, no statistically significant effect was yielded for Self-control. Overall, Gamers ( $M=38.46$ ,  $SD=7.71$ ) presented significantly higher scores in Emotionality compared to the Norms ( $M=37.46$ ,  $SD=7.99$ ).

In order to identify whether trait EI relates to game preferences, comparisons were obtained between trait EI and *Motivations of Play scale* (see Table 7.3). Associations were found between global trait EI, Achievement and Social factors. In particular, Achievement was negatively related to trait EI ( $r=-0.087$ ,  $DF=1049$ ,  $p<.001$ ) whereas the Social factor was positively related ( $r=0.153$ ,  $DF=1049$ ,  $p<.001$ ). No relationship was identified in relation to Immersion factor ( $r=-0.043$ ,  $DF=1049$ ,  $p<0.001$ , NS). Lower scores on trait EI were more likely related to higher preference for achievement and lower preference for the social dimension of the game.

More detailed examination of the four subscales revealed that there was a positive relationship between Well-being and the Social factor ( $r=0.131$ ,  $DF=1049$ ,  $p<.001$ ) indicating that higher scorers in Well-being tend to have higher scores on the Social factor. In addition, Self-control was negatively related to Achievement ( $r=-0.111$ ,  $DF=1049$ ,  $p<.001$ ) and Immersion factors ( $r=-0.094$ ,  $DF=1049$ ,  $p<.001$ ). The greater the preference for achievement and immersion is, the lower the scores in Self-control. In respect of Emotionality, a negative relationship with Achievement ( $r=-0.119$ ,  $DF=1049$ ,  $p<.001$ ) and a positive relationship with Social factor ( $r=0.192$ ,  $DF=1049$ ,  $p<.001$ ) were yielded. The lower the scores on Emotionality are, the lower the preference for the social dimension of gaming and the higher the preference for achievement. Finally, a positive relationship was observed between the Social factor and Sociability ( $r=0.094$ ,  $DF=1049$ ,  $p<.001$ ) pointing out that higher scores on Sociability are associated with a

higher preference for the social factor of gaming. Overall, there are small effects between trait EI and preferences for play, indicating that the identified relationships are weak.

### *b. BPNS*

Drawing from Pearson correlation coefficients, the three basic psychological needs were positively correlated with a correlation of  $r=0.57$  between Autonomy and Competence,  $r=0.57$  between Autonomy and Relatedness and  $r=0.57$  between Competence and Relatedness ( $DF= 1049$ ,  $p<.001$ ). The correlation between *TEIQue-SF* and BPNS revealed that the two instruments are positively correlated. High scores in trait EI tend to relate to greater scores in Autonomy ( $r=0.664$ ,  $DF= 1049$ ,  $p<.001$ ), Competence ( $r=0.645$ ,  $DF= 1049$ ,  $p<.001$ ) and Relatedness ( $r=0.632$ ,  $DF= 1049$ ,  $p<.001$ ). Further examinations between the four subscales of *TEIQue-SF* and needs additionally confirmed the above positive relationships (see Table 7.3). It is thus concluded that the two psychological instruments share similarities. In particular, greater self-perceived emotional abilities and dispositions are associated with more satisfied basic psychological needs.

Additional comparisons between needs and the *Motivations of Play scale* indicated that all three needs are positively related to Social factor with Autonomy  $r=0.121$ , Competence  $r=0.139$ , and Relatedness  $r=0.284$  ( $DF=1049$ ,  $p<.001$ ). Also, there was an inverse relationship between Autonomy and Achievement ( $r=-0.095$ ,  $DF=1049$ ,  $p<.001$ ). Relatively weak associations are identified between these variables. No associations were observed in Immersion component ( $r=-0.045$ ,  $DF=1049$ ,  $p<.001$ , NS) (see Table 7.3). These findings suggest that on a needs scale, lower scores in Autonomy, Competence and Relatedness are more likely related to lower preferences on the social dimension of gaming. Additionally, lower scorers on Autonomy tend to have greater scores on Achievement. Regarding the relationships with the *Motivations of Play scale*,

both BPNS and TEIQue-SF share similarities since both constructs are positively related to the Social factor.

*c. Correlations between TEIQue-SF, BPNS, Motivations of Play scale and Frequency of gameplay*

In order to examine whether trait EI, basic psychological needs and motivations of play relate to frequency of gameplay, Pearson correlations were carried out. The frequency variables are the following:

- a. Days per week playing games,*
- b. Hours per day playing games and,*
- c. Hours per day playing WoW.*

Global trait EI was negatively related to all three frequency variables (a:  $r=-0.121$ , b:  $r=-0.162$ , c:  $r=-0.109$ ,  $DF=1049$ ,  $p<.001$ ). Similar relationships were found for Well-being and Emotionality (see Table 7.3). The higher the frequencies for general gameplay and specifically for WoW the lower are the scores on trait EI. Self-control (a:  $r=-0.094$ , b:  $r=-0.087$ ,  $DF=1049$ ,  $p<0.001$ ) and Sociability (a:  $r=-0.061$ ,  $DF=1049$ ,  $p<0.05$ , b:  $r=-0.094$ ,  $DF=1049$ ,  $p<0.001$ ) while negatively correlated to *a*, and *b*, indicated no relationship in respect of *c* variable (a:  $r=-0.054$ , b:  $r=-0.044$ ,  $DF=1049$ ,  $p<.001$ , NS). Higher frequencies for general gameplay tend to be related to lower scores in Self-control and Sociability.

In relation to basic psychological needs, there was an inverse relationship between Autonomy and all frequency variables (a:  $r=-0.071$ ,  $p<.05$ , b:  $r=-0.097$ ,  $p<.001$ , and c:  $r=-0.067$ ,  $p<.05$ ,  $DF=1049$ ). The lower the scores in Autonomy, the higher the game frequencies are. Competence is negatively related to *b* variable ( $r=-0.088$ ,  $DF=1049$ ,  $p<.001$ ) and Relatedness to *b* ( $r=-0.135$ ,  $DF=1049$ ,  $p<.001$ ) and *c* ( $r=-0.108$ ,  $DF=1049$ ,

$p < .001$ ). Concerning Competence, lower scorers are more likely to play games more hours per day whereas lower scorers in Relatedness are more likely both to play games more hours per day and more hours WoW. The small effects between trait EI, basic psychological needs, and frequency variables reveal weak relationships.

Finally, a single motivation of play, Achievement, was found to be positively related to all three frequency variables (a:  $r = 0.206$ , b:  $r = 0.256$ , c:  $r = 0.259$ ,  $DF = 1049$ ,  $p < .001$ ). Greater frequencies for play tend to be related to a greater preference for achievement oriented practices.

Table 7.2

*Comparisons Between the four Groups (Male/Female (a), Norms Gamers (b)) Based on Trait EI and four Subcomponents*

	Male Norms M (SD)	Male Gamers M (SD)	Female Norms M (SD)	Female Gamers M (SD)	F-ratio
Trait EI	143.83 (24.9)	145.38 (24.38)	141.94 (23.88)	152.28 (25.28)	1.31(a) 7.35(b)* 4.02(axb)
Well-being	30.64 (6.87)	30.72 (6.65)	30.00 (6.83)	32.47 (6.25)	0.85(a) 4.44(b)* 3.86(axb)
Self-control	27.26 (5.69)	28.05 (6.08)	27.53 (6.06)	26.64 (6.83)	1.10(a) 0.01(b) 2.40(axb)
Emotionality	37.81 (7.89)	38.30 (7.68)	36.95 (8.12)	42.33 (7.47)	5.10(a)* 17.45(b)** 12.13(axb)*
Sociability	29.04 (5.98)	29.22 (5.96)	28.72 (5.86)	30.66 (6.19)	1.09(a) 3.89(b)* 2.70(axb)

Note. All F values\* significant at  $p < .05$  and F values\*\* significant at  $p < .01$ .

Table 7.3

*Intercorrelations Between Trait EI, four Components, Basic Psychological Needs, Motivations of Play scale and Frequencies*

Variables	1	1.1	1.2	1.3	1.4	2.1	2.2	2.3	3.1	3.2	3.3	4.1	4.2	4.3
<b>1. Trait EI</b>														
1.1 Well-being	.825**	-												
1.2 Self-control	.727**	.488**	-											
1.3 Emotionality	.816**	.541**	.467**	-										
1.4 Sociability	.774**	.539**	.441**	.562**	-									
<b>2. BPN</b>														
2.1 Autonomy	.664**	.611**	.458**	.484**	.519**	-								
2.2 Competence	.645**	.604**	.394**	.464**	.489**	.570**	-							
2.3 Relatedness	.632**	.631**	.356**	.530**	.428**	.570**	.576**	-						
<b>3. Motivations of Play</b>														
3.1 Achievement	-.087**	-.045	-.111**	-.119**	.026	-.095**	.013	-.035	-					
3.2 Social	.153**	.131**	.054	.192**	.094**	.121**	.139**	.284**	-.044	-				
3.3 Immersion	-.043	-.047	-.094**	.015	-.016	-.045	-.012	.047	.130**	.236**	-			
<b>4. Frequencies</b>														
4.1 Days per week	-.121**	-.112**	-.094**	-.113**	-.061*	-.071*	-.045	-.039	.206**	-.025	.039	-		
4.2 Hours per day	-.162**	-.162**	-.087**	-.156**	-.094**	-.097**	-.088**	-.135**	.256**	.001	.035	.387**	-	
4.3 Hours per day WoW	-.109**	-.132**	-.054	-.107**	-.044	-.067*	-.052	-.108**	.259**	-.002	.038	.365**	.874**	-

\* $p < .05$ , \*\* $p < .01$ .

In order to identify the best patterns of variables for predicting duration of WoW gameplay per day and frequency of general gaming (i.e., days per week)<sup>34</sup>, Global trait EI, Emotionality, Sociability, Self-control, Well-being, Autonomy, Competence, Relatedness, Achievement, Social and Immersion factors were entered into a Stepwise regression analysis. Stepwise regression was chosen due to the use of statistical criteria in order to identify the best predictors (see Howitt & Cramer, 2005a; 2005b). In the first regression analysis, Achievement factor was selected for entry into the analysis first and explained 7% of the variance in duration of WoW gaming ( $F_{1, 1042} = 74.66$ ,  $p < 0.001$ ). Well-being was entered second and explained a further 1% ( $F_{1, 1041} = 16.65$ ,  $p < 0.001$ ) (see Table 7.4). Greater duration of WoW gaming per day is associated with greater preference for achievement-oriented practices and lower scores on Well-being (trait EI). The rest of the variables did not predict frequency of gaming.

In a second regression analysis predicting frequency of gaming, Achievement factor was again entered first and explained 4% of the variance ( $F_{1, 1049} = 46.45$ ,  $p < 0.001$ ). Global trait EI was entered second and explained a further 1% ( $F_{1, 1048} = 11.88$ ,  $p < 0.01$ ) (see Table 7.5). More frequent gaming is associated with greater preference for achievement and lower scores in global trait EI. In general more persistent gaming is related to an interest in advancement, competition and mechanics (i.e., Achievement factor) and lower scores on trait EI and specifically Well-being. Overall, it is noted that the R-squared values are small, indicating that no strong models are identified.

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<sup>34</sup> Duration of general gaming was not included in the regression due to overlapping with duration of WoW gaming for the majority of participants (see Figure 7.4).

Table 7.4

Stepwise Regression Analysis of Predictors of Duration of WoW Gaming per day

Variables	<i>b</i>	SE <i>b</i>	$\beta$
Intercept	3.40		
Achievement factor	0.04	0.00	0.25*
Well being (trait EI)	-0.02	0.00	-0.12*

Note.  $R^2 = .08$  ( $N = 1044$ ,  $p < .001$ ); \* $p < .001$

Table 7.5

Stepwise Regression Analysis of Predictors of Frequency of General Gaming

Variables	<i>b</i>	SE <i>b</i>	$\beta$
Intercept	5.84		
Achievement factor	0.03	0.00	0.20*
Global trait EI	-0.00	0.00	-0.10**

Note.  $R^2 = .05$  ( $N = 1051$ ,  $p < .01$ ); \* $p < .001$ , \*\* $p < .01$

### **7.6 Discussion of the findings**

The research objectives of Study 1 were first, to examine the nature of game appropriation within WoW and second, to examine individual differences in Trait EI and basic psychological needs in relation to game preferences, frequency of gaming and the norms (for trait EI). The first section is dedicated to the nature of game appropriation. The second analyses individual differences and gaming. The final section discusses the implications of the study in respect of GAM II.

#### **7.6.1 The nature of game appropriation within WoW**

A variety of practices are identified within WoW advocating that the nature of game appropriation is diverse. Actual game uses within gameplay are either focused on achievement or social interaction; in-game choices are motivated by a desire to progress and compete in gaming or socialize and implement group work. These preferences are mirrored in the purposes of the guilds, the choice of realm and the reasons gamers tend to game. In the following paragraphs gamers' practices are explicitly analysed.

Achievement-oriented gamers are particularly concerned with their characters' advancement; they are focused on levelling up, acquiring rare items, accumulating money and resources and becoming well-known in the game. The sense of progression becomes a central reason that motivates gameplay. It resembles real-life goal attendance with the advantage of having no real-life consequences. In addition they are prone to competition; they are more interested in dominating, killing and/or irritating other gamers. Competition also entails a constant comparison with other gamers in terms of skills and equipment, the aim of which is to become the best gamer. Periodic updates and expansion packages sustain the desire to progress by offering to the gamer new challenges to be met if s/he is to remain one of the best gamers within the game world. These gamers are more often identified in PvP realms within which they are allowed to "gang" and "own" less powerful gamers. In particular, they tend to disturb other gamers' gameplay in order to demonstrate their skills and power. Such activities are either implemented by single gamers or groups of gamers and they are viewed as enhancements of game experience as they offer excitement, and greater fun. The hostile encounters between gamers enabled in PvP



servers are perceived to be far more interesting than comparing skills to computer creatures.

Gamers prone to achievement are more likely to be interested in having a character as optimized as possible in its role and profession. Therefore, they become concerned with game mechanisms and rules and may use game templates to build their character's advancement. In general, they spend time customizing their character; they take care with its armour and outfit and aim at developing a character that differs from others. Furthermore, they are part of serious guilds that are focused in achieving the game goals including, for instance, raiding and an increase in arena rating. Such guilds are more likely to be concerned with their reputation and becoming one of the best game guilds. Though highly interested in the aims of the game, some of these guilds exhibit a distinct form of sociality; they assist other gamers reach high-end gameplay and search for new members to recruit in order to contribute to the implementation of guild's aims. Serious guilds comprise a convenient means for individual progression; guild members are able to succeed in hard game aims, obtain better rewards and thus become more powerful.

The greater the preference for advancing or being in competition with other gamers the less is the preoccupation with socializing and teamwork. Even though such gamers are members of serious guilds and tend to pay attention to group aims, teamwork *per se* does not work motivationally since working in a group is not perceived to be enjoyable. The ultimate aim is to have a self-sufficient character that can solo well. It is thus revealed that guilds and generally group settings are used instrumentally in order to achieve personal ends.

Another group of gamers is less concerned with achievement and more prone to the social dimension of gameplay. Socially-oriented gamers are particularly interested in socializing; knowing and helping other gamers, chatting and making quests with them. Social interaction is enabled by the online multiplayer orientation of the game and facilitated by the sharing of common game interests and game reality. Instead of soloing in the game, socially-prone gamers enjoy teamwork. Due to their focus on the game's social aspect, being in a serious raid-oriented guild is not their preference. Friendly and casual guilds are mostly their choice. Such guilds are less

formal and organized compare to serious guilds. Guild members are occasionally involved in end-game progression since they foremost consider guild settings as a platform for social interaction, communication and enjoyment along with their “guildies”. Being a member of a team enhances overall game experience since the sharing of game goals and the entertaining conditions within the group create a sense of community valued by gamers. Gamers particularly interested in socializing are more likely exploring the fantasy world, discovering new areas and items, and role-playing (i.e., trying out new roles and personalities and making up stories for their characters). Finally, despite their more social orientation, they are highly interested in game mechanics. The specific interest is explained if considering that for end-gamers, gameplay is identified with enhancing avatar’s skills and acquiring distinct equipment. Therefore the interest in precise numbers and percentages and generally the character’s optimization is a natural consequence of end-gaming.

Socially oriented gamers are more likely identified in PvE and combinations of servers (RP-PvP, RP-PvE) as they dislike human combat and unexpected attacks that disturb their gameplay. They are involved in PvP only when they choose it. Also, such servers, by entailing a greater variety of actions, offer a richer game experience capturing the interest of gamers.

Achievement and socially oriented gamers though concerned with different game aspects present a common interest in friendships. Gamers are prone to meaningful conversations and communication around personal issues with specific others and offer or receive support for real-life problems. In particular, being interested in relationships is associated with socially-prone gamers since their game practices entail socializing and communication. For achievement-oriented gamers who are less concerned with socializing this preference is rather obscure. Online relationships require socializing in order to develop. By reaching end-game, gamers through continuous social interaction in relation to game issues more likely ended up having deeper relationships. At the highest game levels, a different form of sociality develops reflected on the creation of meaningful relationships. It is also noted that highly competitive gamers do not present any interest or disinterest in relationships. The absence of any relation between competition and relationships indicates that

gameplay entailing imposition, killing and annoying others more likely postulates rival instead of friendly relationships.

### **Around the game sociality: Initial insights**

A diverse set of game uses is identified within gameplay. Combining quantitative and qualitative evidence, the variability of gamers' preferences has been captured. In terms of the quantitative dimension of analysis, the instrument deployed failed to illuminate a specific dimension of gaming. More notably, the Relationship component as measured by the Motivations of Play scale is not clearly defined. While two of the items refer explicitly to "online friends", the third item refers to "other players" (item 1: Find yourself having meaningful conversations with *other players*, item 2: Talk to your *online friends* about your personal issues, item 3: Your *online friends* have offered you support when you had a real life problem). Therefore it is not clear whether the relationship subcomponent assesses relationships exclusively developed online and/or real-life friendships practised online. Qualitative analysis of gamers' responses gave more detailed information illuminating this issue. More specifically, gameplay is a platform for not only spending time with online friends but also a virtual arena hosting real-life relationships. Instead of meeting physically, real-life friends tend to utilize gameplay in order to interact and communicate. Similarly, family bonds are practised online; gameplay becomes another social activity to implement with family members especially when individuals cannot physically meet. Real-life relationships and/or existing online friendships enforce game participation. The gamers enter the game in order to spend time, communicate and hang out in "a fun place" along with significant others (i.e., friend and/or family). Real-life friendships also influence in-game choices. The choice of realm or guild can result from the desire to play with existing real-life friends (see Chapter 8, detailed examination of social praxis).

Commenting further on the Motivations of Play scale, it is observed that all subcomponents, excluding Escapism, refer to motivations/preferences for play emerging from inside the game world, for instance getting to know other gamers, improving the avatar, and discovering new content. Escapism, on the other hand, comprises a source of motivation originated from out-of-the game and the actual life

of the gamer. Gameplay is practised as an escape from reality, avoidance of real-life problems and relaxation. This source of motivation is related to certain game preferences. In particular, gamers prone to escapism are more interested in achievement, socializing and relationships, discovery, customization, and role-playing. Gameplay is an imaginative possibility for experiencing an alter ego, a different second life. Gamers less motivated by escapism are more interested in teamwork. Similarly, boredom comprises another out-of-the-game motivation for play. Gameplay is implemented in order to beat boredom. Finally, another self-reported reason for play was the innovative and endless nature of gameplay which is constantly changing. In general, sources of motivation are identified both within the game; i.e., the actual choices for play and around the game i.e., the real-life and offline practices of the gamer.

Overall, gameplay accommodates diverse, emotionally-driven game uses. For a group of gamers the game overcomes traditional perceptions of play to become the means for keeping in touch with online and/or real-life friends and family. For others it provides the opportunity to experience a feeling of progression and advancement with no real-life consequences. Some others viewed it as an escape from real-life problems, a source of relaxation or a way to remain occupied when bored. Similar game uses are also observed in the reasons gamers participate in guilds. Guilds are a way to progress to high-end game content, acquire rare items and become more powerful, an arena within which socialization and friendly teamwork is implemented, and a space to practise real-life friendships. Finally, relationships are a central element of game use since they motivate gaming, engage new gamers and sustain game involvement.

### **7.6.2 Individual differences**

Trait EI and basic psychological needs are the two psychological dimensions examined within this study. Gamers with higher trait EI are more likely to have higher scores on the needs for autonomy, competence and relatedness. High perceptions on trait EI are accompanied by high perceptions on basic needs. For example, the strong correlation between Emotionality and Relatedness points out that those individuals who perceive themselves to demonstrate a wide range of

emotion-related skills and sustain close emotional bonds also perceive themselves to have satisfied the need for relatedness to a greater degree. Also, the moderate to strong correlation between Self-control and Autonomy stresses that the higher the perceived autonomy is the greatest the perception of control over urges and desires. Finally, the strong correlation between Sociability and Autonomy reveals that perceived autonomy is associated with how efficient individuals believe themselves to be as agents in various social contexts. The associations between trait EI and basic needs confirm the construct validity of the former; trait EI is positively related to basic needs, the satisfaction of which demonstrates well-being and happiness (see Chapter 3).

Overall, the higher the scores on these two psychological constructs, the greater is the indication of individuals' healthy functioning. In particular, the stronger associations are observed between Well-being (trait EI) and the three needs, indicating that those perceiving themselves to be happy and more positive are those individuals who perceive that their needs are more satisfied.

In respect of game preferences, evidence demonstrates that both trait EI and basic needs are associated with gamers' choices for play. Gamers with lower scores on trait EI are more prone to activities that involve achievement (i.e., advancement, competition and game mechanics). Conversely, gamers with higher trait EI demonstrate greater preference for socializing, teamwork and relationships. A more detailed examination of the associations between trait EI and game preferences indicates that correlations exist between Emotionality and achievement and social aspects of gaming; higher scorers on Emotionality are more prone to socializing, teamwork and relationships whereas lower scorers are more interested in achievement-oriented activities. In terms of Self-control, gamers with lower levels of self-control are more likely to be involved in immersive and achievement activities. Finally, considering that Well-being is a score highly dependent on the three other subscales of trait EI (i.e., Self-control, Emotionality and Sociability), it has been indicated that gamers who perceive themselves to be happy people are those gamers highly interested in socializing, teamwork and relationships.

Therefore it is revealed that gamers perceive themselves as able to develop and sustain close relationships and who are efficient within social contexts, are more prone to the social dimension of the game which entails socializing, teamwork and creation of meaningful relationships. On the other hand, those gamers who believe they hardly recognize their internal emotional states, more likely have less rewarding relationships and are more reserved within social conditions, are less prone to the social aspect of the game and more focused on activities through which they can advance, and compete with others. In addition, gamers more prone towards achievement and immersion (including discovering new things, role-playing, customization and play as an escape from reality and relaxation) perceive themselves to be more stressed and inclined to impulsive behaviour. Overall, gamers' perceptions around their emotional abilities and dispositions are mirrored in their game preferences; higher scorers on trait EI tend to choose socially-oriented in-game practices whereas lower scorers are more achievement oriented.

In accordance with Trait EI, the greater the perceived satisfaction of the basic needs, the more prone the gamers are to social aspects of gaming including socializing, teamwork and relationships. In addition, gamers with lower scores on autonomy are also more interested in achievement. Greater satisfaction of psychological needs indicates that individuals believe they are free to determine meaningful goals as their environment offers multiple opportunities for choice (autonomy), they feel more effective when doing an activity since they are provided with situations of optimal challenge (competence) and they feel they have meaningful relationships with individuals and organizations or groups (relatedness). In respect of in-game preferences, it is revealed that gamers who perceive to have their needs more satisfied and thus feel happier with their lives are more prone to socializing, teamwork and relationships. Lower scorers on autonomy are also more interested in advancement, competition and game mechanics.

Further analysis of gamers' practices and needs satisfaction revealed that lower scorers on autonomy choose game practices that offer opportunities for satisfying the corresponding need such as individual choice of tasks and goals and avatar's self-efficacy. The perceived lack of choice and determination of personally meaningful goals in real-life is accompanied by a high preference for game activities

in which self-determination and freedom are pronounced, for instance becoming powerful and dominating other gamers. In respect of the need for relatedness, the positive association between the specific need and the social aspects of gaming suggests that lower preference for socializing, teamwork and relationships is demonstrated by lower scorers on relatedness. A closer consideration of game preferences however reveals that gamers less interested in the social aspect of gameplay (and more prone to achievement) are actually not concerned with socializing and teamwork but highly interested in personal relationships with other gamers (online or real-life friends). Thus the lower preference on the social component of gameplay is more likely due to gamers' dislike of socializing *per se* and teamwork and not due to disinterest in having intimate relationships. Lower scorers on relatedness thus are more likely prone to game practices that can satisfy this need such as maintaining meaningful relationships. In terms of competence, as already discussed in Chapter 3, the structure of the game is such that gamers' skills can match with challenges and positive feedback can be immediately received. Therefore the game can offer opportunities for competence feedback and potentially fulfil the respective need. However, based on the findings of this study, no argument can be formed in respect of competence and game preferences since the scale measuring game preferences did not include items related to gamers' skills and in-game challenges.

In terms of frequency and duration of WoW gaming, gamers with greater interest in achievement-oriented practices and lower scores on trait EI are found to be more persistent gamers. Achievement practices, as evident in gamers' responses, request constant gaming in order for the gamer to advance further and compete with other gamers. They are also more time-consuming as considerable time is needed for their completion. Additionally, gamers who have lower scores on emotion-related abilities and dispositions are associated with more frequent gaming. In particular, gamers with lower scores on well-being and thus lower self-regard and feelings of happiness in their real lives devote more time per day in WoW gaming.

Overall, it is acknowledged that the associations between *game preferences*, *frequency variables*, and the two *psychological constructs* were weak. Therefore, it is suggested that gamers' preferences for play as well as frequency of gaming are

primarily predicted by some other factor, such as social interaction. This issue is further investigated in Study 2 (see Chapter 8).

Finally, scores on trait EI have been compared to the norms, taking into account gender differences. Gender differences were revealed in terms of Emotionality; female gamers perceive themselves as having a wider range of emotion-related abilities and particularly are more able to sustain close relationships than female norms, and both male gamers and male norms. In addition, gamers have greater scorers on trait EI than norms. This finding can be explained by the fact that the gamers examined in this study are involved with a game where constant social interactions and communication are required for play. Considering also the within-gamers analysis of trait EI, specifically the preferences of lower scorers on trait EI toward achievement-oriented practices whereas higher scorers are more prone to social aspects, it is concluded that gamers' emotion-related self-perceptions are less likely to be overestimated as these correspond to their in-game practices.

### **7.6.3 Development of GAM III**

Study 1 comprises the first large-scale empirical examination for the iterative development of GAM II. In order to understand game appropriation it is necessary to focus on a single game since each game is differently appropriated by gamers (see Chapter 6). By analysing WoW, a prominent and widely used MMORPG, the aim is to detail the nature and process of game appropriation for online multiplayer games. In the following sections the factors determining game appropriation, GAM's functionality and modifications in relation to GAM II are detailed. This chapter concludes by presenting an iterative version of the GAM (GAM III) and by outlining aspects of the GAM addressed in Study 2 (see Chapter 8).

#### *a. The factors defining game appropriation*

Open-ended, flexible game designs are the platforms upon which game appropriation is implemented. The multiplicity of proposed game structures as well as their collective negotiation by gamers facilitates the process of game appropriation by accommodating the preferences of a diverse group of gamers. Game choices include, among others, avatars' advancement, dominating and killing other gamers, examining game mechanics, socializing, implementing teamwork,



communicating about personal issues with significant others, discovering new game content, role-playing, and customizing the avatar. These game structures are constantly updated by game designers and the release of periodic updates and expansion packs. The various possibilities for play are underpinned by social praxis. Collaboration between gamers is needed in order to achieve certain game aims. Also, gamers' co-presence within a single game space favours the creation of meaningful relationships. Identifying gamers inside a guild (i.e., a communal organization of gamers) is a social norm for end-gaming. Moreover, important emotional relationships either exclusively online or with real-life friends/co-gamers are sustained or practised during gameplay. These emotional bonds comprise the most advanced demonstration of sociality in the sense that gamers communicate about personal issues and offer and receive support. As a result of game design, gaming features innovative game practices and diversity.

Another contributing factor in game appropriation is social praxis. While social play is universally observed inside the game world, it is expressed in multiple forms. In general social interaction is distinguished into *instrumental sociality* and *pure social interaction* (see Figure 7.6). The former points to achievement-oriented gamers who are highly concerned with in-game progression, avatar's optimization, and competition (see 7.6.1). For such gamers social play is identified with collaboration as a means to succeed and progress; teamwork is not perceived as an enjoyable game possibility but as the enabling agent for receiving unique rewards and to progress even further in the game. The latter form of sociality refers to socially-oriented gamers who play due to social interaction *per se* (see also 7.6.1). Even though they are occasionally involved in end-game progression, they are mainly involved in gameplay in order to socialize, communicate and have fun with other gamers. In terms of actual game aims, both orientations present interest in game mechanics. High-end gameplay is all about improving the avatar and acquiring distinct rewards. Thus interest in precise numbers and percentages and avatar's optimization become prerequisite for the implementation of gaming.

The aforementioned design qualities -flexibility, multiple choices for play, multiplayer orientation, group play and updates- as well as the definition of in-game relationships by the gamer - purely friendly, instrumentally friendly or rival and

competitive - promote constant change during gameplay indicating that the nature of game appropriation is diverse, social and emotional. In addition, the contribution of the gamer as an individual is critical in the nature of game appropriation. The gamer has the final decision on how the game is to be appropriated. What is indicated is that different gamers appropriate the game differently. Why certain game choices are made and not others, is addressed by analysing gamers' psychological characteristics. More notably, individual differences in trait EI and basic psychological needs underpin game preferences and consequently game appropriation. Gamers who have greater trait EI are more prone to the social dimension of the game whereas gamers with lower trait EI are more concerned with instrumental sociality and achievement-oriented practices. Also, stressful and impulsive gamers (self-control) are more prone to achievement and immersive practices.

In addition, when the basic needs for autonomy, competence, and relatedness are perceived to be more satisfied, gamers are more concerned with sociality *per se* (i.e., socializing, teamwork and relationships). In respect of autonomy and relatedness, lower scorers demonstrate a preference for activities that offer opportunities for satisfying these needs. More notably, gamers perceived to have lower scores on autonomy are prone to achievement oriented activities. These activities can offer opportunities for autonomy support by allowing the gamer to determine game actions individually. In terms of relatedness, a general concern for online meaningful relationships and real-life friends-gamers is expressed. In general, those gamers who perceive themselves to be less satisfied or happy with their real-life also perceive themselves as having lower trait EI and are more prone to instrumental uses of sociality.

### *b. GAM's functionality*

Game appropriation is a diverse, highly social process. It is initiated by the interaction between the gamer and open-ended, flexible game designs that afford various forms of gameplay (see Figure 7.6). Such games are in constant change due to updates/expansion packages and the fact that the gamers are the agents negotiating and defining actual gameplay. By demonstrating in-game variability and

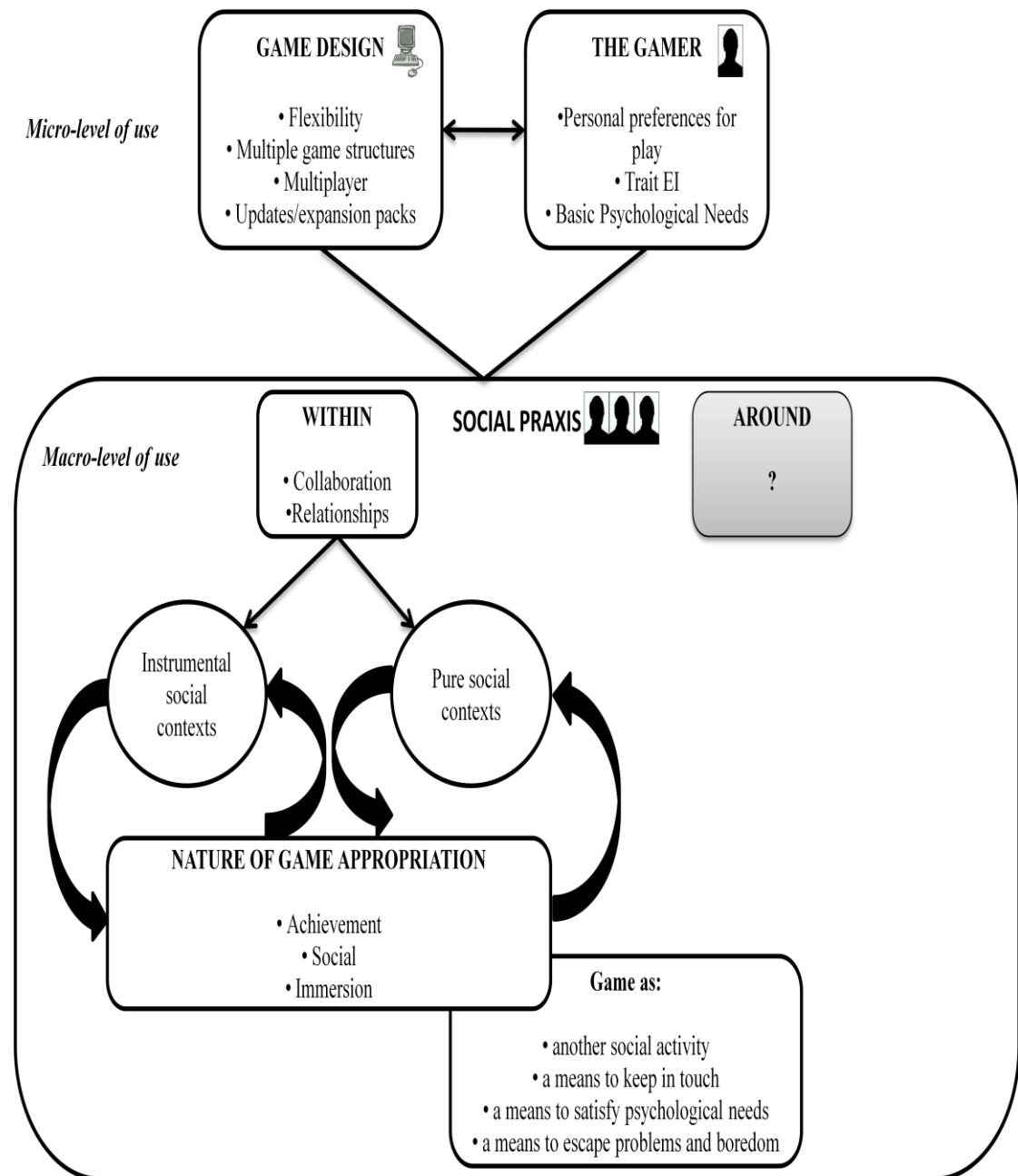
innovativeness they accommodate a diverse sample of gamers in terms of personal preferences for play facilitating the process of appropriation. This is the micro-level of use.

Game appropriation becomes more complex and collective in the macro-level of use during which multiple social agents are involved. Actual gameplay is implemented only when gamers collaboratively negotiate and generate distinct forms of play. Social praxis underpins gamers' practices. Sociality however is not homogeneous; multiple forms of social interaction are expressed indicating that the nature of game appropriation is characterized by iterative cycles of use. The shaping of in-game sociality is associated with gamers' individual differences in trait EI and basic psychological needs. These characteristics reinforce achievement or socially oriented practices. For example, actual gameplay depends on whether gamers define rival or friendly relationships inside the game world or whether they play in order to socialize or to achieve certain game aims. The social outcome of appropriation is thus contextual and constantly re-iterated.

As a process, game appropriation is a developmental, emotionally-driven continuum within which gamers are identified in various phases of use. The frequency of gaming indicates the depth of the game's integration in gamers' daily practices. Overall the process of appropriation for high-end gamers is highly progressed as these gamers are persistently involved in gaming, devoting considerable time daily on this activity. The process of appropriation is facilitated by specific game preferences; achievement-oriented gaming and a broader focus on progression are more time consuming compared to socially-oriented actions. In addition, the presence and availability of certain others (e.g., friend-gamers) reinforces gaming. Finally, gamers with lower scores on trait EI are more frequently involved in gaming, facilitating the appropriation process.

Overall, the functionality of GAM III points out that the gamer as an individual is the agent shaping the final outcome of the process of game appropriation, i.e., the nature of game appropriation. While it is foremost collective and diverse, the actual social uses are determined by the gamer, and in particular, trait EI and basic psychological needs. In addition, the gamer defines how the game *per se* is utilized.

Gaming is not only perceived as an entertaining play activity. It is viewed as a virtual arena to keep in touch with real-life friends and family, an innovative social activity, a potential platform for satisfying basic psychological needs, a way to escape real-life problems and boredom and relax. The emotionally-oriented nature of game experience is thus emphasized.



**Grey box: further investigation is required (see Chapter 8)**

Figure 7.6 GAM III: The process and nature of game appropriation

### *c. New elements of GAM III*

Drawing from Study 1, GAM's main components, as well as the nature and process of game appropriation have been empirically elaborated. Game appropriation requires the synergy of the gamer, game design and social praxis in order to be implemented. Foremost it is inherently social and diverse. The various forms of sociality point to the creation of multiple social contexts; due to intense social interaction, collective negotiations of gameplay and design updates, innovative game uses constantly emerge constructing different contexts.

In terms of the process of appropriation, it resembles a developmental continuum. Gamers are identified in different phases of use reinforced by individual differences in trait EI, time-consuming game choices and the presence of certain other gamers. The non-investigated dimensions of GAM II addressed by Study 1 were the role of updates and expansion packages, individual differences underlying game preferences and the nature of game appropriation within gameplay. Though initial insights were also collected in this study, gamers' practices surrounding actual gameplay is the dimension of GAM II requiring further examination. As suggested in GAM II, social contexts are also identified out of the game, between co-located gamers and post-play game-related communication. The research objectives of Study 2 (see Chapter 8) are to detail the nature of game appropriation both within and around actual gameplay and also define the relationships between the main components of GAM.

### **7.7 Concluding remarks**

GAM II has been elaborated through a large-scale online survey with WoW high-end gamers. Evidence advocates that game appropriation is simultaneously social and individual-specific; social due to diverse social contexts created inside the game world and individual-specific due to the gamer as the determinant of the final social outcome of game appropriation. The factors reinforcing the process and nature of game appropriation are game design, social praxis and the gamer as an individual. In the next chapter, Study 2 is described. Data from in-depth interviews address unanswered research questions and assist in completing the second iteration of the GAM.

## Chapter 8

# GAM IV and the case of World of Warcraft

## (Study 2)

Chapter 8 focuses on World of Warcraft (WoW) gamers. The aim is to accomplish the iterative development of GAM through the collection of qualitative data. The empirical study is comprised of in-depth interviews. The research objectives are to detail the nature of game appropriation *within* and *around* actual gameplay and establish the relationships between the main components of GAM (i.e., game design, social praxis and the gamer as an individual) by determining their role in game appropriation. With Study 2, the examination of game appropriation for MMORPGs concludes with a coherent picture of the process and nature of game appropriation. Also, GAM IV is presented.

### 8.1 Rationale

In Chapter 7, findings from an online survey partially elaborated GAM II (see Chapter 6) by answering specific research questions. In particular, the nature of game appropriation *within* actual gameplay as well as gamers' individual differences in trait EI and basic psychological needs have been empirically examined. In order to complete GAM's iterative development, this chapter describes the nature of game appropriation *within* and *around* actual gameplay and also identifies the relationship between the main components of the GAM (i.e., game design, social praxis and the gamer). Study 2 is focused on WoW gamers and their game experiences as captured through in-depth interviews. A new sample of WoW gamers (not necessarily high-end gamers) (see 8.3) were interviewed either face-to-face or via e-mail. In the following sections, the methodological design of Study 2 is detailed, followed by a data analysis and discussion of these findings.

## 8.2 Methodological design of Study 2

### 8.2.1 Aim and research questions

The aim of Study 2 is to produce a multi-faceted account on the nature of game appropriation by exploring social praxis both within and around gameplay as well as the relationship between the two. The analysis of social interaction within the game as defined in Chapter 7 is re-examined using insights from Study 2.

*RQ2: What does the social nature of gaming look like, in relation to game appropriation within and around MMORPG gameplay?*

In addition, Study 2 aims to define how game design, social praxis and the gamer as an individual, contribute to game appropriation. RQ3 is addressed by combining evidence from both Study 1 and 2. In this chapter, RQ3 is discussed counting insights from only Study 2 (see Chapter 9 for a general discussion on this issue).

*RQ3: What is the relationship between the technological, social and psychological characteristics of game appropriation? What contributions do social praxis, game design and individual differences make to game appropriation?*

The method utilized for data collection was interviews. In-depth data sets contribute to constructing a more detailed picture of game appropriation. A bottom up approach allows investigation of the subjective reality of the single gamer and the complexity of game appropriation. The dynamic nature of gaming as identified around gameplay, mainly in co-located forms of play as well as within actual gameplay is thus better understood by considering the negotiations between co-located gamers and their impact on actual gameplay. By adopting an inductive method of data collection, the contextual nature of game appropriation is acknowledged (see Chapter 6).

### 8.2.2 Instruments used for data collection

In order to produce a rich qualitative account around gamers' practices as formed both within and around actual gameplay, in-depth interviews were deployed. However, prior to contacting the interviews and in order to get a perspective on gamers' practices as identified *around* gameplay, two observations were implemented. The aim of observations was to develop interview questions that were drawn from the data collected. Due to the lack of knowledge of the topic and the dynamic of the situation, the two observations were unstructured. The initial observation concerned two co-located male gamers playing WoW in domestic conditions. Gamers' behaviour was recorded. Notes on gamers' interaction were devised during the observation, producing a descriptive narrative of the scenario. In order to avoid observer's bias in recording (Kumar, 2005), the two gamers at the completion of the observation were asked to discuss and clarify issues the researcher had observed. The data collected offered a first-hand account of the gameplay of co-located gamers and how this relates to actual gameplay. The first exploratory observation led to the formation of respective interview questions and the creation of an interview schedule (see Appendix 4) that addressed the study's research questions. The interview schedule was piloted during the second observation. In particular, a remote male gamer, while actually playing the game was questioned about his activities in the game at that specific moment. He also answered additional interview questions.

In order to address research questions, semi-structured interviews with WoW gamers were conducted. Interviews were implemented either on face-to-face basis or via e-mails. Six interviews followed the standard method of interviewing where the researcher met in with each interviewee and conducted the interview personally. An interview schedule (see Appendix 4) was prepared and used during the interview. The questions included in the interview schedule concerned issues such as the frequency of WoW gaming, the creation of one or more avatars in the game, gaming with other gamers within a single physical space and gameplay with friends and family. The specific interview schedule was also used for preparing e-mail



interviews. Furthermore, e-mail interviews were structured in the form of a questionnaire with open-ended questions, while interview questions were written in sequence in a word document followed up by a blank space for responses. At the beginning of the document, the issues of confidentiality, anonymity and use of data strictly for research purposes were clearly stated by the researcher. Any additional queries could be reported via e-mail to the researcher. Seven e-mail interviews had been conducted. The e-mail interview was piloted in order to test the understanding of the interview questions. Overall, 13 interviews have been conducted.

### **8.2.3 The process of data collection**

Six interviews were conducted in person. The researcher arranged a convenient time and place to meet with each participant to conduct the interview. The process of interviewing commenced with debriefing the aim of the study and conveying information concerning ethical issues and the interviewee's right to withdraw from the interview. A semi-structured interview schedule was developed and piloted beforehand to use during the interview. Interview questions were formed based on study's research questions and observation data (see 8.2.2). During the process of interviewing, additional questions were made to clarify responses and to generate more detailed data. Each interview was tape-recorded (see a sample interview, Appendix 5).

E-mail interviews were devised based on the interview schedule used in face-to-face interviews. A Word Document with a set of questions was send as attachment to the e-mail address of each participant. The e-mail requested participants to open the attached file and answer the questions with as much detail as possible. Also, the researcher indicated that responses should be send back as attachment to the same e-mail address. Responses were received within ten days (see a sample e-mail interview, Appendix 6).

### 8.3 Sampling

The research involved a convenience sample of 13 WoW gamers. Those gamers were available to the researcher and contacted either face-to-face or online. Being a high-end gamer was not a precondition for this study. More notably, this study is concerned with collecting in-depth information on the social nature of gaming and the relationships between the different components of game appropriation (i.e., game design, social praxis and the gamer as an individual). It aims to detail the development of game appropriation and thus, gamers at various game levels equally contribute to addressing the study's objectives. More precisely, from the sample of 13 gamers, 9 gamers were high-end gamers and 4 had multiple lower-level avatars (the lowest level was level 40).

The face-to-face interviewees had been identified in an internet cafe (2 participants) and among people that also played the required game and were contactable by the researcher (4 participants). The sample of gamers completing e-mail interviews were identified through actual gameplay and communication with online gamers. After playing the game for a period of time, the researcher met with a number of online gamers. Those gamers were told about the focus of the study and the method to be used for data collection. Those willing to participate in the study completed the e-mail interview. Considering the process of sampling, it is acknowledged that the sample of gamers was not representative of the population. However, the lack of randomness is not problematic regarding the objective of the study, to gain in-depth information about game practices by detailing the personal experience of each participant. No attempt to generalize findings to the population is made.

Of the 13 interviews, six followed the standard face-to-face interview while seven interviews were conducted via e-mail. All interviewees were males, aged between 23 to 39 years old. Six of them were students and seven were employed in various occupations. Participants were from UK, Cyprus, Sweden, Egypt and Portugal. Five of the interviews were conducted in Greek.

### **8.4 Context of the study**

Data have been collected from different social contexts. Initially, face-to-face interviews were implemented in various settings including, an internet cafe, participants' homes and the work place. The internet cafe was a noisy space populated by several gamers. In the case of WoW, gamers were co-located in a row of screens doing similar activities in the game. As a result during the interview process, other gamers interrupted the process informing the interviewee about changes in the game. In home settings face-to-face interviews were conducted without disruption. One interview was conducted at the participant's work place. No information can be given in respect of the e-mail interviews due to their online implementation.

### **8.5 Issues of concern**

In order to adhere to ethics guidelines (see BERA, 2004), verbal consent was obtained from the participants. Specifically, the researcher informed the participants about the overall purpose of the study as well as the method of data collection. In addition, she requested their voluntary participation and stressed that they had the right to withdraw from the study at any time. In terms of confidentiality, participants were informed that any data collected would remain anonymous and used strictly for research purposes. In order to safeguard participants' privacy, any names mentioned during the process of interviewing were changed. Also, participant's names were removed from transcripts. For purposes of organizing data each transcript contained a sequence number. Due to the close interpersonal interactions with participants, the researcher's role was a factor that was carefully considered. Overall, the researcher became familiar with ethical guidelines around the conduct of interviews and applied them during the process of interviewing.

Regarding the e-mail interviews, conditions were conveyed that included a brief explanation of the study's aims and the issue regarding confidentiality, anonymity and the use of data. Any queries could be sent to the researcher's e-mail address. Official informed consent were not requested (i.e., reply e-mails from participants

confirming their ongoing consent) due to the fact that during the identification of sample, the researcher discussed (through the chat channel of the game) the scope of research, the rights of participants and the content of e-mail interview and then obtained (unofficially) informed consents. In addition, by the end of data collection, participants' e-mail addresses and reply e-mails were deleted in order to safeguard confidentiality. Although a major disadvantage of e-mail interviews is the lack of direct observation of emotional cues (or silence periods) and spontaneity succeeded in face-to-face interviews (McCoyd & Kerson, 2006; Hamilton & Bowers, 2006), this aspect of interviewing did not generate any limitations regarding the descriptive nature of research questions (i.e., description of game experience). Compared to face-to-face interviews, e-mail responses, were generally shorter. Also, in some cases no response was given to one or two of the interview questions.

In terms of increasing validity and reliability, an interview schedule was prepared, piloted and used during face-to-face interviewing in order to maintain a professional distance and avoid identification with participants' perspectives. As a result of the piloting, certain questions were added (e.g., Do you have more than one character? Why did you create this?). In relation to the electronic version of the interview, questions were carefully constructed and also tested to increase understanding and enhance validity of responses (i.e., after piloting some of the questions were rephrased or included more details). Higher reliability was attained in e-mail interviews since they were highly structured using the same format and wording. On the other hand, the face-to-face interviews enabled respondents to express their individual mindset which in turn facilitated the emergence of issues that had not been anticipated (see Cohen *et al.*, 2000). In respect of the themes based on which data analysis was implemented and the coding of responses, inter-rater reliability was achieved. In particular, the researchers' supervisors identified similar themes for organizing data and entered the same sort of data in the same categories. As far as sampling was concerned, even though it was non-probabilistic, it does not constitute a threat to study's validity due to the interpretative nature and uniqueness of each interview. The use of e-mail interviews enabled the identification of a diverse sample of gamers increasing the breath of data collected.

### 8.6 The process of data analysis

Data collected from interviews were thematically analysed (Kvale, 1996). The first step for analysing interviews was to produce a transcript of each verbal interview. All transcripts and e-mail interviews were then closely scrutinised to get a wholistic perspective in order for future interpretations to be grounded on the collected data. In each interview transcript, clusters of “meaning units” (ibid) as expressed by interviewees were identified by the researcher and assigned a specific theme. These themes were derived from study’s research questions and to extend GAM, specifically the literature deployed for developing the model (GAM I) as well as insights from its first empirical iteration (leading to GAM II). These were the three main components of the GAM (i.e., game design, social praxis, and the gamer) and the nature and process of game appropriation (see Table 8.1).

Clustering the themes did not follow “a cut and paste” process on a computer. Instead, each theme was written on a piece of paper and corresponding clusters of meaning were placed next to each theme on a large surface (i.e., the wall). This process gave the advantage of having “a bird’s-eye view” facilitating the move between themes (Smith & Eatough, 2006). The writing-up of data analysis (see next section) has been structured upon the set of themes presented in Table 8.1.

Table 8.1 Conceptual Themes used in data analysis

<b>Themes based on which writing-up analysis was formed</b>	
<b>Game design:</b>	<i>The role of game design in game appropriation:</i> This section outlines how game design and in particular certain design characteristics influence gamers’ practices.
<b>Social praxis:</b>	<i>The role of social praxis in game appropriation:</i> The social dimension of gaming is detailed in relation to in-game reality and gamers’ interactions around actual gameplay when co-located. The relation between the within and around the game sociality is

	also analysed. In particular the following are discussed:  <ul style="list-style-type: none"> <li>- <i>Social interaction within actual gameplay</i></li> <li>- <i>Social interaction around actual gameplay</i></li> <li>- <i>Social interaction within and around actual gameplay: a unified reality</i></li> </ul>
<b>The gamer:</b>	<i>The role of personal preferences in game appropriation:</i> This section examines gamers' personal choices for play and how these differentiate between gamers.
<b>The process of game appropriation:</b> The factors influencing the degree of gamers' involvement in gaming are gathered and discussed.	
<b>The nature of game appropriation:</b> In this section innovative game uses are described. The emphasis is on what motivates gamers to generate new forms of play.	

### 8.7 Data analysis

In the next section data collected from interviews were evaluated using thematic analysis. Quotes taken from interviews conducted in Greek were translated in English initially and then deployed in the analysis. Additional supporting quotes can be found in Appendix 12.

#### a. *The role of game design in game appropriation*

As revealed in the responses from the gamers, game design presents specific features that attract gamers and sustain involvement with the game. First, game design favours an ongoing progression through the avatar's lens particularly pronounced during the process of levelling up. In-game improvement is greater when gamers become more involved with the game since better rewards are received (e.g., experience points, money, and gear). The potential for progressive gameplay is an essential feature of the game; it keeps even end-gamers actively involved in it. In particular, when reaching high-end gameplay, progression is only evident in the type of gear acquired since the levelling process is stopped. After developing though a

well-equipped avatar, the progression process becomes less apparent, discourages in turn gamers and makes the game less attracting. In these cases, game design by allowing the creation of additional avatars (i.e., alts) renews and sustains gamers' interest. Alternative avatars constitute a way of re-experiencing the feeling of progression as well as learning innovative game potentials (e.g., new classes, races, skills, servers) through the levelling up of a different character.

*“No [it is not boring] to do stuff with my level 70 however it is more interesting with my alt<sup>35</sup>. My level 70 is fully equipped with purple gear<sup>36</sup> and its progression is very slow...to obtain a new purple item I may need two weeks and it will not matter so much for my character. My alt however every time I level up I obtain a brand new gear...it is far more exciting...” (Interview 5)*

Second, gameplay is structured upon a multidimensional platform of actions; the great variety of choices for play (e.g., battleground, arena, questing, dungeons and raids) enables the creation of an innovative game experience every time the gamer enters the game world. This diversity encourages further gameplay and creates an interesting game experience since gamers are motivated by the potential for new forms of play.

*“I just want to see what is coming next...this is the terrible thing with the game I can level my profession or see what the next quest is...there is a whole bunch of things to do whether you are on your own or other people...there is always something.” (Interview 1)*

Innovative gameplay is also reinforced by the multiplayer orientation of the game and the collective nature of game structures. Online gaming compared to other more traditional forms of games enables simultaneous gameplay of a large number of gamers-inhabitants of the same virtual space and actors within similar game boundaries. In addition, it favours group gameplay through activities such as arena, battleground and raids. In particular, high-end gaming presents such level of

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<sup>35</sup> Alt denotes alternative character, the creation and use of more than one character during gameplay.

<sup>36</sup> Purple gear is one of the most powerful types of gear an avatar can acquire during gameplay.

difficulty that enforces group settings otherwise game content is not accessible to the single gamer. As stated:

*“It is not an easy game...you may never reach end-game unless you are in a guild which is focused on end-game content...it is not easy to do this alone or finish the end-game content.” (Interview 5)*

Guilds are the more expansive social mechanisms of the game since they are comprised of a large number of self-organized gamers focused on auto-selective game aims. Guilds however, seem to work restrictively for lower level gamers, even though non-end-gamers are accepted in guilds their role is less active until they become end-gamers and obtain rigid equipment. Having a powerful end-level avatar is required for participating in guild's end-game activities due to high difficulty of game aims. The possibility of taking part in guild activities enforces character's development and constant game involvement.

*“Sometimes I was participating in raids but because I wasn't level 70... for a long time I didn't do a lot of stuff with guild... and this is because level 70 gamers are the most useful...the rest guild members are just there until they become level 70...so when I reached level 70 and I got some important gear then I took part in guild's raids...” (Interview 6)*

In general, collective forms of play are promoted by game designers by allowing the gamer to define the type of in-game social relationships. Due to this freedom of action, gameplay becomes either competitively or collaboratively organized and closer bonds between gamers are created.

*“You can't change the world very much...the world is preset by Blizzard...you can't create things like Second Life...Role-playing in this environment involves relationships, people against each other...so a lot of here is about building friendships or creating enemies [...] I think is about drama, performance.” (Interview 1)*

Despite the high concern of game designers about social play, it cannot be argued the game as designed is restrictively social. Even though major game activities entail or require social work enforcing gamers to be grouped in order to progress, there is always the choice for sole playing. This is particularly pronounced during the levelling process since the majority of questing activities can be implemented by the



single gamer. Thus in-game progression can be succeeded without the need for collaboration. In addition, activities such as collecting items, arranging avatar's skills and talents and auctioning can be solely practised.

*"I play alone when I do stuff that no-one else can help me like deciding for my skills and talent points." (Interview 3), [Are there moments you prefer to play alone?] Yes I wander around level up my skills, farm items for money I can get busy easily." (Interview 8)*

In addition, game designers are actively involved in the formation of game experience by adding new features and transforming certain characteristics of the game design. As implied in gamers' responses, a communication channel exists between game designers and gamers the aim of which is the better application of the game.

*"I try to go through this thing [levelling] again with that one [avatar]...but Blizzard keeps making the game easier....there is a speeding of the route [...] to make the process a quicker because you don't want to go through seventy levels just say have another character..." (Interview 1)*

The major contribution of game designers though is the release of periodic updates and expansion packages. Game updates by adding new content to the game (e.g., new rewards, quests) attract foremost those end-gamers for whom the creation of a powerful end-level avatar has been implemented. Expansion packages are large-scale game updates featuring a broader level gap. Updates and expansion packages constitute a game design mechanism that works as an incentive for further gaming engaging gamers. They also accredit the infinite nature of online gaming.

*"By becoming one of the top players the game in a sense finishes there...you play to reach that level...updates give something more to the game to those top players to have something more and better to do...to stay with the company." (Interview 4)*

Design-related issues constitute strong motivators of gameplay, since certain characteristics of the game influence gaming sustaining gamers' engagement. However, gamers' responses reveal that design incentives do not adequately explain involvement with the game. Despite the innovative nature of game design, the game can still become repetitive and boring. Levelling-up as well as other game activities

such as arena or battlegrounds constitute definite game structures. Thus experienced gamers after setting up their personal strategies for play perceive different game activities as procedures to be implemented in similar ways. As explained by an end-gamer:

*“You may learn a lot of new things but the game per se [after playing a lot] is a matter of strategy that you repeat...so what you learn or the interaction are not so interesting any more ...so you just repeat things...after all WoW is [...] a fantasy world with specific rules in contrast to reality that has no such rules.” (Interview 6)*

Overall, game design reinforces gaming by presenting a progressive platform of play, multiple and collectively implemented game choices, and renewing game experience with updates and expansions. Also, it gives the gamer the freedom to determine in-game social interactions.

### *b. The role of social praxis in game appropriation*

In this section social praxis within and around the game is detailed. Also, the relationship between the two dimensions of sociality is analysed.

### **Social interaction within gameplay**

Despite the fact that gameplay can end up a repetitive process discouraging further involvement gamers do not cease gameplay. Social interaction becomes the connecting bond between the gamer and the game. Gameplay is motivated by playing or communicating with other online gamers. The game experience becomes socially negotiated.

*“It [the game] becomes boring if you don’t have someone to play with...everything is the same....arena, raids...you get bored unless you have someone to talk with.” (Interview 3)*

Social interaction not only sustains involvement with the game but is also the source of fun, interest and enjoyment. It becomes evident that gameplay is a unique experience when played in collaboration with other online gamers and/or real-life friends.

*“What is important is have fun in the game....have your {parees}<sup>37</sup> so as not to be boring.” (Interview 5), “I always like to be with my friends, without them WoW isn’t much to me” (Interview 10).*

In order to detail the nature of in-game social interaction requires analyzing the various forms it can take. Social interaction resembles a developmental continuum, the ignition of which is communication about game-related issues and its more mature expression the creation of online friendships. More notably, the initial level of social interaction is talking with other online gamers about game issues. This kind of communication is more likely to result during grouping with gamers that have similar game aims.

*“[I like playing] because you can talk to other people...If you want to talk to someone you enter the game, and find someone to talk with while gaming.” (Interview 5)*

Social interaction moves in a more advanced level when game activities are systematically implemented with specific others. In such occasions, gamers tend to play with those online gamers with whom they had satisfying past game experiences. Attainment of common game goals is what defines the relationship between gamers.

*“Yes [I met gamers online] and I use to play with them. [What kind of relationship is the one you have with them?] Strictly for game issues...Not personal...” (Interview 4)*

The criteria based on which certain gamers are perceived to be suitable for future gameplay are either related to game skills or general behaviour. Skilful gameplay is a core reason to keep playing with a specific gamer since it contributes to successful gaming. In addition, drawing from the general behaviour and acting, each gamer is valued as a person influencing further communication and gameplay.

*“The first thing an online gamer must have is know how to play the game well. Then talking with him/her you know him/her better as a person [...] if you like him/her you keep playing with him/her...But even if s/he is not a good character and is good in the game, you don’t delete him/her from your friend list because it is important to know skilful gamers...you need them in the game.” (Interview 6)*

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<sup>37</sup> {Parees} is a Greek word used to indicate real-life friends and/or acquaintances with whom a person spends times systematically.

Such instrumentally-oriented relationships are sustained as long as gamers share similar game goals. The lack of common aims leads gamers to renew the cycle of their acquaintances by getting to know other gamers with whom they can collaborate. Social relationships that are developed strictly upon common game aims are temporal and easily-disrupted.

*“[Do you use to play with the same online gamers?] At the moment no...I went for holidays one week...and the rest have levelled up...so I can’t quest with them anymore.” (Interview 5)*

Intense social interaction can lead to the formation of stronger bonds between gamers and the development of online friendships. In particular, common game goals and prolonged periods of time gaming are the requirements for an online friendship to emerge. As in reality, constant communication facilitates the construction of a more intimate emotional bond defined by mutual trust.

*“After playing for a long time, we start trusting each other...Sometimes we stopped playing to chat for our family, wife...” (Interview 6)*

Social relationships are not always friendly. The creation of adversary relations is also identified during gameplay. Gamers prior to entering the game for first time are called to choose between two opponent factions (i.e., Horde and Alliance). No means of oral or written communication exists between gamers of different factions. In addition, when they meet online they are allowed to fight and kill each other since they are considered to be enemies. This form of power relationships is promoted by game design but practised only when the gamer decides to. Less formal, but commonly identified power relationships derive from competition between gamers of the same faction. In particular, gamers tend to compare their characters in terms of general strength properties. Thus an underlying competitive spirit is developed. For those gamers that aim to be the best in the game, competition is an ongoing force that keeps them in the game.

*“[Why do you play this game and not others?] Because....it’s online and you compete with other people and not the computer...When you play alone competition is not that big...the experience of playing with others is different.” (Interview 4)*

Power relationships influence gamers' choices and determine purposive use of social interaction. For example, the choice of specific partners for collective work is influenced by their avatar's strength and skilful play. These characteristics become the criteria for differentiating gamers and selecting group members. In such cases, the implementation of game aims is prioritized over existing emotional bonds.

*“When I am focus on a specific aspect, I pick up certain people with whom I know that I'll win...they are good [gamers]. [If friends in the game?] I won't do something with them if not so good...I may help them though. [...] if you are grouped against the PC you prefer being with someone amusing...is less boring...if I fight in arena....I want to be with the best one and not the more amusing one.” (Interview 4)*

Overall, due to the flexibility of game design, the gamer has the freedom to define in-game relationships by creating friendly and/or rival bonds. When game design fails to sustain gamers' involvement, communication with other gamers and collective play reinforce further participation. Friendly relationships vary from opportunistic sharing of game aims, to systematic gaming and more personal communication patterns that lead to online friendships. Rival relationships work competitively since they enforce comparison of skills and competences. In other cases, the strength of a particular avatar and skilful play discriminate between gamers and define purposive use of social interaction.

### **Social interaction around gameplay**

In order to produce a coherent account on the role of social interaction in game appropriation it is inappropriate to draw from only in-game social issues, since the out-of-the-game reality is also intensively social. Initially, social interaction is observed during the process of gamers' introduction to the game. The majority of interviewees stated that involvement with WoW was motivated by real-life friends that were playing the game. Social influence is also identified in the collective ignition of a new online game, groups of either real-life or online friends tend to massively transfer from one online game to another in order to keep playing with friends. These occasions reveal how the game is utilized as a platform for being with friends rather than a game played *per se*.

*“It happened because my friend kept asking me to get it so I eventually got it and now I love it.” (Interview 10), “Most of my on-line friends from another game started to play it so I gave it a try.” (Interview 7)*

The aforementioned quotations also indicate that gaming is an issue of concern, even when gamers are not actually involved with it. This is evident in occasions of offline, face-to-face communication about game-related issues. Game design prompts this kind of communication since there are no predefined rules or certain ways of acting to guide gamers particularly when entering the game for first time. Consequently, the personal experience of each gamer becomes extremely informative and requisite.

*“When I started playing the game I had no idea what to do...but...talking to my flatmate [he was playing the game for months] I noticed that my class could do certain things better than other classes.” (Interview 6)*

Online game discussion forums constitute another channel of out-of-the-game communication. They are collectively produced spaces for communication and learning from more knowledgeable gamers and are constantly updated databases that can inform and assist in gameplay.

*“We used to [visit game websites]...It was the only way to find our way in the game.” (Interview 2)*

Involvement with the game overcomes gameplay *per se* when implemented in order to maintain distant friendships. Compared to other forms of online communication such as e-mails or messengers, game interactivity enables remote friends to do things together. Gameplay becomes a communicative mean that connects people and due to its interactive application, a virtual arena for practising existing relationships.

*“One [friend of mine] stays in England, one in Greece...the only way to meet is through the game [...] Sometimes we logged in messenger to talk to a friend in Czech Republic ...but we logged off....to enter WoW and play all together....to have fun.” (Interview 2)*

In other cases, online gameplay comprises an amusing activity or habit to interact with real-life friends. Following the pattern of more traditional social activities such as visiting a bar or going for a coffee with a friend, spending time in the game along with real-life friends becomes an innovative way of social interaction. Online

gaming has become a new form of lifestyle, blurred with daily practices and another real-life social activity practised on a virtual game platform. In more practical terms, real-life friends-gamers gather together and being co-located, play the game. Internet cafes become convenient places for hosting such activities due to the installation of the game in multiple computer systems inside the location. However, internet cafes are not the only spaces hosting this form of social play. Co-located gamers are also identified in domestic settings. In the convenience of their own homes, gamers meet and play together. In other cases, co-located gamers are actually family members. On these occasions, gamers either share the same game account or log in the game through different accounts.

*“There was a time when I played this game at houses of some friends.” (Interview 7), “[I play with] my wife we play on the same account.” (Interview 9)*

When gamers share the same location the game experience is transformed. Due to the physical interaction between gamers, gameplay becomes a more exciting experience. In particular, co-located gamers chat, make jokes, talk about personal issues, experience each other’s reactions when certain things happen in the game and enjoy an intensively social activity.

*“When at home you get bored....here we make jokes, laugh a lot, have fun...we discuss how to play, support each other.” (Interview 2), “We use Skype a lot [...] but it’s just not the same as to be able to see the face of someone who has just grabbed the flag and starts to run towards the field.” (Interview 13)*

In addition, being co-located presents certain advantages for gameplay. Firstly, more efficient communication is achieved. Compared to the in-game written channel of communication, gamers when sharing the same physical space, express their thoughts quicker, leading to more effective gameplay. Secondly, compared to the in-game voice channel, face-to-face communication presents a distinct asset as it enables gamers to view each other’s play screen and receive useful information about changes within the game space (e.g., appearance or actual position of enemies) not seen from a different perspective. Thus group co-ordination becomes easier, faster and more likely to result in successful gameplay.



*“Sometimes, I have more than one computer at home and my brother used to come [and] play with me...it’s fun I think we talk much about inside game stuff and sometimes we help each other.” (Interview 8), “It’s different when you have both screens in front of you...you can see the view of the gamer next to you...what is happening...sometimes... in doing instances<sup>38</sup> the space is too big and the enemies may not be as close as you think...so it’s very useful to have the view of the person you play with.” (Interview 6)*

Communication around game-related issues is often blurred with discussions about personal issues. Being real-life friends, co-located gamers tend to have more intimate discussions, indicating that gameplay in such scenarios is more of a platform that enables friends to practice existing emotional bonds.

*“We talk about other issues...like what we did last night if not together and stuff like this.” (Interview 2)*

The use of the game as a space for doing things together is also pronounced when gameplay becomes a joint family activity. The multiplayer orientation of the game facilitates the creation of a social experience in which all family members can participate. Gameplay and family obligations are not necessarily contradicted, especially when gaming is time spent with the entire family.

*“The level 62 [...] was created to play with my wife [...] she has a 61 [...] warrior [...] to tank<sup>39</sup> with her [...] We also got mid 30 character...that was created to play with my wife and two other friends [...] there is a character my daughter created [...] she is five now she was four at the time [...] she’s got one on my account and one on my wife’s account.” (Interview 1)*

Social interaction around the game is identified by introducing new gamers in the game, in out-of-the-game game discussions, in co-located sessions of play and in using the game as a platform to maintain distant friendships and as another social activity to implement with real-life friends or family.

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<sup>38</sup> Instances are confined areas inside the game enabling a certain group of gamers to interact with it privately.

<sup>39</sup> Tank is a role undertaken during group work. Tank gamers attract enemies’ aggression allowing the rest of the group to make damage.



### **Social interaction within and around gameplay: a unified reality**

The analysis of in-game practices and the utilisation of the game in the broader life of the gamer, reveal that online gaming extends traditional definitions of gameplay. It is a shared experience that overcomes the boundaries of virtuality and becomes blurred with reality. A great deal of what is implemented within the game has a respective point of reference out of the game and vice-versa. For example, certain game aims lead to co-located gameplay and out-of-the-game discussion. Also, in-game acquaintances arrange face-to-face gatherings and meet in person. In reverse, real-life situations are expressed within a virtual space. In these cases, gameplay is another form of social activity accomplished with real-life friends and family.

*“Some of the on-line players are my real life friends I normally try to keep in touch with every Portuguese player since I am Portuguese. Since it’s a small country we organize dinners and lunches to meet each other.” (Interview 7)*

This blurring is also evident in a more abstract level. Firstly, the creation of competitive and collaborative in-game relationships, as analysed in previous paragraphs, resemble real-life friendly or rival expressions of sociality. Secondly, characteristics of face-to-face social interaction are identified inside the game. For instance, gamers’ behaviour during actual gameplay or while communicating with other gamers is perceived as an indication of gamers’ personality, thus utilized in choosing co-gamers or online friends, and avoiding others. Also, real-life friends-gamers count on each other’s spontaneous assistance during gameplay, due to the existing mutual trust and support characterizing their friendship.

*“When you talk with him/her [gamer] you see a part of his/her character and...you understand what kind of person is...so if you like him/her you keep spending more time with him/her [as friends]” (Interview 6)., “I play mostly with real-life friends...I know how they act...they won’t let me down...for instance if an alliance attacks me a friend of mine will come and kill him.” (Interview 2)*

The blurring of sociality within and around actual gameplay is a significant dimension of the present examination. It contributes to a better understanding of game use. In particular, antisocial in-game activities can be accompanied by an

intensively social out-of-the-game reality, whereas solitarily situated gamers can actually spend time online communicating with real-life friends.

*“We are PvP...I care about nothing else in the game. ...[I want only] to kill alliance [...] to be honest I don’t really care about other people in the game...only what my real-life friends do.” (Interview 2), “[Do you come here [internet cafe] when your [real-life] friends are here?] No, I also come when I am alone [...] I know people that I’ve met online [...] we play always together.” (Interview 3)*

c. *The role of personal preferences in game appropriation*

The multiple social uses of the game as already analysed indicate how the role of the single gamer is crucial in defining personal forms of social play. Each gamer is called to choose certain game aims and corresponding game activities as well as define friendly and rival relationships. These choices are revealing of personal preferences for play. An indicative example is how gamers perceive in-game responsibilities. For some gamers responsible roles contribute in more satisfying and rewarding gameplay while for others they are only a time-consuming task.

*“I like healing because if you are not good...your group won’t win...this is not happening when you are a tank...doesn’t matter much. I like being a healer because...other gamers come and say “very good healing” and stuff like this...I like it...it’s nice when they say stuff...complements like this.” (Interview 5), “No [I wouldn’t like to be a guild master]...since you end-up concerned with other gamers...spend much time for this....this is not my aim [...] I prefer have others organize such things.” (Interview 4)*

When carefully analysed, gamers’ preferences for play are tightly related to the social dimension of gameplay. Certain in-game behaviours have a social point of reference whereas others point to a more “self-concerned” form of play. More explicitly, gameplay is initiated within a virtual space populated, by other gamers. This inherent sociality is distinctly shaped by each gamer. In particular, the more socially oriented gamers perceive meaningful and emotional bonds as preconditions for play and use gaming as a mean to satisfy their need for socializing.

*“I want to have a strong character [...] but what is more important is to have fun in the game...to be with friends...is not boring that way.” (Interview 3), [Is WoW important in your life? Why?] “It’s not really important in my life [...] but without it*

*I would have not got many friends, as where I live I don't have many living around here.” (Interview 10)*

Social interest is also expressed by group-oriented gamers. Even when game activities can be solely implemented, these gamers choose to play collaboratively. Gameplay is foremost a matter of collective work. Altruistic behaviour is another demonstration of the social interest evident in supporting other gamers when in need.

*[Have you ever been bored from social play?] No, because I like being in a group...I'm bored when I play alone.” (Interview 5), “I like the feeling of helping my allies [i.e., group] in the game. If I see another player fighting a mob [i.e., computer creatures], I always click on him to see how he's doing. If he seems to be in trouble I run over to help him out.” (Interview 13)*

Another group of gamers is socially selective. These gamers are less socially-concerned as they tend to choose certain occasions for group play. They prefer social work only when collaboration is required for succeeding. Such form of gameplay is perceived to be more interesting and rewarding, since each gamer contributes in a distinct way in gameplay. Social play *per se* is avoided.

*“It depends on the quest...sometimes is boring [...] there is no point ...you...just more people doing the same thing... but for instances that's much more fun...because you have to take up a specific role...you have to perform it well...it needs a lot more thought...a lot more input and it's a lot more interesting as a consequence.” (Interview 1)*

Finally, some of the gamers are found to be more self-concerned. Such gamers focus strictly on game-related issues rather than social relationships. Enjoyment from gameplay results from playing the game *per se*. The presence of other gamers either works instrumentally in order to achieve group objectives or competitively, since competition with other gamers makes the game more attractive.

*“I am [focused] on the game [aims] instead of getting to know [better] other gamers [...] If someone becomes an online friend fine...but this is not my aim [...] If I played alone I wouldn't like the game that much...the game is a matter of group work [...] It is more competitive [when you play with other gamers] rather than playing alone.” (Interview 4)*

Overall, each gamer shapes his/her own game experience by defining distinct social uses in the game. Personal preferences for play reveal different levels of social concern ranged from highly social to more self-concerned gamers.

*d. The process of game appropriation*

Both game design and social factors interplay the process of game appropriation. In particular, the degree of gamers' involvement with the game, as expressed by the time gamers spend in the game, are heavily influenced by the design of specific activities. When participating in group activities each gamer has a certain role to implement that becomes a requisite to play until the game session is finished. As a result the time spent on gameplay depends on the chosen game activity. Also, specific activities such as raids require more time for play than others such as arena or questing.

*"[I play] mostly arena and PvE.... but as I don't have much time now and PvE needs time... [I play] PvP since you can finish something.... let's say 10 minutes...so PvP is better since I don't have so much time to play [...] I don't do stuff with my guild now...because even groups of five need 2 hours play time." (Interview 4)*

The presence of friends and acquaintances is another central dimension in the process of game appropriation. As explained by a gamer, invitations by other gamers for group play influence personal intentions for play. As a consequence more time than intended is spent on gameplay.

*"I might get in the game to sell something or check if an item has been sold [...] as soon as I enter the game some of the gamers we played together instances start chatting with me...asking if I want to take part in their group and play....this thing...having someone you know requesting to play with you...was a temptation to keep playing. My intention was only to log in...Check some things and log out [...] so instead of playing one hour I ended up playing five!" (Interview 6)*

Similarly, real-life friends and the collective decision to attend common game aims influence the degree of involvement with gameplay. "Serious" group gameplay is defined by prolong time of participation and pre-play organising.

*“[Do you play with real-life friend?] Yes. [Do you arrange gameplay before hand?] Well...if we play seriously we arrange a certain game activity before hand...now that I don’t play so many hours...no...” (Interview 4)*

It becomes evident that game design and social praxis (see also a, b) influence the process of game appropriation. However this is not the case for all gamers. For instance, some gamers do not perceive game updates as a reinforcing feature of gaming. Also, in-game acquaintances and friends do not comprise a source of motivation for all gamers. Therefore, the process of appropriation is also influenced by the single gamer and personal preferences for play.

*“I play less hours now because I managed to create a powerful character. [What about updates?] I don’t really care about it...I just wait for the new expansion package.” (Interview 2), “No [I wouldn’t change my game plans if another gamer asked me to play together]...if I don’t have time I don’t have time... I might say so we do it on this day or that day [...] always understand me.” (Interview 1)*

Game design, social interaction and the gamer as an individual influence the process of game appropriation. More notably, the long-lasting structure and group implementation of specific game activities and the presence of other social agents, in particular friends and online acquaintances, facilitate the process. The gamer is also influencing game appropriation since social and design incentives are differently perceived by each gamer.

### *e. The nature of game appropriation: specific examples of game uses*

The nature of game appropriation refers to actual game uses as these are defined by gamers (see Chapter 4). Drawing on data already analyzed the nature of game appropriation is a two dimensional concept. In a more theoretical level of analysis, it refers to the ways the game is utilized by the gamer, whether it is played *per se*, used as a virtual platform for spending time with distant friends, or another social activity to implement with real-life friends or family (see *b*). In more practical terms, the nature of game appropriation points to the distinct ways of gameplay as shaped by the gamers.

Actual game practices within and around gameplay are collectively defined. The decision to play and the choice of certain game activities are influenced by the presence of others gamers. For instance, playing Arena requires collaboration between 2, 3 or 5 gamers. Systematic practice with specific gamers often contributes in more efficient gameplay. Thus when those gamers are not in the game or are involved in other game activities playing Arena is less likely to be implemented. In other cases ignition of gameplay depends on other gamers and their decision for group play.

*“If you play arena and the person you use to play with is not in, you don’t play...so you can play battleground...is something you can do alone or you can look for a group to go dungeon or ask in the guild if someone wants to go dungeon.” (Interview 5), “[Do you play alone?] No, If not my friends I don’t play.” (Interview 2)*

Group activities require participation of a particular number of gamers. Also, specific game aims call for a certain combination of gamers. Thus group work depends on finding the “right” gamers in terms of number and skills. Organizing a team is easily implemented if it is relatively small (i.e., groups of five gamers). Belonging to a certain guild is used as a mechanism for detecting those gamers attaining similar game aims and willing to collaborate. However, when game activities require a large number of gamers (i.e., 20-25 gamers) the task of detecting the “right” gamers becomes harder while in some cases prevents the actualization of the activity. In order to facilitate this process, pre-play strategies are deployed. The date and time of the game event is pre-scheduled and announced in the group calendar of the guild or in guild’s website. Consequently, the nature of game appropriation, particularly for large scale events such as raids is influenced by the organization practices of gamers as well as the identification of gamers with certain skills.

*“coz we raid a lot so we need to have it all scheduled.” (Interview 9), “There is the group calendar in the guild...they write when and what is to be done [...] usually they plan raids of 20 to 25 people [...] When is for groups of five they use to write when they play and arrange it at the moment.” (Interview 5)*

An example of actual game uses is the creation of alternative avatars. In order to learn the potentials and limitations of other classes, gamers build characters with different class, talents and skills. Therefore, they succeed greater understanding of how different avatars act in the game enhancing their skills, knowledge and efficacy during gameplay.

*“I have some alts... I did these to see what is happening to other servers and how other classes are played. I never wanted to level up those characters since you need more time...I only tried them out.” (Interview 6), “I created alts since this is the way to beat other gamers...when knowing how to play their classes.” (Interview 3)*

Alternative characters have also been used for the quicker implementation of game aims. For instance, they are used as a means of eliminating travelling periods in the game. Travelling are non-productive periods of gameplay during which the avatar travels from one place to another. Collaboration between alternative characters saves time and effort contributing in less repetitive gameplay.

*“I’ve got an auction house character for each side so all I do with them is staying in capital city...when is the time I just moving between the post box the bank and the auction house which means I don’t have to bring my main character back always to do a lot [...] Levelling is more boring the second time you have to do it ... so my wife and I have these characters on the horde and alliance sides at similar levels...what we try to do is not going to the same places or quests for both sets because you just don’t want the same quest have to do it again.” (Interview 1)*

Other practices involve the creation of add-ons and macros added on the game surface in order to facilitate gameplay. For instance, “quest helper” indicates the routes for doing and handing in quests. Similarly, with “macros” gamers can do several movements by pressing a single button, thus becoming more efficient during gameplay.

*“Yes, [I use macros] they help you make some movements at the click of a button...you need less time this way...Also [I use] add-ons like quest-helper...they help me level up faster.” (Interview 5)*

Finally, co-located gameplay is another demonstration of gamers’ actual practices aiming to more effective gameplay (see *b*) and greater fun.



*“Since he is [my brother] on the horde side and I’m alliance sometimes he gets his friends and I get mine to meet outside Shattrath for duelling and talking over Ventrilo.” (Interview 8)*

Overall, the nature of game appropriation is collective, the presence and availability of certain participants during gameplay influences collaborative gameplay. In the case of large-scale events a priori organization is also required. Actual game practices include for example, the utilization of alternative characters, the use of macros and add-ons and co-located forms of play. Appropriation practices aim at the quicker and more efficient implementation of game aims, enhancement of gamers’ skills and a more entertaining game experience.

### **8.8 Discussion of the findings**

In the following sections the study’s research questions are addressed by detailing the relationships between game design, social praxis and the gamer and analysing the social nature of game appropriation. GAM IV is also described. In brief, Study 2 has revealed that 1. The process of game appropriation is enabled by game design, 2. Social praxis is the core element of game appropriation since it defines the nature of it and, 3. The influence of the gamer as an individual, being restricted compared to social praxis is identified in deciding for the actual social outcome of gaming.

#### **Game design**

The relationships between game design, social praxis and the gamer can be represented in a three-layer pyramid (see Figure 8.1). In particular, game design is identified at the base of the pyramid upon which all other components of appropriation are to be constructed. Design incentives constitute the underlying layers of the process of game appropriation. More notably, flexibly designed games are preconditions for the implementation of game appropriation; they are the agents initiating and enabling the process. In more details, game design contributes in the process of appropriation by presenting multiple game structures-potential choices for play and an everlasting progression substructure actualized through the development and empowerment of the avatar. Furthermore, the multiplayer orientation of the



game and the necessity for group play to reach difficult game aims promote communication among gamers and collective forms of play. In addition, game updates and expansion packages renew game experience by adding new features in the game. Overall, the above game qualities sustain constant change and innovative forms of play. Gameplay is therefore neither exhaustive nor definite for motivating gamers' participation. As a result, these game qualities influence gamers' actual practices. Due to ongoing change, the nature of game appropriation becomes diverse. Moreover, due to the multiplayer orientation of the game it is also highly collective; gamers are shaping distinct forms of social relationships and joint gameplay.

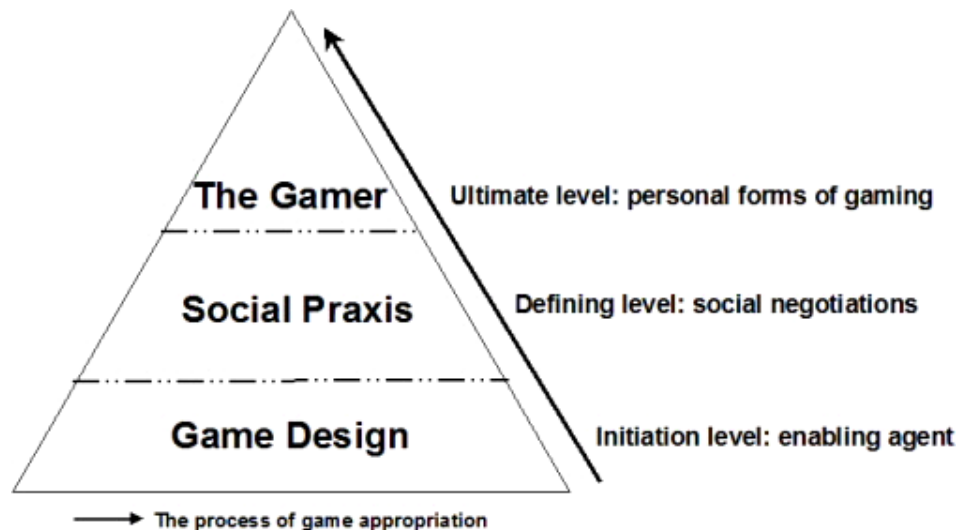


Figure 8.1 Game appropriation:

The relationships between game design, social praxis and the gamer

### Social praxis

The core component of game appropriation is social praxis. In Figure 8.1, it occupies the larger middle space of the pyramid indicating the centrality of social interaction in game appropriation. More notably, the contribution of game design in the process of appropriation is up to a certain point. Particularly for highly advanced end-gamers who had extensive experiences relating to various game structures and social forms of play and for who updates do not constitute any more a challenging game possibility, gameplay turns to be a repetitive process. However, game involvement is

sustained due to social interaction. Playing and communicating with other online gamers is a source of fun, interest and enjoyment which transforms gameplay into a unique experience. The process of game appropriation while initiated by certain design features moves to a higher level of development in which gamers collectively define game experience.

### **The social nature of game appropriation**

Specifically, the nature of game appropriation is intensively social. Its inherent sociality is identified within and around gaming. Within the game sociality is expressed in the various types of social relationships formed by gamers ranged from random collaboration for succeeding common game aims to online friendships and rival emotional bonds. The latter illustrates the competitive spirit underlying gamers' choices for play. Around the game sociality refers to the social praxis observed out of the game, evident in co-located sessions of play and out-of-the-game, game-related discussions. Co-located gamers by sharing the same physical space create a more effective and amusing game experience. Offline game discussions assist in overcoming difficulties in gameplay as well as motivate other people to start gaming. Finally, online gaming is utilised as a means for keeping in touch with distant friends and as a social platform for doing things with real-life friends and family members.

The role of social praxis in game appropriation becomes understandable when considering the blurring between online and offline sociality. In-game collective practices and out-of-the-game patterns of social interaction are deeply related to constructing a unified reality. In-game practices expand out of the game, whereas reality pervades online gameplay. For instance, online friends overcome the virtual boundaries of the game by getting to know each other in person or maintain systematic out of the game communication. Moreover, specific game aims lead to co-located sessions of gameplay and offline game-related discussions. On the other hand, real-life social relationships are practised inside a virtual arena through the sharing of a common game experience. Also, real-life social bonds are reproduced inside the game world (i.e., variety of friendly and rival in-game relationships). The

bi-directional nature of social interaction is crucial in developing a cohesive understanding of game appropriation. Failing to take into account one of the two social parameters more likely leads to non-representative discussions around game appropriation. More notably, intensively social out-of-the-game reality is not necessarily accompanied by corresponding social in-game practices whereas physically remote gameplay can be followed up by highly social in-game practices.

### **The gamer as an individual**

The nature of game appropriation is characterised by diverse social implementations of gameplay. Therefore, gamers do not follow a similar social path of gaming. Instead, they choose certain social uses within and around the game. The gamer as an individual has the final decision on game appropriation. Drawing from design's potentials for play and the simultaneous presence of other online gamers, the gamer defines a personal form of social play. Individual preferences for play determine the quality of social interaction; gamers range between socially-oriented and self-concerned. The former refers to those gamers who value social interaction as an essential element of gameplay. Their social interest is expressed in various ways; socializing *per se*, creating online friendships, helping other gamers, implementing collective play. The latter concerns those gamers who perceive sociality as purposive. They gather only when game activities require coordination of a number of gamers or when playing along with others contributes to progression. In Figure 8.1, the gamer is identified at the peak of the pyramid to indicate that his/her contribution in game appropriation is more restrictive than social praxis (i.e., it occupies less space) however it is also critical (peak of the pyramid) since the gamer as an individual defines the ultimate social outcome of gaming, the nature of game appropriation.

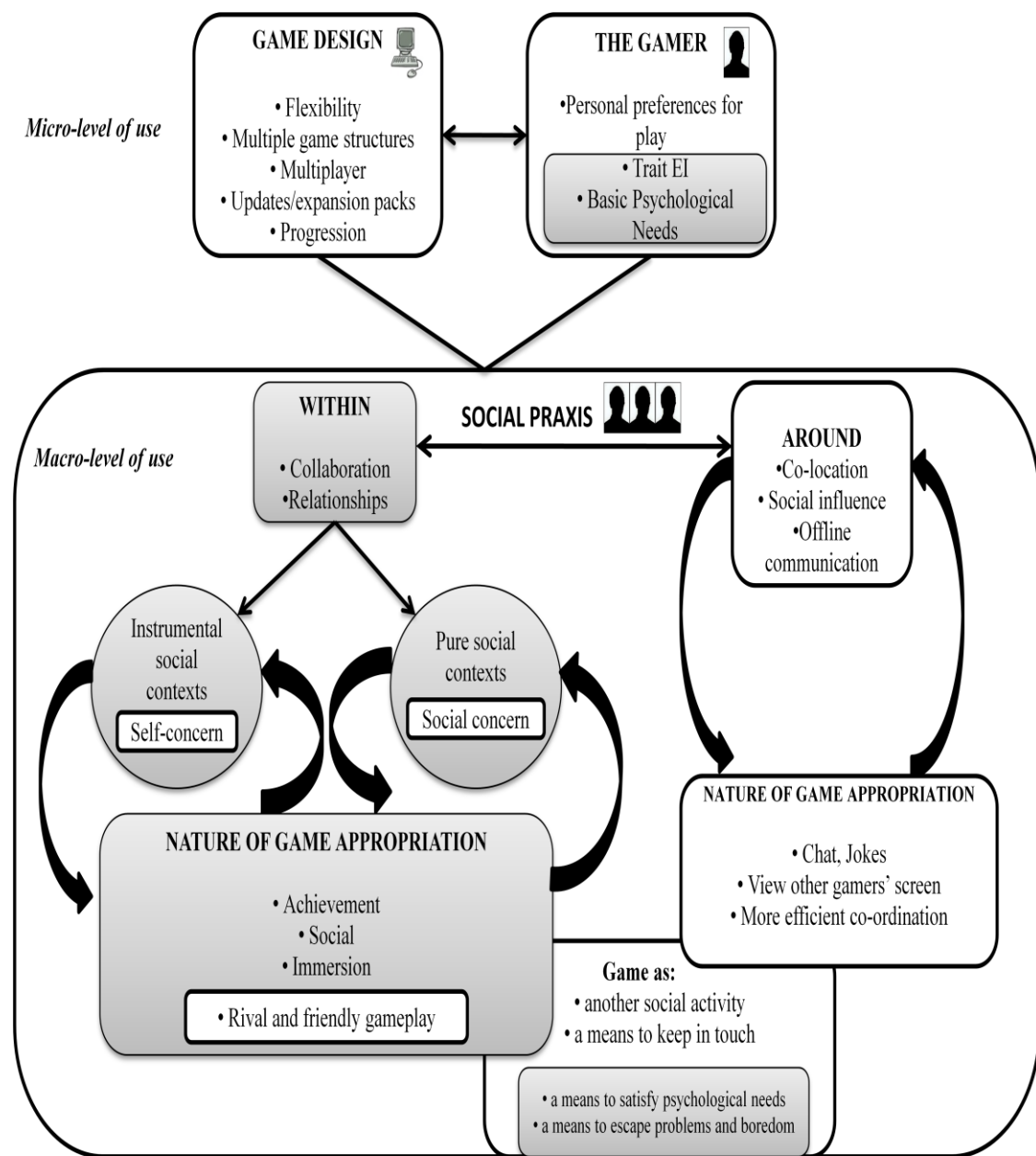
### **The functionality of GAM IV**

GAM IV comprises the final product of the examination of game appropriation for this thesis. In this chapter, GAM IV is discussed considering only findings from

Study 2. A discussion combining evidence from both Study 1 and 2 is presented in Chapter 9.

To start with, insights from Study 2 confirmed the necessity of game design, social praxis and the gamer as an individual (see Figure 8.2) in order to understand game appropriation. Each component influences the process of game appropriation in distinct ways. Game design is a prerequisite for the ignition of the process of game appropriation. It also assigns diversity to the nature of appropriation. Social praxis motivates further gameplay and determines the collective nature of game appropriation. The gamer defines the social outcome of gaming, thus the nature of game appropriation.

As evident in the top two boxes of Figure 8.2, game appropriation is initiated by the interaction between the gamer and game design. It is facilitated when game design is flexible and open-ended. Such game designs allow the gamer to generate personal forms of gameplay by choosing from the available game activities and negotiate these choices along with other online gamers. This is the micro-level of use; the flexibility of game design accommodates gamers with diverse game preferences setting up the process of game appropriation. At the macro-level of use, game design contributes in game appropriation by preserving the feeling of progression and constant change through updates, expansions and periodic add of innovative game features. In terms of the nature of game appropriation, the multiplayer orientation of the game and the need for group play due to progressively harder game activities, reinforce joint enterprise. Also the multiplicity of game choices, the progressively developed gameplay and design updates bring about innovative game uses and diversity.



**Grey boxes: issues investigated in Study 1 (see Chapter 7)**

Figure 8.2 GAM IV: The process and nature of game appropriation

At the macro-level of use, the relationship between the gamer and game design is mediated by social praxis. The process of game appropriation is reinforced by constant social interaction and negotiation of game structures. Gamers communicate and organize the joint implementation of gaming, thus generating innovative forms

of play. The collectively defined gameplay indicates that game appropriation is heavily contextual. The circular motion of the arrows in Figure 8.2 stresses the process of game appropriation is defined by iterative cycles of use each one resulting in diverse social practices. These practices are identified *within* and *around* gameplay and define the nature of game appropriation. Around the game practices is one of the new elements added to the model. They refer to co-located sessions of play and game-related communication identified out of actual gameplay. Within the game practices refer to in-game uses and the creation of friendly and rival relationships. *Within* and *around* the game practices comprise a unified reality (see arrow connecting *within* and *around* social praxis in Figure 8.2) identified in how in-game practices are related to social praxis around the game as well as how the game is utilized by gamers. The nature of game appropriation indicates that online gaming is more of a game activity; it is an innovative social utility for practising real-life relationships and keeping in touch with distant real-life and online friends.

Finally, the gamer by making certain choices for play and defining in-game relationships, shapes a personal game experience revealing of individual preferences for play. More notably, gamers' choices range between socially-concerned to more self-concerned actions. More socially-concerned gamers place significant value on the presence of other gamers in the game. They are concerned with establishing friendships and socializing. A different form of social concern is the preference for group play, even when activities do not require social work as well as altruistic behaviour (i.e., help other gamers when in need). Less socially-concerned gamers are game-oriented. They tend to group only when collaboration is required for succeeding, thus making purposive use of sociality. The gamer as an individual is the agent defining the nature of game appropriation, i.e. the social outcome of gaming.

Due to its innovative character, detailing the nature of game appropriation is not an exhaustive task. The outcome of appropriation as defined through iterative cycles of use indicates that gamers utilize sociality in diverse ways. However, despite the fact that the general nature of appropriation has been captured and in-depth detailed,

actual game uses remain heavily contextual influenced by game design, social agents and the gamer. What has been identified though is how the nature of appropriation aims at improving the overall game experience. Certain practices are deployed in order to enhance gamers' skills and understanding of game mechanisms. The creation of alternative avatars is a dynamic design aspect that broadens game knowledge around the potentials and limitations of different types of avatars. As a consequence, when fighting the enemy's actions are better anticipated. In addition, it contributes to a more conscious decision on the characteristics of the main avatar. Other applications such as add-ons are also facilitating gameplay and offer better control of the avatar. Moreover, by allowing face-to-face communication and viewing of other gamers' perspective, gameplay when co-located, becomes more effective and successful. The nature of appropriation also reveals gamers' attempts for quicker and easier implementation of game aims. For instance, alternative characters are used as a means to reduce time intervals of non-productive gameplay, such as travelling from one place to another while also contribute in less repetitive gameplay. Also, gamers' innovative practices define a more enjoyable and exciting game experience. Collective forms of play are a source of fun.

As a process, game appropriation is progressively developed and emotionally driven. As outlined previously, certain qualities of game design and the potential for social praxis reinforce further gameplay. In addition, long-lasting, group activities (e.g., raids) demand long-term participation. Also, gamers undertake certain responsibilities in the group making difficult game interruption. In terms of social praxis, social influence (i.e., friends or family members that game) constitutes a motivating factor of gameplay. Initial involvement with the game is more likely resulting from communication with existing friends-gamers. Also, invitations for collective play by in-game acquaintances or friends and the presence or availability of specific gamers (e.g., co-gamers in arena sessions) heavily influence the process.

Overall, GAM IV indicates that the process and nature of game appropriation are both influenced by game design and social praxis. The gamer as an individual

determines the outcome of game appropriation, i.e. actual game uses, based on personal preferences for play.

### **8.9 Concluding remarks**

Two studies - a large-scale survey and interviews- completed the second iteration of the GAM. For this thesis, the development of the GAM stopped at this point. The aim was to address thesis research questions using the GAM as an analytical tool. Therefore, having implemented this goal the model's empirical elaboration is paused. It is noted that the model *per se*, can be further iterated or validated in future studies (see Chapter 10).

Overall, game appropriation is a diverse and highly social process, understandable in the light of the new information technologies and their revolutionized effect upon everyday practices. Within the technological reinvention of societal conditions game reformation has heavily influenced leisure practices. Thus, game appropriation is conceived when game activity is analysed in the context within it occurs, both virtual and real since gamers' practices interplay between real-life and digital reality. In addition, the role of the gamer has been revolutionized. The gamer generates personal forms of social play, motivated by personal preferences for play.



## Chapter 9

### Discussion

Chapter 9 discusses findings from Study 1 and 2. The aim is to produce a coherent picture of game appropriation for online multiplayer gaming combining evidence from both studies. The last version of the GAM (GAM IV) is analysed making reference to existing literature.

#### 9.1 Rationale

The examination of game appropriation originated from the development of a theoretical model (GAM I) which was based mainly on existing accounts on technology's appropriation. The first empirical iteration of the model revealed how game appropriation is game-specific (GAM II), thus subsequent studies were focused on a single game genre, MMORPGs and in particular World of Warcraft. The second iteration of the model resulted from Study 1 (GAM III) and 2 (GAM IV). Insights from these studies are analysed in next sections.

#### 9.2 MMORPG gamers

Prior to analysing game appropriation, it is worth commenting on MMORPG gamers, particularly WoW high-end gamers, as a distinct population of gamers. Following existing studies (Yee, 2005; Griffiths *et al.*, 2004; 2003), WoW high-end gamers are mainly male youths and adults who take gaming very seriously. Playing games constitutes an important daily habit for which they dedicate considerable time (approximately 3-4 hours per day) despite routine obligations. More specifically, WoW is a game choice gamers have been committed to systematically (i.e., approximately 2 years) and which tends to take over involvement with other games. It is a highly engaging game possibility when considering that game practices more likely evolve around a single game, WoW. In respect of the avatar's customization, gamers do not show greater interest for a specific faction, though a greater

preference for the races of Undead, Human and Night Elf (see similar findings in Yee, 2005) and the mage class has been observed. A tendency to taste the various aspects of gameplay is also evident in the creation of multiple avatars.

In accordance with Williams *et al.* (2008), MMORPG gamers do not resemble the traditional, stereotypical gamer profile. Firstly, due to the synchronous online application of the game, gaming is free of time and place restrictions. Secondly, gaming overcomes the boundaries of actual gameplay and blurs with reality, suggesting that gamers are simultaneously involved with game-related, social activities evolved around the game. Learning about the game from external resources such as participation in game forums and co-located gameplay are manifestations of such activities. Finally, they are not a homogeneous sample of gamers in terms of game preferences. The nature of game appropriation presents variability indicating that gamers show greater interest for certain game aspects and thus have distinct motivations for play.

In terms of the psychological characteristics of MMORPG gamers, it was revealed that gamers present higher trait EI compared to the norms. Similar personality differences (i.e., openness, consciousness and extraversion) between online gamers and non-gamers have also been identified elsewhere (see Teng, 2008). In addition, gender differences have been observed in respect of emotionality. Female gamers perceive themselves as having greater abilities to develop and maintain emotional relationships with others rather than male gamers and norms. This finding is consistent with existing examinations of sex and trait EI indicating that females score higher than males (Mayer *et al.*, 2000; Schutte *et al.*, 1998). Psychological variation was also observed within-gamers on trait EI scores and basic psychological needs (see 9.3.3).

Describing MMORPG gamers is a task that deploys a multiple of descriptive accounts in respect to the personal preferences for play and individual differences. What is emphasized is the dynamic and active role the gamer is called to implement during gaming as well as how gamers' practices have been revolutionised due to the recent socio-technological configuration of digital games. Also, the higher trait EI

scoring of gamers compared to the norms suggests that MMORPG gamers perceive themselves as being more self-confident, more capable of having fulfilled personal relationships with greater social skills and higher self-control than norms. Considering the persistent involvement with games that require constant social interaction, these findings defy perceptions of gamers being socially inept and isolated in favour of socially competent individuals (see Williams *et al.*, 2008, 2006).

Consequently, in order to produce a representative account on game appropriation it is required to count for all the factors intervening game experience (i.e., the gamer as an individual, social praxis and game design). In particular, the weakness of the trait EI construct and basic psychological needs theory in predicting game preferences and frequency of play (see Study 1), as well as the central role of social praxis in game appropriation (see Study 2) indicate that game appropriation is foremost a matter of gamers' social activity within and around the game and to a lesser degree a result of psychological characteristics.

### **9.3 The components of game appropriation**

The components of game appropriation are game design, social praxis and the gamer as an individual. Each one contributes distinctly to the process and nature of appropriation. GAM IV presents the components of game appropriation as well as their relationships (see Figure 9.1).

#### **9.3.1 Game design**

Flexible game design is a prerequisite for game appropriation; its function attributes to MMORPGs the potential for appropriation. Certain design characteristics initiate and sustain the process of appropriation.

##### *a. Multiple game structures*

Actual gameplay is comprised of a variety of single or collectively defined choices for play including questing, battlegrounds, dungeons, raids, arena, item collection,

talents' formation and auctioning. Game experience being grounded on a multidimensional platform of activities is constantly renewed keeping gamers' curiosity and interest in the game. Gameplay is not a single predefined route of play stages; instead it is open-ended presenting a plethora of choices for play and new things to experience.

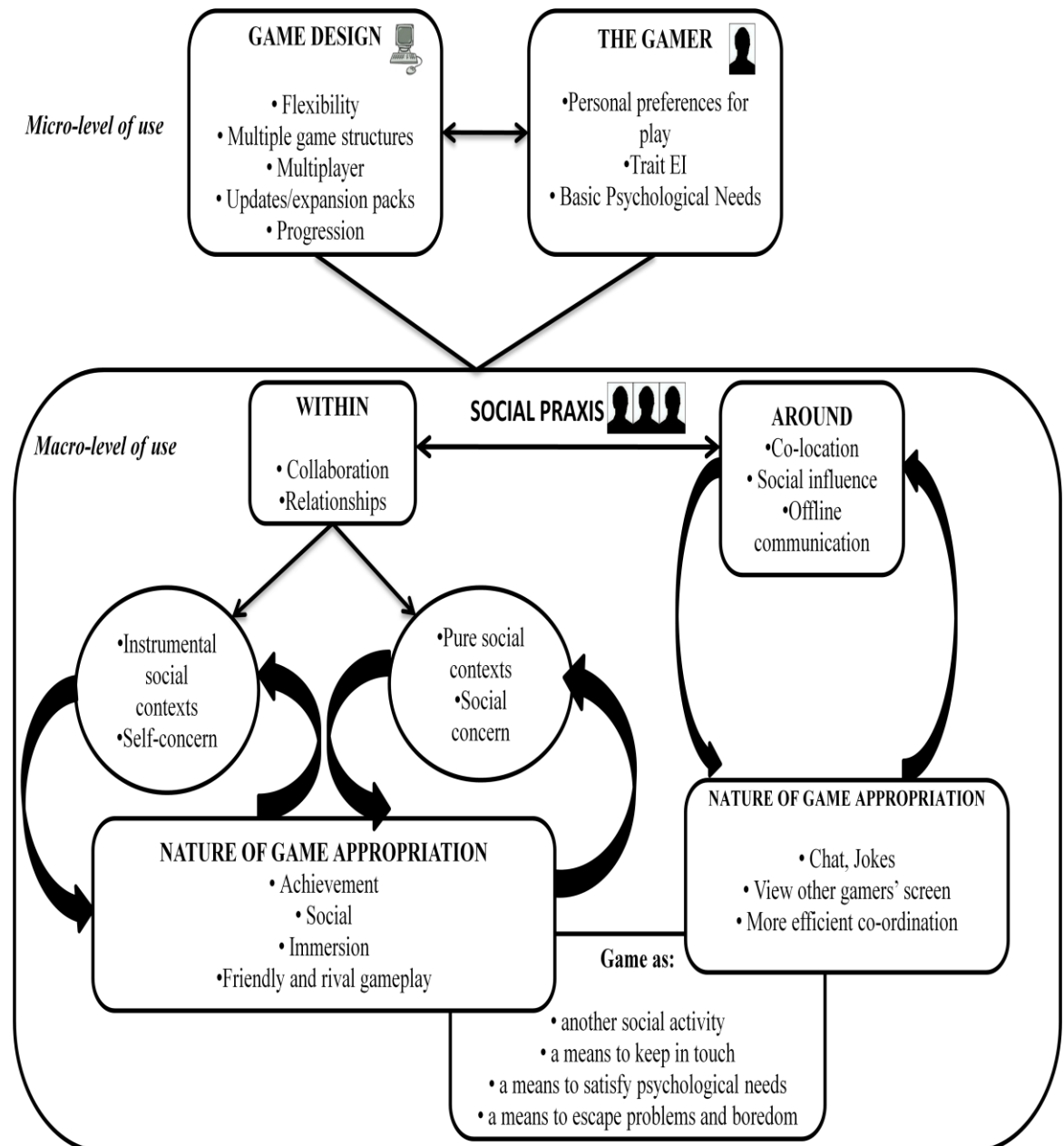


Figure 9.1 GAM IV

*b. Multiplayer orientation*

The multiple game choices are situated within a populated by other online gamers, space. The multiplayer orientation of the game renders innovative forms of play. The available game activities are negotiated by gamers and become collectively defined. Foremost, the great majority of these choices for play, due to a high level of difficulty, require group play. Therefore, gamers organize collaborative sessions of play in order to achieve hard game goals. As a result, they are more likely to be identified inside a guild, a social norm particularly for high-end gaming (see Ducheneaut *et al.*, 2006a). As already argued (Ducheneaut & Moore, 2004), MMORPGs have been structured to encourage social interaction. In accordance to Ducheneaut *et al.* (2006b), the harder the game objectives become, the greater the need for persistent and collective group work is, if it is to succeed. Consequently, game design and in particular, the difficulty of game activities, fosters communication and joint enterprise during gameplay.

*c. Updates/Expansion packages*

Compared to other more traditional genres of games, the infinite developmental platform based on which MMORPGs are structured, facilitates game appropriation by enabling constant change and unanticipated forms of gameplay. However, despite the variety of game possibilities and the innovative collective forms of play, gameplay can end up repetitive, especially for highly advanced end-gamers. Such gamers after spending considerable time on gaming manage to master hard challenges and create powerful avatars with distinct equipment. The process of game appropriation would have been inhibited if game designers did not interplay gaming reinforcing further change. More notably, the release of updates and expansions packages renews game experience by adding innovative game features. While updates are more frequent and aim to modify certain game dimensions, including for instance, new quests and gear, expansion packages are large-scale game additions that feature a new level gap and new game content. Except from these major game alterations, designers also periodically announce new short-scale possibilities for

play. By adding new content, the progression platform on which game design is structured is renewed keeping gamers in the game.

In the case of games, the social shaping of technology (Akrich, 1992; Bijker & Law, 1992) is not restricted during the production phase. It is also identified in the social utilization of games by the gamers and the designers' constant mediation. Game appropriation moves away from technological determinism towards collaboratively defined forms of play in respect of both the gamers and game designers.

*d. Progression*

MMORPGs are structured upon a progressively developed platform of gameplay. Through the lens of the avatar, gamers implement game activities in order to develop and become powerful. The sense of progression is pronounced in the process of levelling up and the acquisition of distinct gear. The completion of each level is accompanied by improvement in avatar's skills and talents and the potential for receiving better gear. For end-gamers that have already reached the highest game level, levelling-up does not comprise a game possibility. Therefore, progression is identified with the acquisition of distinct gear and the creation of a powerful avatar. The abilities and strengths of other gamers work as a point of comparison motivating further progression. In general, game design contributes heavily in sustaining gamers' sense of progression; the more the gameplay is, the greater the potential for receiving better or unique rewards. Illustrating examples are gamers' participation in guild activities and the creation of alternative characters. In particular, while becoming a member of a guild is easily implemented, taking part in difficult guild events (i.e., high-end game activities) is restrictive to non-end gamers or end-gamers without rigid equipment. This informal rule enforces game involvement in order for the gamer to experience high-end gameplay and become more powerful. Also, the potential for creating alternative characters enables re-experience of the process of levelling up and its rewarding nature.

*e. Flexibility*

Overall, game design is less structured and restrictive moving, using Caillois (1958) terms, away from *ludus* towards *paidia* and therefore, more creative and personalized gaming. The open-endedness and multiplayer orientation of these games open up the space for contextual factors and particularly gamers' emergent practices, to interplay gaming. Subversion of game structures is at the heart of recent perceptions of gaming (Taylor, 2006a; Newman, 2004; Brown in Newman & Simons, 2004; Perron, 2003) in which less rule-based game applications are given a special emphasis. As evident in this thesis, the modifications conveyed by gamers concern foremost the formation of in-game relationships and in a lesser degree, the suggested game structures. In terms of the former, it is entirely up to the gamer to define social relationships, creating enemies or friends and determining collaborative or competitive game forms. In respect of game structures, alterations upon the actual design are restricted in adding modifications on game interface (i.e., macros and add-ons). They do not incorporate creation or modification of game objects as in other games (e.g., *Second Life*).

### **9.3.2 Social praxis**

Flexible game design is the component required for the ignition of the process of appropriation. However, it is not adequate for the configuration of it. Social praxis is what gives essence and character to game appropriation. A vivid and complex social reality situated in a state of "becoming" (see Malaby, 2007) due to the gamers' emergent actions is the core dimension of gaming. Social praxis is defined within this thesis as a special demonstration of sociality or social interaction. It differs from being "alone together" (Ducheneaut *et al.*, 2006a); gamers situated within a game space populated by other gamers, following an individualistic pattern of play. Also, it does not only entail chatting and brief fun (Nardi & Harris, 2006), pronounced practices during the process of levelling up (particularly up to level 55) (Ducheneaut *et al.*, 2006a). These forms of sociality do not capture the essence of social praxis as analysed in this thesis. By applying the term, *praxis* emphasis is stressed upon *action*. Sociality entails collective work and long-term communication. Gamers do

not simply share the same virtual world, they also coordinate and act in order to achieve common ends and in some cases, also share the same physical space.

*a. Social praxis within gameplay*

The variability of friendly and rival relationships sketches the nature of in-game social praxis. The occasional collaboration between gamers in order to succeed common game goals constitutes the basic form of friendly relationships. In a more advanced level, in-game acquaintances systematically collaborate. Past successful group experiences motivate future collective gameplay. Due to the fact that common game aims are the connecting bond between gamers, these bonds are easily disrupted. The ultimate form of well-disposed relationships is the creation of meaningful emotional bonds. Constant and prolonged engagement with the game (e.g., offering help and support, organizing strategies, findings ways of refining game practices) leads to the development of online friendships. Similar to Wenger (1998) personal relationships are constructed during joint interaction and the development of shared practice.

Therefore, time spent on gameplay is not exclusively disposed on game issues. In line with Williams *et al.*, (2006) a great part of gaming is dedicated to having discussions around more personal issues as Yee (2007a) identifies, in self-disclosure, finding and receiving support and creating meaningful relationships. In addition, shared gaming enables the practice of existing real-life relationships between friends or family members. In accordance with Yee (2007b, p. 28), MMORPGs are “windows into and catalysts in existing relationships”.

Social praxis also presumes action against gamers and formation of rival relationships. The pre-play choice of faction constitutes a design aspect which dichotomizes gamers into two opposing communities restricting communication between them. Gamers have the potential to fight and kill others and demonstrate their superiority by “owning” less powerful gamers. Drawing from Yee (2007a), competitive relationships entail provocation, irritation and dominance. They are randomly practised or pre-organized by groups of gamers. For some gamers



competitive relationships are central in gameplay since they enhance game experience. A different form of competition, less apparent, is also observed among the gamers of the same faction. Gamers compare their skills as well as their avatar's strengths. These qualities are used as criteria for choosing co-gamers and group members. In line with Malone and Lepper (1987), competition works motivationally since other gamers turn to be a measure of comparison reinforcing further gameplay.

The examination of social interaction within the game presents similarities with real-life social interaction. It is illuminating the fact that similar to real life, various friendly and rival relationships are created inside the game. Also, group work with real-life friends is preferred to play with random gamers since the mutual support and trust between existing friends is expressed in difficult game situations when gamers need help. Moreover, the general behaviour of other gamers (i.e., how they act and communicate) during gameplay is utilized as criterion for choosing co-gamers and online friends. The reproduction of real-life human behaviour in virtual settings is enabled by the flexibility of game design. Gamers are free to define personal relationships, therefore replicate conditions of real-life sociality inside the virtual space.

*b. Social praxis around gameplay*

Gaming is situated within two conditions: virtuality and reality. The former refers to the social reality within the game. The latter is the reality identified and flourished in the front side of the computer screen, in the physical space of the gamer. What defines online multiplayer games is a “hybrid cultural ecology” (see Lindtner, Nardi *et al.*, 2008); actual gameplay is accompanied by participation in communicative encounters in the physical world including co-located gameplay and around-the-game, game-related communication. Similar communicative encounters have already been observed in, dedicated to games, spaces (i.e., internet cafes) and within daily practices (*ibid*), in the sharing of game accounts and verbal (Carr & Oliver, 2008) and online game-related discussions (Newman, 2004). Co-located sessions of gameplay situated within domestic spaces are additionally identified in this thesis. Real-life friends or family members organize physical gatherings during which they

attend common game aims. Game experience is not only shared online; it expands offline in human-computer and co-located gamers' interaction. Being physically close involves a more intimate form of interaction in the sense that gamers experience the spontaneity of facial, bodily and oral reactions of co-gamers and thus a richer game experience. In terms of actual gameplay, co-location presents certain assets; coordination becomes more efficient due to the advantage of viewing each other's computer screen and receiving information (e.g., the position or unexpected appearance of enemies) not anticipated otherwise.

The intensively social conditions surrounding actual gameplay are also mirrored in how the game is utilized by gamers. More notably, gaming is more of an entertaining activity. It is used as a platform for maintaining and/or practising real-life and online relationships. In particular, involvement with the game is often the result of social influence; real-life friends-gamers motivate participation in the game in order to spend time with friends. In other occasions, groups of real-life or online friends massively transfer to a new online game in order to keep in contact. Furthermore, gameplay becomes a means for keeping in touch with distant real-life friends. Due to its interactive nature, the game enables collective implementation of activities, thus becoming a virtual arena for exercising existing relationships. In addition, gameplay becomes a new form of lifestyle. Playing the game along with real-life friends becomes an innovative form of social interaction; it is an amusing collectively-implemented activity, practised in the same way as other offline social activities. Also, it is a means to escape from real-life problems and boredom and thus relax. Finally, it can be used as a platform for satisfying basic psychological needs (see 9.3.3b).

*c. Social praxis within and around the game*

Social praxis within and around the game comprises a unified double-sided reality. In-game practices have a point of reference out of the game, in real-life interaction and vice versa. Virtuality overcomes the digital boundaries of the game pervading reality. From the perspective of the gamer, gaming is not restricted in the actual game activities practised while logged in the game. It entails encounters with online

gamers in real-life settings, post and pre-play communication and arrangement of co-located sessions of play. The direction of the relationship is reversed when gaming turns to be a means to a real-life end; an innovative form of social activity and an arena for maintaining existing emotional bonds, family or friendly. Reality is penetrating virtuality. Games are a universal human activity reflecting and comprising of everyday experiences (Malaby, 2007) and a new communication medium affording new forms of social interaction (Yee, 2007b).

Game appropriation is understandable only when considering both dimensions of social praxis. In particular, highly social game surroundings, such as co-location and intense game-related communication can accompany less social in-game practices such as killing and irritating other gamers. On the contrary, physically remote gamers can be a deceptive picture of sociality since their online practices might actually entail a high level of communication about game and personal issues with online or distant real-life friends. In order to construct any argument against or in defence of gaming, it is necessary to consider the duality of social praxis and the fact that gaming does not accord with traditional definitions of gaming that view gameplay as a disconnected from real-life activity (see Caillois, 1958).

### **9.3.3 The gamer**

The examination of game appropriation has revealed that gameplay is also influenced by personal preferences for play, underpinned by individual differences in trait EI and basic psychological needs.

#### *a. Personal preferences for play*

In accordance with existing studies showing multiplicity of game preferences (Yee, 2007a), the diversity of social uses identified in this thesis indicates that gamers do not follow a similar path of gaming. Instead, they appropriate social praxis and determine a personal form of play. In a continuum of social interest, gamers range between socially concerned and self-concerned individuals with the former demonstrating a pure interest and value in social interaction and the latter pointing to

purposive utilization of sociality. More notably, self-concerned gamers are achievement-oriented; they are more prone to advancement, competition and customization of the avatar. Even though not challenged by teamwork, due to a great focus on game aims, they become part of serious guilds within which they can actualize hard game aims and progress. On the other hand, more socially-concerned gamers are interested in socializing and teamwork. They are members in casual-friendly guilds in which attendance of game aims is only occasionally practised.

What characterizes both achievement and socially oriented gamers is a common concern on social relationships within and around the game. Playing along with family or close friends is a core component of game appropriation and a universally identified motivation for gameplay. While existing studies have already demonstrated the reinforcing qualities of gaming due to social interaction (Yee, 2007a; 2006c; Burn & Carr, 2006), this examination, by documenting and analysing the various expressions of sociality, stresses that meaningful relationships is the aspect of social interaction most influential in game appropriation. This conclusion is also reinforced by existing studies suggesting that MMORPGs are suitable environments to become emotionally involved with others as well as the fact that a great majority of gamers tends to play with real-life friends and family (Cole & Griffiths, 2007).

*b. Individual differences and the nature of game appropriation*

According to Oulasvirta and Blom (2007) when an artefact is personalized it becomes uniquely shaped by the user in accordance to his/her identity. In the case of games, what underpins the nature of game appropriation is individual differences in trait EI and basic psychological needs. In terms of basic psychological needs, gamers with lower scores on the need for autonomy, demonstrate higher preference for achievement-oriented practices and lower preference for social practices *per se*. Practices towards achievement (i.e., advancement, competition and game mechanics) entails self-determination in the sense that the gamer is more interested in having an avatar that can solo well and s/he is less interested in social work. Therefore they are potentially autonomy-supportive experiences. Also, gamers with lower scores in the

need for relatedness are less interested in the social dimension of the game. Considering, however, the universal motivation of gamers to maintain online and/or real-life friends, it is indicated that lower scorers in relatedness are involved with practices that can fulfil the socially-oriented need, when playing or communicating with close friends and family. The lower scores on the social factor are more likely due to a dislike in teamwork and socializing. In general, evidence surrounding the needs for autonomy and relatedness and the potential of gaming to satisfy these needs are in accordance with Ryan *et al.* (2006) and Przybylski *et al.* (2009) and the demonstration that game enjoyment results from flexibly designed game environments that promote feelings of autonomy, competence and relatedness.

In terms of trait EI, gamers' emotion-related abilities and behavioural dispositions are mirrored in their practices, since gamers more confident within social environments are more interested in social activities *per se* and vice-versa. Gaming becomes a projective medium reflecting the gamers' own personality. The game world is a space where a "pure you" (Turkle, 1985) is developed and exists. Turkle (*ibid*) commenting on the use of computers emphasized how they are not only tools; instead, they are linked to the social and psychological lives of the users. This is even more pronounced for online multiplayer gaming. Confirming Cantor (Mischel, 1998), the flexibility and open-endedness of game design has postulated the gamer as an individual in the centre of the game experience facilitating the expression of psychological characteristics. As a result, gaming has reinforced the online expression of real-life social relationships, friendly and rival, creating a micro-world of reality inside virtual conditions. Differences in personality traits among online gamers and the propensity towards different aspects of gaming consent to Chen *et al.* (2008) findings.

Both basic psychological needs and trait EI are indicators of general well-being and happiness. Gamers perceiving to have more satisfied basic needs and be happy with their lives are more prone towards the social dimension of gaming, in particular, socializing, teamwork and relationships. On the contrary, lower scorers on trait EI and the need for autonomy demonstrate a higher preference for achievement-

oriented practices and less interest in social practices. It has been suggested that real-life “problems” are more likely to be identified with self-oriented, competitive gamers and less likely to be related to socially-concerned individuals.

*c. Individual differences and the process of game appropriation*

Individual differences in trait EI are associated with the process of game appropriation. In accordance with Parker *et al.*, (2008), evidence showed a positive association between lower scorers on trait EI, particularly Well-being and more frequent and long-lasting gaming. The process of game appropriation however is better explained when also considering gamers’ preferences for play. In particular, achievement oriented practices better explain more frequent gameplay (see Williams *et al.*, 2008). Such practices are more likely collective and long-lasting and thus more time-consuming.

Overall, considering the components of game appropriation, gaming is undergoing change, as design updates, the various possibilities for play, the configuration of social interaction and the psychological characteristics of each gamer are combined or recombined. As a result, innovative forms of play emerge renewing game experience. In accordance with Cole (2003; 1996) and Dourish (2004) this everlasting alteration leads to the creation of new contexts; due to gamers’ practices contexts are produced and reconfigured. Iterative appropriation cycles are transforming “technology- as- designed” to “technology-in-use” (see Carroll *et al.*, 2003; 2002). Similar to Mackay and Gillespie (1992), online gaming is appropriated when negotiation is assigned to it.

## **9.4 GAM IV**

GAM IV frames the relationships between game design, social praxis and the gamer, thus describing the process and nature of game appropriation (see Figure 9.1). As proposed by GAM IV, game appropriation initiates by the interaction between the single gamer and a specific game design. At this level of interaction, the micro-level of use, game design when presents multiple game structures and multiplayer

orientation reinforces game appropriation by accommodating gamers with different preferences for play. .

At the macro-level of use, game design facilitates the process of appropriation through the progressively-developed nature of gameplay, updates and expansion packages that renew game experience and long-lasting, achievement-oriented, group choices for play. These features emphasize the importance of the design's open-endedness in game appropriation. In MMORPGs, this flexibility is evident in the freedom the gamer has to choose from a repertoire of game activities and collectively generate gameplay by defining in-game social relationships. Also, at the macro-level of use, the interaction between game design and the gamer expands to incorporate other social agents. Social praxis within and around the game motivates further gameplay, especially when game design becomes repetitive, stressing the emotional orientation of game appropriation. In more details, the process of game appropriation is influenced by the potential for collaborative and competitive forms of gameplay along with other online gamers and social play and communication with significant others (friends or family members). The gamer as an individual, influences the process of appropriation when personal preferences for play are achievement oriented as these activities are time-consuming. Also, gamers' scores on trait EI are associated with the process; lower scorers were found to be more persistent and frequent gamers.

The process of game appropriation is gradually developed through iterative cycles of use. Each cycle features a distinct outcome expressed in the nature of game appropriation (see Figure 9.2). This is defined by the affordances of game design, the social configuration of gameplay and the gamer as an individual. More notably, the nature of game appropriation is *diverse* due to the multidimensional, progressively-developed platform of game choices, the multiplayer orientation of the game, designers' interventions (i.e., updates, expansions) and the various expressions of sociality. Second, it is *highly social and emotional*. Sociality is identified in gamers' practices within and around the game. They range from instrumental social uses to socializing, meaningful emotional relationships, competitive gameplay, co-located

sessions of play and out-of-the-game, game-related communication. Third, it is under constant change, thus *heavily contextual*. It results from the dynamic relationship between design features, formation of social praxis and psychological characteristics of the gamer. Thus detailing exact game uses is a non-exhaustive task. Fourth, it is *individual-specific*. The role of the gamer, as an individual is critical. The psychological variation in trait EI and basic psychological needs underpins the social outcome of each appropriation cycle.

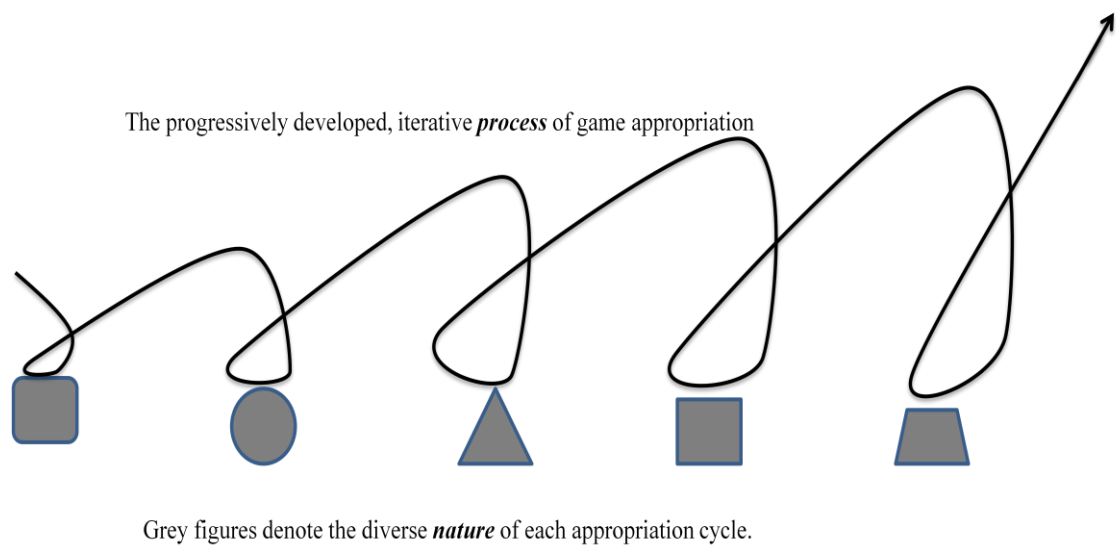


Figure 9.2 The relationship between the process and nature of game appropriation

Regarding the gamer, higher scorers on trait EI are more prone to social interaction *per se*, whereas lower scorers are more interested in achievement oriented, instrumental uses of sociality. Also, lower scorers on self-control (trait EI) are more interested in achievement and immersive game practices. Trait EI findings indicate that gamers' self-perceptions of their emotional abilities and behavioural dispositions correspond to their game preferences. The game becomes a virtual arena for expressing a "real me". Similarly, higher scorers on the basic psychological needs are more prone to sociality *per se*. Lower scorers on the need for autonomy and relatedness are more likely interested in achievement practices and the development of meaningful relationships respectively. Gamers that perceive to have less satisfied the needs for autonomy and relatedness are involved in game practices



that can offer opportunities for needs satisfaction. MMORPG gaming is a potential means for fulfilling basic psychological needs.

In a higher level of analysis, the nature of game appropriation refers to how the game is utilized by gamers. MMORPG gaming is more than an entertaining play activity. It is used as a means to keep in touch with distant real-life and online friends and family. It facilitates a new form of social activity to implement with real-life friends and family, a way to escape reality and boredom and relax and a virtual platform than has the potential to satisfy basis psychological needs.

### **9.5 Concluding remarks**

Game appropriation was examined by conducting three studies. The major outcomes of the first study -the game-specific nature of game appropriation- informed the development of the next two studies, Study 1 and 2. Qualitative and quantitative evidence were combined leading to GAM IV and in consequence, the analysis of the appropriation process for online games. Summarizing, game design, social praxis and the gamer as individual contribute distinctly in game appropriation explaining the process and nature of it. The gamer has a dynamic role in this process. S/he chooses gaming drawing from personal preferences for play, collectively defines game experience and finally, decides for the final social outcome of game appropriation.

## Chapter 10

### Conclusions

In Chapter 10 the conclusions generated from the findings of this thesis are made. In particular, through a retrospective analysis, the motivation, purposes and process of implementation of this examination are presented. The thesis' conceptual and methodological contributions in the field of games and motivation are outlined by addressing research questions. Finally, limitations and future work are discussed.

#### 10.1 Rationale

This thesis was motivated by an interest in understanding the motivational nature of digital games as evidenced by their increasing popularity and in particular to understand the gamer as an individual. A thorough examination of the issue revealed how the great appeal of gaming was consistent with a socio-technological transformation of games. As the historical review of games (see Chapter 2) demonstrated, the more social the information technologies and particularly, the internet, are becoming, the greater the sociality characterizing gaming. As a result, game applications, by becoming flexible and open-ended, have offered gamers the freedom to choose from a repertoire of game activities that generate their own gameplay through definition of in-game social relationships. The gamer is situated at the centre of the game experience as an active agent shaping gameplay through social interaction. The prominent game genre mirroring these changes is MMORPGs.

After reviewing existing studies of gaming and motivation it was identified that the focus of examination was social interaction and game design. Playing along with others as well as certain game qualities explained the motivational dimension of gameplay (see Chapter 2 and 3). A critical dimension of the recent, socio-technological reformation of gaming, the gamer was not examined in these studies. The flexibility of game design opened up the space for the gamer to generate his/her own forms of gaming. This form

of gaming is a convenient platform to accommodate individual differences as the gamer is the agent choosing and defining gameplay.

As a result, this evaluation was prompted in a certain direction; the incorporation of psychology in the study of games and motivation. More notably, it was hypothesized that individual differences, particularly trait EI and basic psychological needs could explain game use. The specific two psychological constructs were chosen, for the former, due to the conceptual relationship between trait EI and the recent formation of gaming as an activity during which social and emotional bonds are developed and various emotions (e.g., pleasure) are experienced (see Chapter 3). Regarding the choice of basic psychological needs, this was due to previous research and more specifically, evidence showing that certain game designs comprise suitable environments for satisfying basic psychological needs (see Chapter 3). The overall aim was to understand the relationship between game use and gamers' psychological characteristics.

The necessity of incorporating psychology in the study of games and motivation raised another critical issue. It revealed that in order to adequately examine the aspect of interest, multidisciplinary research was required, in the disciplines of psychology and sociology as well as the field of game studies. The first was due to the active role the gamer has during gaming and the second due to a straightforward relevance to the social transformation of games. In addition, considering the socio-technological reformation of gaming, especially the modifications on game design and the role of game designers (see Chapter 2 and 4) the technological context of gaming (i.e., game design) should also be counted in this examination.

A model, developed through a mixed-methods iterative hypothesis testing approach, framing the relationship between social praxis, game design and the gamers was proposed to resolve this issue. More notably, the concept of *game appropriation* was deployed to denote the adoption, adaption and integration of games in gamers' daily practices as well as gamers' actual game uses while playing a specific game. The concept of game appropriation was utilized due to the fact it covered both the actual uses of the technology/artefact (*nature of appropriation*) and also the *process* during this technology/artefact is incorporated in people's everyday activities (see Chapter 4).

Therefore, the examination of game appropriation revealed not only the motivation for using games in respect of the nature and process of appropriation are but also how the components of game appropriation interrelate and impact game use. A broader understanding of the issue was thus achieved.

In order to serve these purposes, the Game Appropriation Model (GAM) was constructed. Existing models of appropriation comprised the theoretical underpinnings of the GAM (see Chapter 4). Applying one of these approaches to gaming would have been more convenient, however this was not feasible. Gaming presented characteristics that were unexpected and therefore not included in these models, for instance, the leisure and non-organizational settings of gaming. In addition, there was the need to incorporate psychological accounts in the study of game appropriation due to the focus on the gamer as a core component of game appropriation. The theoretically-oriented version of the GAM was followed up by three empirical examinations supporting the model's iterative development. Through an iterative hypothesis testing design, each new version of the model resulted from the empirical elaboration of the previous one.

The first small-scale examination of game appropriation aimed to iterate the main dimensions of the GAM (i.e., game design, social praxis and the gamer as an individual) as these were described in the literature, through in-depth interviews and a screening questionnaire (see Chapter 6). While these dimensions were empirically validated, certain shortcomings in respect of the study of game appropriation emerged. In particular, one of the outcomes indicated that game appropriation should be studied by focusing on a single game. Moreover, it was emphasized that the context in which gaming occurs – i.e., *within* and *around* gameplay- is crucial in any examination of game appropriation. These limitations were addressed in the consequent two main studies (Study 1 and 2) by focusing on MMORPGs and explicitly, World of Warcraft. In more detail, Study 1 examined the role of individual differences in trait EI and basic psychological needs in relation to game preferences, frequency of gaming and the norms (for trait EI). It also gathered primary data on the context *within* which actual gameplay is situated as evidenced by a large-scale online survey (see Chapter 7). Study 2 focused on examining social interaction *within* and *around* the game through

interviewing (see Chapter 8). Both studies assisted in defining the relationships between game design, social praxis and the gamer as an individual.

In the following section, the findings of this thesis are discussed in relation to the research objectives of this examination and the core question - **Where does the gamer fit?** - is addressed.

### **10.2 The contributions of this thesis**

The findings from this thesis contribute to the existing body of knowledge that relates to the domain of games and motivation. In particular, this thesis focuses on developing an understanding of the “why” of a popularized phenomenon - the use of MMORPGs. Initially, it proposed a working definition of game appropriation, structured upon two interwoven axes both required for understanding gaming and its intrinsically motivating nature; the *process* and *nature* of game appropriation. In addition, a model framing the relationships and factors influencing the appropriation of games was also introduced. Moreover, this thesis illuminated the field of psychology by analysing the psychological characteristics of the gamers in respect of trait EI and basic psychological needs as well as how these relate to game preferences, frequency of game use and the norms (for trait EI). Furthermore, it has contributed to sociological studies by presenting the various forms of social praxis developed during gaming and thus the way social interaction has been shaped in the light of games’ socio-technological transformation. Finally, this thesis contributed methodologically to the study of games and motivation by developing a mixed-methods multidisciplinary approach in order to understand game appropriation. The following discussion examines these contributions in more detail by addressing this thesis’ research questions.

**RQ1: What are the high-end gamers’ psychological characteristics (i.e., trait EI and basic psychological needs) in relation to: game preferences, frequency of gaming and the norms (for trait EI)? How do these relate to the appropriation process?**

One of the research questions of this examination was to identify the relationship between individual differences in trait EI and basic psychological needs and game preferences, frequency of gaming and the norms (for trait EI). Gamers' psychological characteristics were of critical importance for this examination. The hypotheses that trait EI and basic psychological needs are related to game appropriation were supported, since associations were found between these variables (see Chapter 7). More notably, individual differences in trait EI and basic psychological needs underpin gamers' preferences and specifically, the utilization of social interaction. They explain the social outcome of game appropriation for the gamer as an individual. Gamers with higher trait EI or more satisfied basic psychological needs are more interested in socializing, teamwork and relationships. On the other hand, gamers with lower scorers on trait EI or the need for autonomy demonstrate greater preference for instrumental uses of social interaction and achievement oriented gaming. Also, lower scorers on self-control (trait EI) are more prone to achievement and immersion practices. Generally, gamers' self-perceived emotion-related abilities and behavioural dispositions correspond to their in-game preferences. Gaming is a virtual space for gamers to express a "real me". In respect of the basic psychological needs and in particular the needs for autonomy and relatedness, gamers' preferences for play indicate that gamers are involved in activities that afford opportunities for autonomous action (i.e., achievement practices) and social interaction (i.e., interest in meaningful relationships) respectively. Gameplay is a means through which the needs for autonomy and relatedness are more likely satisfied.

In addition, associations were found between the frequency of gaming and the deployed psychological constructs. Gamers with lower scores on trait EI and particularly well-being are more persistent gamers - i.e., play more frequently and for longer time - indicating that trait EI is associated with the process of game appropriation. Frequency of gaming is also explained by achievement-oriented practices. Such game choices are more likely grouped and time-consuming requesting continuous participation of gamers if it is to succeed. Also, the presence of certain others in the game (i.e., online and/or real-life friends) influence the time spent on gaming.

Finally, the comparison between gamers and norms in respect of trait EI showed that gamers perceived themselves as having higher trait EI than norms. Also, female gamers presented higher scorers in emotionality than male gamers and both male and female norms. Considering the psychological variation within gamers and their game practices, these findings indicated that MMORPG gamers are a diverse sample of individuals. The persistent involvement with games that require constant social interaction though defies stereotypical perceptions of gamers as antisocial and socially inept supporting gamers' self-perceived social and emotional competences.

### **RQ2: What does the social nature of gaming look like, in relation to game appropriation within and around MMORPG gameplay?**

Another aim of this thesis was to describe the nature of game appropriation within and around MMORPGs and therefore detail social interaction drawn from the socio-technological transformation of gaming. What was revealed is that online gaming overcomes the traditional boundaries of games as a mere leisure activity. The virtual space of these games is a platform for creating a diverse set of social relationships, both friendly and rival. Attending to similar game aims brings gamers together and motivates them to spend prolonged periods of time playing in collaboration. These are the preconditions for the development of a range of relationships; random choice of other gamers for joint enterprise, systematic collaboration with other chosen gamers and more importantly, the creation of online friendships (see Chapter 8). On the other hand, rival bonds result from a game mechanism that separates gamers into two opposing factions. A more detailed examination of this issue pointed out that rivalry also exists between gamers of the same faction in the form of a competitive spirit cultivated by gamers' constant comparison of the strengths and weaknesses of their avatars and also their game skills. In addition, intense social praxis characterizes gamers' practising out of actual gameplay. Gamers are co-located, not only in spaces that normally accommodate this form of activity (i.e., internet cafes) but also within domestic settings. Real-life friends or family members organize and implement collaborative game sessions inside a single physical space. More intimate body, facial and oral interactions are demonstrated leading to more effective game practices and enhancing game experience.

Social interaction within and around the game comprises a unified reality. In-game practices pervade reality when gamers meet face to face or arrange co-located sessions of gameplay. On the other hand, reality is diffused online when the game becomes an innovative form of social activity and a platform for maintaining real-life or online emotional bonds. Real-life conditions are also reproduced inside the game in the formation of in-game social relationships and the identification of gamers' personality characteristics (i.e., trait EI) mirrored on actual game uses. In-game practices have a point of reference out of the game whereas real-life situations are communicated inside the game. The blurring within and around the game sociality is crucial in illuminating the nature of games' social transformation. Overall, a key outcome of this thesis was the intense sociality identified within and around the game that reinforces the process and nature of game appropriation.

**RQ3: What is the relationship between the technological, social and psychological characteristics of game appropriation? What contributions do social praxis, game design and individual differences make to game appropriation?**

Game appropriation was explained by bringing together sociological, psychological and also technological factors. In particular, *game design* is necessary for the ignition of the process of game appropriation. When it demonstrates flexibility and open-endedness, it offers greater freedom to the gamer to generate his/her own gameplay (i.e., choose from the various game structures and define in-game relationships) and therefore is more likely to be appropriated. In addition, achievement-oriented group practices as well as game updates and expansions that renew the feeling of progression facilitate the process of appropriation.

*Social praxis* is the element determining the social nature of game appropriation. It is double-sided, both within and around actual gameplay. This unified duality also reinforces the process of appropriation particularly when game design becomes repetitive. The presence of certain other gamers (i.e., online and real-life friends or co-gamers) motivates further gaming.



Finally, individual differences in trait EI and basic psychological needs are associated with the actual configuration of social praxis. *The gamer* defines the nature of game appropriation, i.e., actual social uses, as underpinned by trait EI and basic psychological needs. Trait EI is also related to the process of appropriation. Lower scores on trait EI were found to be associated with more persistent gaming.

Game design, social praxis and the gamer as an individual uniquely contribute to game appropriation. The Game Appropriation Model (GAM) framed the relationships between these factors. GAM IV comprised the final, for this thesis, version of the model developed through an iterative process of hypothesis testing. It described the nature of game appropriation as diverse, highly social and emotional, heavily contextual and individual specific. Also, it explained the process of game appropriation as the convergence of social, technological and psychological factors. GAM is a starting point for further examinations on game appropriation (see 10.5).

The aforementioned outcomes converged to produce a definition of game appropriation developed upon two interwoven axes - the process and nature of game appropriation. This definition proposed that game appropriation is specific to each game. Therefore, in order to understand the intrinsically motivating nature of gaming requires to consider game design affordances, social praxis within and around the game as well as the gamer as an individual with certain psychological characteristics. Each of these components contributes distinctly in the appropriation of games.

The final contribution of this thesis is methodological. This thesis developed a mixed-methods multidisciplinary approach in psychology and sociology as well as the field of game studies in order to examine game appropriation. More notably, the concept of appropriation, as indicated by existing studies was largely examined through the use of qualitative methods focusing either in social interaction or the individual user. In the case of MMORPGs, the study of game appropriation required both sociological and psychological accounts, the former due to the apparent social transformation of gaming and the latter due to the active role of the gamer to generate and negotiate game practices. In more detail, individual differences had the potential to explain game use. Also, considering the socio-technological reformation of games in particular the

flexibility of game design that is constantly modified by game designers, game studies and specifically the technological context of gaming were also evaluated in this examination. Methodological pluralism was applied in conjunction with iterative hypothesis testing in order to address study's research questions. Such mixed-methods approach has also been identified in the development of the Adaptive Structuration Theory (1994) and the use of experiments, surveys and case studies. However, the development of a mixed-methods multidisciplinary research in psychology and sociology as well as the field of game studies to understand game appropriation is an underpinning of this thesis' contributions.

### **10.3 Where does the gamer fit?**

This thesis has been entitled: *Game Appropriation: Where does the gamer fit?* The exploration of game appropriation situated the gamer in a critical position. In order to analyse the role of the gamer in game appropriation the functionality of GAM IV will be detailed.

In particular, drawing from GAM IV, game design and the gamer interact at the micro-level use. More notably, gamers' involvement with flexible game designs signals the ignition of the process of game appropriation. By being open-ended, game design accommodates gamers with diverse preferences for play and offers the potential for appropriation. At the macro-level of use, game designers reinforce the process of game appropriation by preserving and renewing the feeling of progression through updates and expansion packages. Design, as initially presented to the gamers, is merely a flexible platform for play affording future modifications by game designers and permitting the gamers to choose certain game structures and collectively generate personal forms of play.

The influence of social praxis is evident in the macro-level of use. Intense social interactions are identified within and around the game configuring various collaborative and competitive forms of gameplay. The gamer as an individual is the agent defining the final social outcome of game appropriation. S/he chooses certain social uses shaping the end-product of each appropriation cycle. These preferences range from the socially-

concerned to more self-concerned choices for play and are underpinned by individual differences in trait EI and basic psychological needs. More notably, those gamers perceive to have higher emotion-related abilities and dispositions or perceive themselves as having more satisfied psychological needs are more concerned with sociality *per se* including socializing, teamwork and relationships. On the contrary, lower scorers on trait EI as well as lower scorers on the need for autonomy present greater interest in achievement and instrumental uses of sociality. Also, lower scorers on self-control (trait EI) are more prone to achievement and immersive practices.

The gamer as an individual also influences the process of appropriation. In particular, game appropriation is progressively developed. The frequency of gaming varies among gamers as a result of game design, social praxis and the gamer. Game design reinforces gameplay due to the multiple collectively-negotiated game structures, achievement-oriented, group activities, the platform of progression and updates and expansions. In terms of social praxis, collaborative and competitive gameplay as well as social play with friends and family members heavily influence the process. Finally, the process of game appropriation is highly developed for those gamers with lower scorers on trait EI indicating that gamers that perceive to be less emotionally skilful tend to be more persistent gamers.

### **10.4 Limitations of this examination**

One issue of concern identified during the organization of the two main studies was the process of sampling. In Study 1 participants were self-selected, whereas in Study 2 interviews were conducted using a sample the researcher had access to in real-life and inside the game. Though sampling issues were treated with caution in order to overcome sample bias (see Chapters 7 and 8), a different sampling procedure could have identified a more representative sample of gamers. For instance, the study could be organised as a case study focused on a certain geographic area and include a systematic sample of gamers identified in internet cafes of this area. Also, the age of the participants could be a criterion for selecting the sample in order to obtain a broader age coverage considering also for younger gamers (i.e., younger than 16 years old). As a

result, participants would represent different age groups allowing comparisons to be made on the collected data.

In addition, the choice of a single MMORPG placed barriers to generalizing the research findings. Despite the fact that the chosen game, World of Warcraft, is representative of the genre (see Chapter 7), generalizing the findings of this thesis to other MMORPGs is not straight forward. Though the general structure of MMORPGs is common, certain aspects (e.g., degree of design's flexibility) may vary bringing about different outcomes in respect of game appropriation. Therefore, studying gamers from multiple MMORPGs as well as online game-like social worlds (e.g., Second Life) would have revealed a broader picture of game appropriation counting for a diversity of contexts within which gaming occurs. This is left as future work.

Another limitation of this thesis is the iteration of the GAM that stopped with GAM IV (see Chapter 9). Though GAM has been used as an analytical tool to address the research questions of this thesis, as a model calls for additional examinations in order to develop further and become validated. In respect of the former, another iteration could be implemented aiming to elaborate more on the gamer as an individual. More notably, other psychological constructs measuring personality differences could have also been explored for instance the Big Five or the Giant Three (see Chapter 3) as they offer a general description of personality that could be related to gamers' preferences for play. In terms of the latter, the model's validation could be accomplished by applying this to other MMORPGs and online game-like social worlds.

Finally, concerning the instrument used in Study 1 (i.e., questionnaire) and in particular the items measuring the frequency of gaming (i.e., three multiple choice questions: duration of gaming per day, duration of WoW gaming per day, days per week spent on gaming), the analysis of the items would have been facilitated if each question requested from the participants to complete the exact number of hours and days playing games. In this way a single frequency variable could be extracted by multiplying hours and days of gaming for each participant.

### **10.5 Conclusions: Future directions**

This thesis comprises the first exploration of game appropriation. Therefore it is a starting point for future work, the aim of which should be to broaden the understanding around the nature and process of game appropriation. In particular, further examinations should be implemented focusing on multiple MMORPGs, different genres of games as well as other online game-like social worlds in order to increase the generalisation of the findings of this thesis and enrich the concept of game appropriation. Such examinations are also needed for GAM's further iteration or validation. GAM was used as an analytical tool for examining game appropriation. GAM IV by addressing thesis' research questions comprised the final version of the model. However, as a model it could be further reiterated, examining for instance, additional dimensions of gamers' psychological characteristics (e.g., Big Five). Alternatively, GAM IV as shaped in this thesis could be validated through application in other MMORPGs and/or online social worlds.

Game appropriation was studied through an online survey and interviews. The choice of methods for data collection was motivated by the type of data needed for addressing the aims of each study (i.e., a large sample was required for the statistical analysis of the psychological measurements of Study 1 and detailed information for addressing the aims of Study 2). Despite the suitability of the deployed methods, future studies should attempt to examine the appropriation of games utilizing also other methods of data collection. More notably, a longitudinal study could capture how gamers appropriate games over a certain period of time (e.g., 1 or 2 years) and provide a more detailed picture of game appropriation. Such approach could incorporate an analysis of game log files that contain information about gamers' activities and communication during gameplay as well as monitoring of the physical space within which the gamer is located. Alternatively or in combination, online ethnography could have been utilized with the researcher acting as an actual gamer.

This study could also be extended by examining additional dimensions of the personality of the gamer, for instance the role of self-control<sup>40</sup> or self-regulation. In particular, gamers value gaming differently as an activity. Some gamers prioritize gaming while others play games after completing their daily obligations. By examining self-control or self-regulation, the question of whether individuals who are more able to control their urges are those who can control the time they dedicate to gaming would be addressed. This would further illuminate a possible source of motivation for gaming. As already identified in this thesis, gamers with lower scores on trait EI (one aspect of which is self-control) are more frequently involved in gaming. Similarly, arguments around the addictive qualities of games could be examined counting for the role of game design, social praxis and individual differences in game appropriation. For example, how each gamer utilizes gaming should be considered in order to understand why gamers overuse games. This thesis already suggested that gaming is another social utility. Such examinations would elaborate further GAM IV by counting for cases of ‘over-appropriation’.

In-game practices and particularly time-consuming game events should be examined in respect to their influence on modifying or constructing real-life contexts. In other words, future studies should examine how gamers’ daily practices adjust in order to fit to in-game practices. Also, how existing routines, obligations or problems influence the process and nature of game appropriation should also be explored. Similarly, further examinations could go beyond the scope of this thesis to explore the reasons online gaming, considering the time spent on gaming, is preferred over other forms of activity (e.g., sports). Finally, game appropriation could be further detailed counting for age differences. The appropriation of games may differentiate for instance between children and adults due to age characteristics. It would be fruitful to use different age groups comparatively to identify whether the age is a determinant of game appropriation.

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<sup>40</sup> Self-control comprises one of the four dimensions of Trait EI. What is suggested here is the utilization of a psychological instrument exclusively developed for measuring self-control.

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## Appendix 1

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### Questionnaire for the use of digital games

I am a PhD student at the Institute of Education. My research concerns the factors and processes that contribute in playing digital games – those played on PCs, the internet, consoles, PDAs and mobile phones. Data collected will remain strictly confidential and anonymous and will be used only for the purposes of the present study. You have the right to withdraw from the research at any time and to have your data destroyed. Please do not hesitate to contact me for more details (e-mail: christothea\_herodotou@hotmail.com).

**Yours sincerely,**

**Christothea Herodotou**

*Please circle the most appropriate:*

1. Have you ever played a digital game (computer games, console-based games, online games)?

- a. Never
- b. One to three times in my life
- c. Once every two-three months
- d. One or two times per month
- e. One or two times per week
- f. Almost every day
- g. Every day more than once
- h. Other: .....

2. How much time do you spend playing games?

- a. No time at all
- b. ½ - 1 hour
- c. 1-2 hours
- d. 2-3 hours
- e. 3-4 hours

- f. 4-5 hours
- g. more than 5 hours
- h. Other: .....

3. What kind of gaming software do you use? (You can circle more than one answer)

- a. Action games
- b. Adventure games
- c. Fighting games
- d. Puzzle games
- e. Role-playing games
- f. Simulations
- g. Sport games
- h. Strategy games
- i. Other: (please indicate).....

4. Please indicate the games you play the most:  
 .....  
 .....

5. If you would like to get informed about study's findings or participate further in game projects please provide your e-mail address.....

**Thank you**

## INTERVIEW SCHEDULE

### *Identifying gamers' preferences and practices*

<b>A. Game situation</b>
<ol style="list-style-type: none"> <li>1. How often do you play games? How many hours per day?</li> <li>2. Where do you usually play? Home, work....why?</li> <li>3. Do you use to play alone or with friend? (physically or online) Which do you prefer? Why?</li> <li>4. Do you own any kind of software/hardware? What kind?</li> <li>5. What genre of games do you prefer? Adventurous, role playing...? Why?</li> <li>6. Playing games includes only the actual gameplay? What other activities do you do? (Searching new releases, game news, forums, help for a game...)</li> </ol>
<b>B. Becoming a gamer</b>
<ol style="list-style-type: none"> <li>1. When did you start playing games?</li> <li>2. What kind of gameplay was it? (What game, how often, where, with whom...)</li> <li>3. Why did you start gaming?</li> <li>4. Why do you spend more/less time now?</li> <li>5. Why do you play different genre of games now? (if so)</li> <li>6. How did you end up playing particular games? (if so)</li> </ol>
<b>C. Actual gameplay</b>
<ol style="list-style-type: none"> <li>1. Which game is your favorite at the moment? Why?</li> <li>2. How does it happen to start playing a new game?</li> <li>3. Tell me a game that you give up playing...why?</li> <li>4. Playing a game for first time....describe <ol style="list-style-type: none"> <li>a. Process (hardware use, game rules (navigation problems, breaks in interaction-bad design), help, give up/insist .....</li> <li>b. Feelings (anxiety, satisfaction, dissonance....)</li> </ol> </li> <li>5. Does your gameplay change after playing the game for several times? How?</li> <li>6. Can others easily disrupt you? Do you have the sense of time? Are you in your own world?</li> </ol>
<b>D. Value of games in the gamers' life</b>
<ol style="list-style-type: none"> <li>1. Do you choose to play different games at different moments? Why?</li> <li>2. Would you miss an appointment or .... So as to save extra time for</li> </ol>

playing?

3. Have you ever imagined your life without games? What would you do as an alternative?
4. Would you play games if your friends did not? Or if it wasn't a rewarding activity? or if you did not feel enjoyment and satisfaction, or if you did not relax...?
5. How much would you value gaming in your life?

### Appendix 3

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#### WoW Questionnaire

I am a PhD student at the Institute of Education. My research concerns the processes that contribute to people becoming engaged in playing MMORPGs and particularly WoW. Data collected will remain strictly confidential and anonymous and will be used only for the purposes of the present study. You have the right to withdraw from the research at any time and to have your data destroyed. Please do not hesitate to contact me for more details (e-mail: thea\_herodotou@yahoo.com).

**Yours sincerely,**

**C. Herodotou**

*Please indicate or circle the most appropriate:*

1. Gender: M      F
2. Age: 10-15    16-20    21-25    26-30    31-40    41-50    50+
3. Occupation:
  - a. Student
  - b. Employed
  - c. Unemployed
  - d. Other:.....
4. What is your home country (please state):.....
5. How many days per week do you play games?
  - a. None
  - b. Less than once per week
  - c. 1 day per week
  - d. 2 days per week
  - e. 3 days per week
  - f. 4 days per week
  - g. 5 days per week
  - h. 6 days per week
  - i. Everyday



6. For each day you play, how many hours on average do you spend on playing games?

- a. None
- b. ½-1 hour per day
- c. 1-2 hours per day
- d. 2-3 hours per day
- e. 3-4 hours per day
- f. 4-5 hours per day
- g. More than 5 hours per day.
- h. If more than 5 hours, please indicate.....

7. When did you start playing WoW?

- a. Less than 6 months
- b. Less than 1 year
- c. 1 year ago
- d. 2 years ago
- e. 3 years ago (2004 launch of wow)
- f. Pre launch-beta tester

8. How many hours per day do you spend on playing WoW?

- a. None
- b. ½-1 hour per day
- c. 1-2 hours per day
- d. 2-3 hours per day
- e. 3-4 hours per day
- f. 4-5 hours per day
- g. More than 5 hours per day
- h. If more than 5 hours, please indicate.....

9. Please state the two main reasons you play WoW.

- a. ....
- b. ....

10. Please answer the following questions:

- a. What faction are you in? \_\_\_\_\_
- b. What level are you at the moment? \_\_\_\_\_
- c. What is your avatar's race? \_\_\_\_\_
- d. What is your avatar's class? \_\_\_\_\_
- e. Is your avatar a member of a guild? What is your guild's aim at the

- moment?\_\_\_\_\_
- f. What kind of realm do you play on? Why?  
(e.g., PvP, PvE, RP)\_\_\_\_\_

11. Please choose the most appropriate.

**Not important at all 1....2....3....4....5 Tremendously important**

**How important are the  
following in WoW?**

Levelling up your character as fast as possible.	1	2	3	4	5
Acquiring rare items that most players will never have.	1	2	3	4	5
Becoming powerful.	1	2	3	4	5
Accumulating resources, items or money.	1	2	3	4	5
Knowing as much about the game mechanics and rules as possible.	1	2	3	4	5
Having a self-sufficient character.	1	2	3	4	5
Being immersed in a fantasy world.	1	2	3	4	5
Escaping from the real world.	1	2	3	4	5
Your character is as optimized as possible for their profession /role.	1	2	3	4	5
Your character can solo	1	2	3	4	5

well.

Be well-known in the game.	1	2	3	4	5
Your character's armor / outfit matches in colour and style.	1	2	3	4	5
Your character looks different from other characters.	1	2	3	4	5
The precise numbers and percentages underlying the game mechanics (i.e., chance of dodging an attack, the math comparing dual-wield to two-handed weapons, etc.).	1	2	3	4	5
Be grouped.	1	2	3	4	5
Be solo.	1	2	3	4	5

**Not enjoyable at all 1...2...3...4...5 Tremendously enjoyable**

**How enjoyable are the following in WoW?**

Helping other players.	1	2	3	4	5
Getting to know other players.	1	2	3	4	5
Chatting with other players.	1	2	3	4	5
Competing with other players.	1	2	3	4	5
Dominating/killing other players.	1	2	3	4	5

Collecting distinctive objects or clothing that have no functional value in the game.	1	2	3	4	5
Exploring every map or zone in the world.	1	2	3	4	5
Being part of a friendly, casual guild.	1	2	3	4	5
Being part of a serious, raid/loot-oriented guild.	1	2	3	4	5
Trying out new roles and personalities with your characters.	1	2	3	4	5
Doing things that annoy other players.	1	2	3	4	5
Working with others in a group.	1	2	3	4	5
Exploring the world just for the sake of exploring it.	1	2	3	4	5
Finding quests, NPCs or locations that most people do not know about.	1	2	3	4	5

Never 1...2...3...4...5 Always

**How often do you do the following in WoW?**

Find yourself having meaningful conversations with other	1	2	3	4	5
--	---	---	---	---	---

players.

Talk to your online friends about your personal issues.	1	2	3	4	5
---	---	---	---	---	---

Your online friends have offered you support when you had a real life problem.	1	2	3	4	5
--	---	---	---	---	---

Make up stories and histories for your characters.	1	2	3	4	5
--	---	---	---	---	---

Role-play your character.	1	2	3	4	5
---------------------------	---	---	---	---	---

Play so you can avoid thinking about some of your real-life problems or worries.	1	2	3	4	5
--	---	---	---	---	---

Play to relax from the day's work.	1	2	3	4	5
------------------------------------	---	---	---	---	---

Purposefully try to provoke or irritate other players.	1	2	3	4	5
--	---	---	---	---	---

Use a character builder or a template to plan out your character's advancement at an early level.	1	2	3	4	5
---	---	---	---	---	---

Spend time customizing your character during character creation.	1	2	3	4	5
--	---	---	---	---	---

12. Please circle the most appropriate.

	Not at all true	1	2	3	4	5	6	7 Very true
	Somewhat true							
1.	I feel like I am free to decide for myself how to live my life.							1 2 3 4 5 6 7
2.	I really like the people I interact with.							1 2 3 4 5 6 7
3.	Often, I do not feel very competent.							1 2 3 4 5 6 7
4.	I feel pressured in my life.							1 2 3 4 5 6 7
5.	People I know tell me I am good at what I do.							1 2 3 4 5 6 7
6.	I get along with people I come into contact with.							1 2 3 4 5 6 7
7.	I pretty much keep to myself and don't have a lot of social contacts.							1 2 3 4 5 6 7
8.	I generally feel free to express my ideas and opinions.							1 2 3 4 5 6 7
9.	I consider the people I regularly interact with to be my friends.							1 2 3 4 5 6 7
10.	I have been able to learn interesting new skills recently.							1 2 3 4 5 6 7
11.	In my daily life, I frequently have to do what I am told.							1 2 3 4 5 6 7
12.	People in my life care about me.							1 2 3 4 5 6 7
13.	Most days I feel a sense of accomplishment from what I do.							1 2 3 4 5 6 7
14.	People I interact with on a daily basis tend to take my feelings into consideration.							1 2 3 4 5 6 7

- |  |               |
|--|---------------|
| 15. In my life I do not get much of a chance to show how capable I am.                           | 1 2 3 4 5 6 7 |
| 16. There are not many people that I am close to.  | 1 2 3 4 5 6 7 |
| 17. I feel like I can pretty much be myself in my daily situations.                              | 1 2 3 4 5 6 7 |
| 18. The people I interact with regularly do not seem to like me much.                            | 1 2 3 4 5 6 7 |
| 19. I often do not feel very capable.  | 1 2 3 4 5 6 7 |
| 20. There is not much opportunity for me to decide for myself how to do things in my daily life. | 1 2 3 4 5 6 7 |
| 21. People are generally pretty friendly towards me.   | 1 2 3 4 5 6 7 |

13. Please circle the most appropriate

**Completely Disagree 1...2...3...4...5...6...7 Completely Agree**

- |  |               |
|--|---------------|
| 1. Expressing my emotions with words is not a problem for me.              | 1 2 3 4 5 6 7 |
| 2. I often find it difficult to see things from another person's viewpoint | 1 2 3 4 5 6 7 |
| 3. On the whole, I'm a highly motivated person.                            | 1 2 3 4 5 6 7 |
| 4. I usually find it difficult to regulate my emotions.                    | 1 2 3 4 5 6 7 |
| 5. I generally don't find life enjoyable.                                  | 1 2 3 4 5 6 7 |
| 6. I can deal effectively with people.                                     | 1 2 3 4 5 6 7 |
| 7. I tend to change my mind frequently.                                    | 1 2 3 4 5 6 7 |

- |  |               |
|--|---------------|
| 8. Many times, I can't figure out what emotion I'm feeling.                        | 1 2 3 4 5 6 7 |
| 9. I feel that I have a number of good qualities.                                  | 1 2 3 4 5 6 7 |
| 10. I often find it difficult to stand up for my rights.                           | 1 2 3 4 5 6 7 |
| 11. I'm usually able to influence the way other people feel.                       | 1 2 3 4 5 6 7 |
| 12. On the whole, I have a gloomy perspective on most things.                      | 1 2 3 4 5 6 7 |
| 13. Those close to me often complain that I don't treat them right.                | 1 2 3 4 5 6 7 |
| 14. I often find it difficult to adjust my life according to the circumstances.    | 1 2 3 4 5 6 7 |
| 15. On the whole, I'm able to deal with stress.                                    | 1 2 3 4 5 6 7 |
| 16. I often find it difficult to show my affection to those close to me.           | 1 2 3 4 5 6 7 |
| 17. I'm normally able to "get into someone's shoes" and experience their emotions. | 1 2 3 4 5 6 7 |
| 18. I normally find it difficult to keep myself motivated.                         | 1 2 3 4 5 6 7 |
| 19. I'm usually able to find ways to control my emotions when I want to.           | 1 2 3 4 5 6 7 |
| 20. On the whole, I'm pleased with my life.  | 1 2 3 4 5 6 7 |
| 21. I would describe myself as a good negotiator.                                  | 1 2 3 4 5 6 7 |
| 22. I tend to get involved in things I later wish I could get out of.              | 1 2 3 4 5 6 7 |
| 23. I often pause and think about my feelings.                                     | 1 2 3 4 5 6 7 |
| 24. I believe I'm full of personal strengths.                                      | 1 2 3 4 5 6 7 |



- |   |               |
|---|---------------|
| 25. I tend to “back down” even if I know I’m right.                     | 1 2 3 4 5 6 7 |
| 26. I don’t seem to have any power at all over other people’s feelings. | 1 2 3 4 5 6 7 |
| 27. I generally believe that things will work out fine in my life.      | 1 2 3 4 5 6 7 |
| 28. I find it difficult to bond well even with those close to me.       | 1 2 3 4 5 6 7 |
| 29. Generally, I’m able to adapt to new environments.                   | 1 2 3 4 5 6 7 |
| 30. Others admire me for being relaxed.                                 | 1 2 3 4 5 6 7 |

## **Appendix 4**

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### **Interview schedule (Study 2)**

1. When did you start playing WoW? Why?
2. How often do you play WoW? (i.e., hours per day and days per week) Would you like to play more hours?
3. What level (s) is your character (s)? If you have more than one character, why did you create more than one character?
4. Where do you use to play WoW (e.g., home, internet cafe, friends' house etc)? Why?
5. Do you use to play WoW with other gamers playing the game in the same physical space (e.g., same room)? Why? What things do you do with those gamers while you play the game (e.g., talk about the game, chatting, look at their gameplay and help)?
6. What are the main things you do inside the game at the moment? What is your aim in the game?
7. Do you choose to play with specific gamers every time you enter the game? How you choose with whom to play with? Do you play with different gamers when having different game goals?
8. Do you play with real-life friends/acquaintances/family? How do you arrange gaming (e.g., while playing or out of the game, in relation to other obligations)?
9. Are you in a guild or prefer group? Why? Do you have a role in your guild or group? Are there moments you prefer to play alone? What do you do?
10. Have you made any online friends? Why do you perceive them as "friends"? Have you met them in person?
11. Is WoW important in your life? Why? Is it something more than a game for you?

## Appendix 5

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### Interview transcript (4) (Face-to-face interview)

-How long have you been playing WoW?

- Around 10 months

-How did you start the game?

-A friend of mine was playing and he introduced me to the game

-Did you play any other games before WoW?

-Yeah...I used to play games...to do something in my free time.

-How much time do you spend on WoW?

-Now 1-2h, 5 to 6 times per week as I'm on holidays. When I'm back on studies I play several hours...5 to 6h per day. I usually play PvE in group something that needs time to complete.

-Why do you play WoW?

- Because....it's online and you compete with other people and not the computer... When you play alone competition is not that big...the experience of playing with others is different

-What level is your character?

-70.

-What is your game aim at the moment?

-Mostly arena and PvE.... but as I don't have much time now and PvE needs time...PvP since you can finish something.... let's say 10 minutes...so PvP is better since I don't have so much time to play.

-Do you use to play with certain people?

- Not necessarily....When I am focus on a specific aspect, I pick up certain people with whom I know that I'll win...they are good...

-Do you play with real-life friend?

-Yes.

-What if real-life friends are in the game?

-I won't do something with them if not so good...I may help them though.

-Does it happen to arrange gameplay with them before hand?

-Well...if we play seriously we arrange a certain game activity before hand...now that I don't play so many hours...no...

-How do you arrange gaming? What do you do?

-We phone each other or find each other in MSN and arrange it.

-Have you ever met and play in the same physical space...let's say at your house?

-Yes...what you use to write in the game you tell them out loud...you play better this way...because there will be moments when you notice something and you tell this to the person sitting next to you straight away.

-How many people were playing?

-Three and we all had the same goal.

-Have you ever arranged such meetings at internet cafes?

-No, we have the equipment at home...so if we want to, we gather at someone's house. There is no reason to go to the internet cafe.

-Have you met any people online?

- Yes and I use to play with them.

-What kind of relationship is the one you have with them?

- Strictly for game issues ...Not personal...I have enough real-life friends...I don't need to get to know others.

-Are you a member of a guild?

-Yes.

-What things do you do with your guild?

- Guild is an easy way to find other people to play with and do some group activities. All 70's are in a guild...you know...guilds are in ranks...there are those that pick up only the best players and do stuff that you need to have the equipment to do so...we are a moderate guild.

-Do you arrange stuff with your guild?

-Yeah...but I don't do stuff with my guild now...because even groups of five need 2 hours play time.

-Do you have a special title in your guild? Are you for example a Guild master?

-No...since you end up concerned with other gamers...spend much time for this....this is not my aim. I want to play, have fun, advance my character and not do this kind of stuff. I prefer have others organize such things.

- Is the game all about competition between gamers? I mean to get the best equipment, be in the best guild?

-All the gamers play in order to become better. You have to aim for the best even if you don't manage to do it. By becoming one of the top players the game in a sense finishes there...you play to reach that level...updates give something more to the game to those top players to have something more and better to do...to stay with the company.

-What do you think about updates? Isn't it just a repetition of the game?

-Major updates are about every six months so...in about two months you do all new stuff and you have another four months. It is not so frequent to feel as if you did nothing in the game.

-Do you feel that updates keep you in the game?

-Yes, all gamers play for this. The game must have the updates.

-From what I've heard you saying, I wonder...do you play more so as to become better or to get to know others and socialize?

-I am on the game instead of getting to know other gamers. I can't say that it's my aim to become friend with someone it happened to play with...I don't care much about this. If someone becomes an online friend fine...but this is not my aim.

-Is WoW just a game for you or something more?

-For me is just a game. If I don't play WoW I'll play something else when I have free time...so I don't think is something more than a game for me. I think is the best online game because there are many people playing the game, many levels to reach...generally it has many ...hundred different things to do.

-Do you find time to play other games?

-No, when you play WoW you don't have time to play other games...you need a lot of time.

-You've said earlier that depending on your aim you choose to play with certain others. Can you explain this a bit more?

-It depends what you play. If you play arena or something else in PvP..You see this more serious and less about fun. In that case fun comes from succeeding. If you are grouped against the PC you prefer being with someone amusing...is less

boring...if I fight in arena....I want to be with the best one and not the more amusing one.

-What if you played alone?

- If I played alone I wouldn't like the game that much...the game is a matter of group work. So if I played alone against the PC...no...I wouldn't like it. The way it is... it is more competitive rather than playing alone.

-Many thanks for your time.

-Cheers.

**E-mail interview (13)**

**Questions about World of Warcraft**

*Please answer the following questions about WoW. Any information given is anonymous, confidential and used only for research purposes. Contact me for any queries (thea\_herodotou@yahoo.com).*

1. When did you start playing WoW? How did it happen?

*I started playing February 2008 when a friend gave me a 10-day trial account.*

*I used to say that I would never start to play wow since it seemed so dangerously addictive, but he pushed me into the dark void and here I am, stuck with a big smile on my face.*

2. How often do you play WoW? (i.e., hours per day and days per week) Would you like to play more hours? If yes, what does it prevent you?

*I play a little to much for my own good. Approximately that is 3-4 hours a day mon-fri and maybe 4-6 in the weekends. I want to play less and have started to play other games just to get “off wow” but I must say it is one highly addictive game and after almost 6 months it feels like I’m still learning how to play.*

3. What level (s) is your character (s)? If you have more than one, why did you create additional characters (alts)?

*My main char is level 61 but I have about 15(?) others. I have one of every class on my main server because I wanted to try them all. I also wanted to try Horde so I created a few chars on another server. A few weeks ago, I created two more ally chars on yet another server because one of my co-workers played on that server.*

4. Where do you use to play WoW (e.g., work, home, internet cafe, friends’ house etc)? Is there a reason for this?

*With very few exceptions I play at home. I have logged in from work a few times just to check AH. Once we played a few guys together at a friend’s house, that was really fun, but 14 hours with just small breaks was a little exhausting, and after a few beers my playing also got really bad. : )*

5. Do you play WoW with other gamers that are in the **same physical space** (e.g., same room)? Why? What things you do with those gamers while you play the game (e.g., talk, chatting, help)? Please give details on how you play.

*As said above, I only played in LAN-style once. At that time I had never tried PVP in Battlegrounds and we were only playing to level up. We had a bbq and a few beers in the garden and then we ran around killing horde outside Booty Bay, that was a beautiful day. I think it would be a lot of fun to play pvp in battlegrounds with my friends in the same room. We use Skype a lot when we play to talk during BG-games but it's just not the same as to be able to see the face of someone who has just grabbed the flag and starts to run towards the field.*

6. What are the main things you do in the game at the moment? What is your aim and why?

*I try to level my main towards 70, but it's really slow and harder to play solo in Outlands than it was at lower levels. I play a lot of BG (Battleground pvp) with a level 29 Hunter because it's a lot of fun and he don't die at the sight of a rouge like the warlock (also a 29) does, but the lock gets some time in the BGs as well. I play them in "wsg" to buy some of the rewards but I will continue to level them soon.*

*I've also spent a lot of time levelling up a Priest. I like the feeling of helping my allies in the game. If I see another player fighting a mob, I always click on him to see how he's doing. If he seems to be in trouble I run over to help him out. That goes for all my chars, but with the priest it comes naturally with the ability to heal. I actually regret I didn't create him earlier, I would've liked to have a priest as my main char.*

7. Do you play with other online players? Are they real-life friends/family or met online? How you choose with whom to play with?

*I always start out alone. The other guys in my guild are my real (irl) friends, but they are usually more into playing EOTS with their 70s or WSG with their 29s. Not so much levelling going on right now. I'm not the kind who runs around inviting people to join my group but I always accept an invitation. I'm thinking I should use the "Looking For Group" function more often since I often get stuck with mobs I can't handle on my own. In that way, wow is a great place to meet new people. We help each other out. Sometimes without saying more than "Hi" but sometimes you end up with a new friend on MSN and an email interview to fill in, which I'm more than willing to do for someone who's been kind to me in the game. ; )*



8. Do you schedule next-day's gaming? How do you arrange this (e.g., in relation to other obligations, free time)?

*Not really. I play whenever I have free time. Mostly that is late in the evenings. I trade a few hours of sleep into a few hours of playing. Of course I'm usually a wreck in the mornings but I like to think that it's worth it. The only time I actually schedule game play is when I join my friends in wsg or to do an instance.*

9. Are you in a guild or prefer small groups? Why? Do you have a role in your guild or group?

*I'm in a guild with people I knew from before wow. We used to play other games like StarCraft, Heroes of Might And Magic, Counterstrike and all sorts of realtime strategy games. At that time it always was a huge project to get all people together at one place and to carry the computers and monitors to one of my friends house to be able to play together. In wow that comes along with the package, just bring up the guild tab to see who is online or keep an eye on the guild chat to see what's going on.*

*My role would be best describes as "the newbie". Although I think I'm the one who play the most right now, I'm also the one who started last. I have no level 70 char like the others I usually have to ask them for help with different matters like were do I finish some quest or asking for advice on how to spec different classes.*

10. Are there moments you prefer to play alone? What do you do?

*I usually play along and don't mind doing so. That way I can decide were to go and what to do as I play along. But I must say I prefer to play in a group since there is a lot to gain on being more that one. You can take on harder mobs, finish quests faster and get more xp than going solo.*

11. Have you made any online friendships? How has this happened?

*Well, I have helped a few guys out and some of them end up on the Friend list. Once on the Friend list you can always throw away a random Hello now and then but I guess I wouldn't go as far as to call it Friendship, maybe except for that guy who helped me prepare my warrior for Outlands and even bought me some equipment! What a great guy!*

12. Is WoW important in your life? Why? Is it something more than a game for you?

*I wouldn't say it is important, I actually think of taking some time off just to pay more attention to my friends. I really enjoy playing, but more than a game? No.*

13. What is your:

- Gender :Male
- Age: 31
- Occupation: Consultant (Financial Services)
- Country: Sweden

Thanks for your time and effort ☺

## Active subscriptions for World of Warcraft

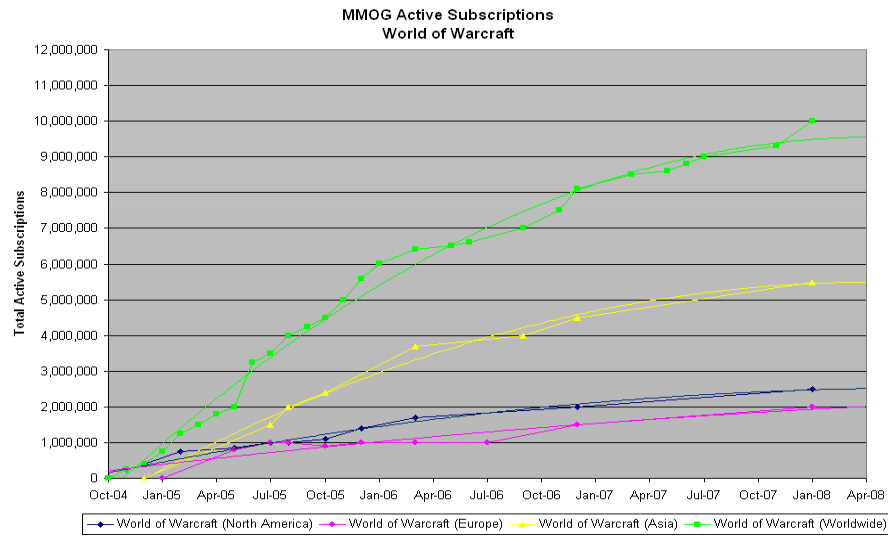


Figure 1 World of Warcraft: Active subscriptions (Woodcock, 2008)

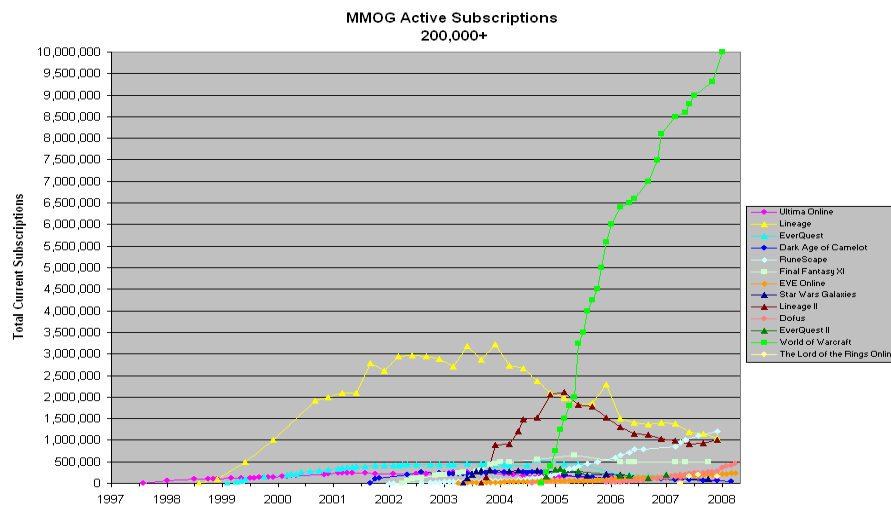


Figure 2 MMORPG Active Subscriptions (Woodcock, 2008)

Origin, gender, age and occupation of participants (Study 1)

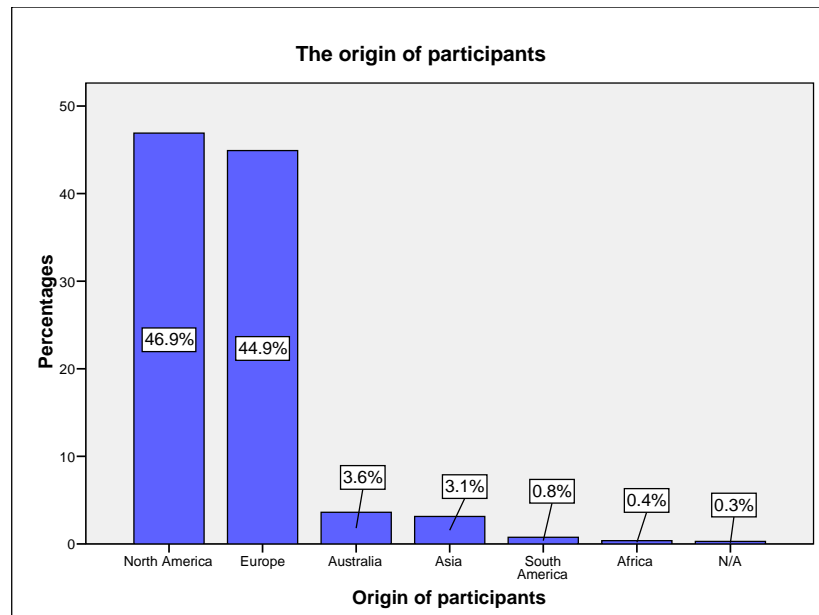


Figure 1. Participants' origin

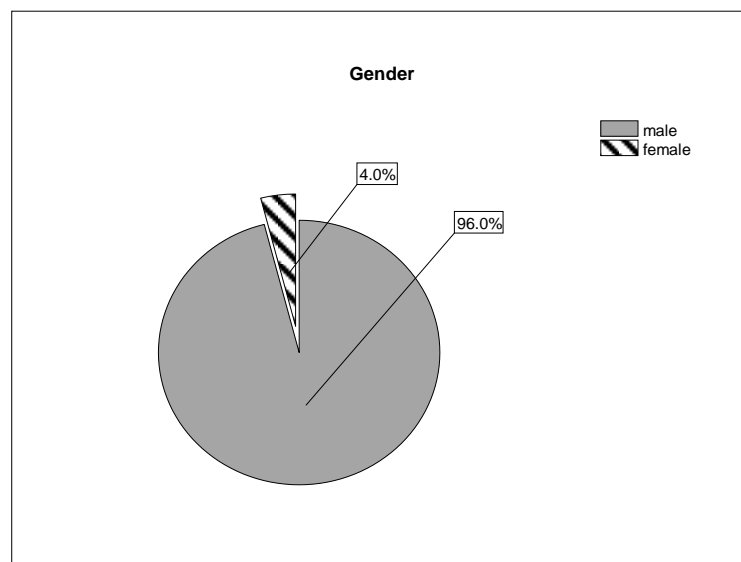


Figure 2. Gender analysis of study's participants

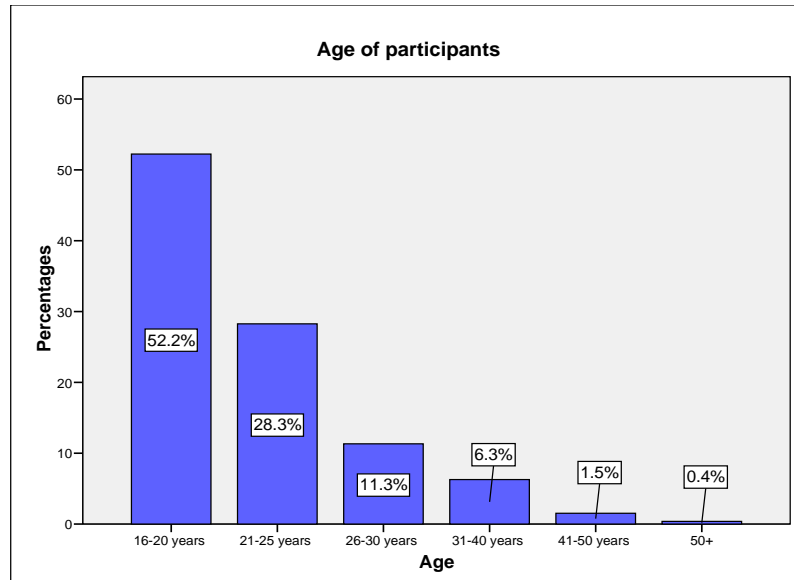


Figure 3. Age analysis of study's participants

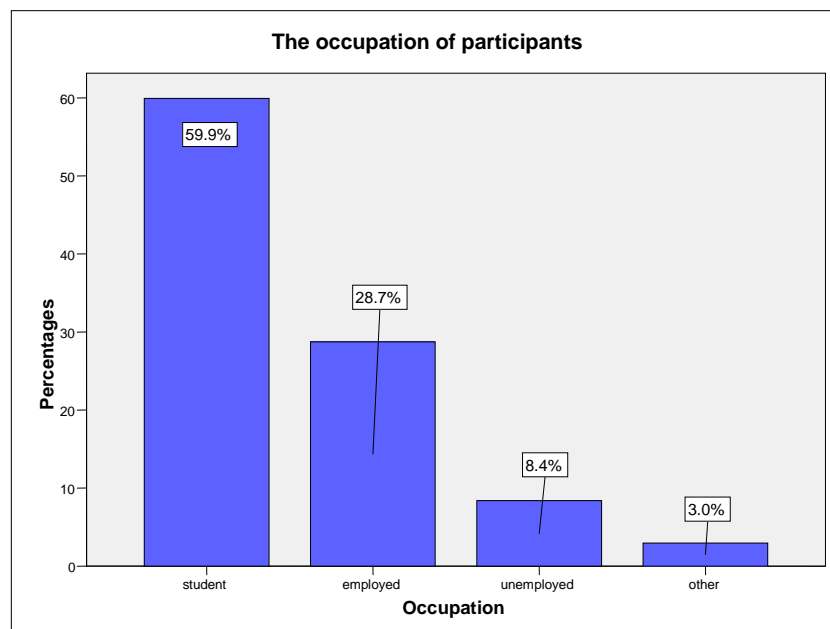


Figure 4. Occupation analysis of study's participants

The choice of faction, race, class and realm

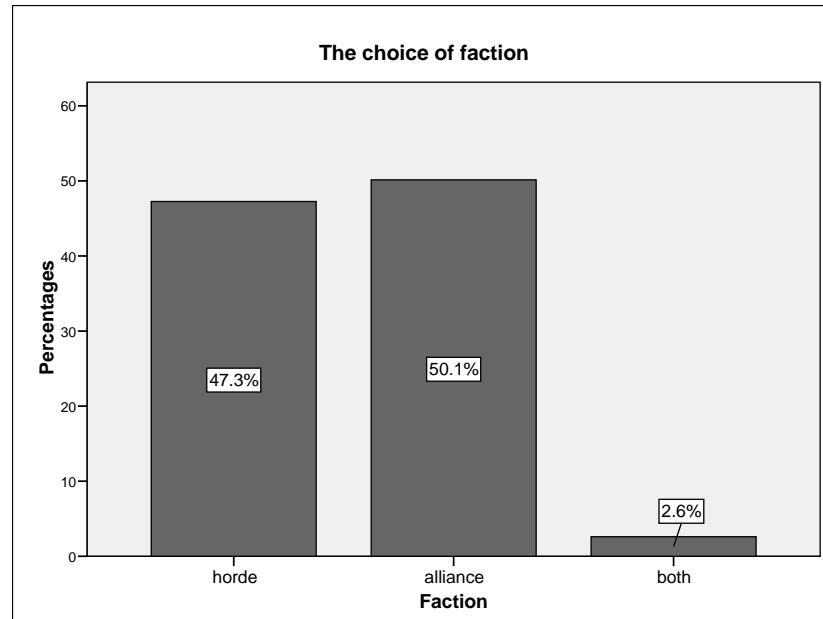


Figure 1. Faction preferences

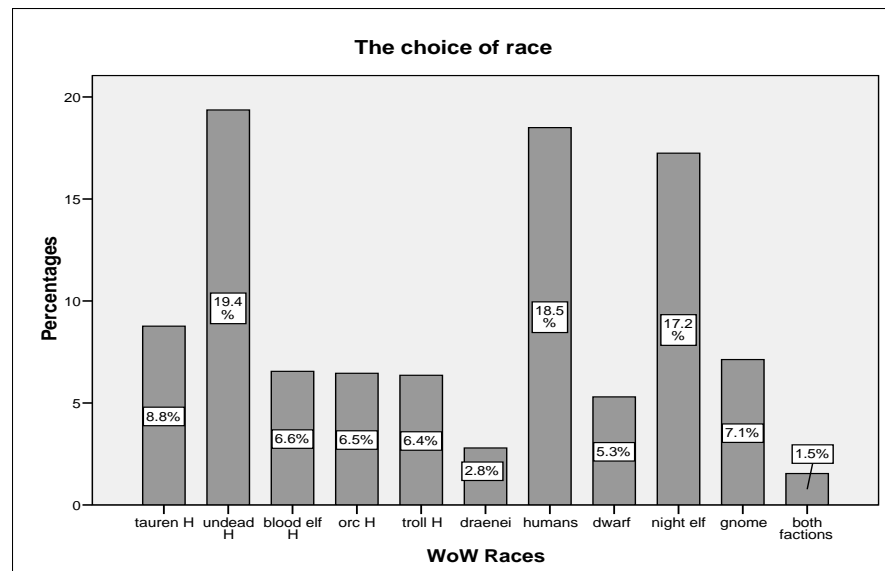


Figure 2. Race preferences

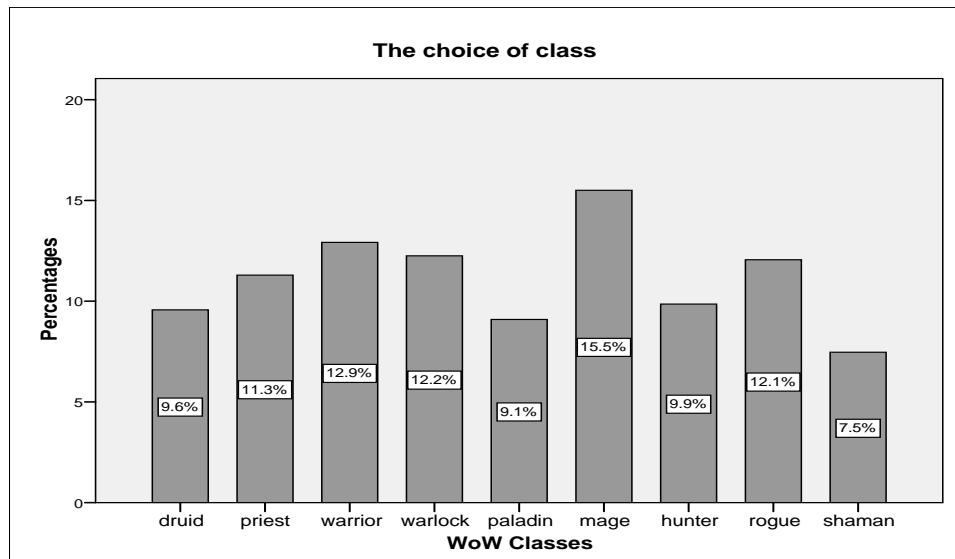


Figure 3. Class preferences

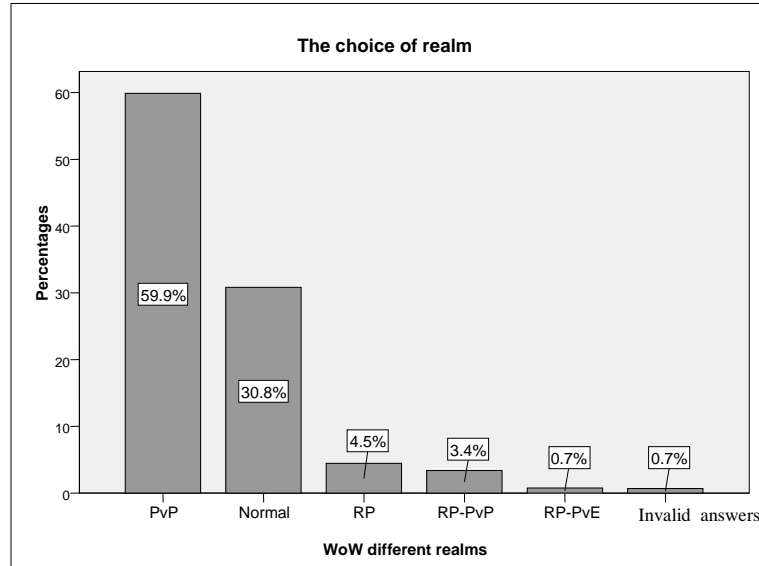


Figure 4. Realm preferences

*Brief Description and Internal Consistencies of the TEIQUE-SF, BPNS, and Motivations of Play scale*

Scale	Brief Description of Instruments and Components	Number of Items	Cronbach's alpha
1. <u>TEIQUE-SF</u>	assessing self-perceived abilities and behavioral dispositions (trait EI).	30	.90
Well-being	concerns generalized sense of well-being and fulfillment about life.	6	.80
Self-control	concerns control over urges and desires.	6	.75
Emotionality	concerns emotion-related skills and personal relationships.	8	.69
Sociability	concerns social relationships and social influence.	6	.69
2. <u>BPNS</u>	assessing satisfaction of basic psychological needs.	21	.85
Autonomy	concerns freedom to determine subjectively meaningful goals.	7	.60
Competence	concerns effectiveness when doing an action.	6	.64
Relatedness	concerns belonging and desire for social interaction.	8	.77
3. <u>Motivations of Play</u>	assessing gameplay preferences within MMORPGs	40	.82
Achievement	Advancement, Mechanics, Competition	14	.74
Social	Socializing, Relationship, Teamwork	12	.70
Immersion	Discovery, Role-Play, Customization, Escapism	14	.78

*Note.* The original Motivations of Play scale contained 39 items.



## Appendix 11

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### Factor analysis Motivations of Play scale

	Motivations of Play scale		
	Immersion	Achievement	Social
ROLEPLAYING	<b>.746</b>	-.063	.128
DISCOVERY	<b>.732</b>	-.092	.016
CUSTOMIZATION	<b>.606</b>	.295	-.064
ESCAPISM	<b>.476</b>	.135	.105
ADVANCEMENT	.003	<b>.829</b>	-.059
COMPETITION	-.039	<b>.675</b>	-.080
MECHANICS	.209	<b>.647</b>	.146
TEAMWORK	-.334	-.034	<b>.727</b>
RELATIONSHIP	.338	.179	<b>.652</b>
SOCIALIZING	.417	-.238	<b>.639</b>

*Note.* In bold are the highest loadings for each factor.

### Supporting quotes (Study 2)

#### 1. The role of game design in game appropriation

##### a. Game as a multidimensional platform of actions

*“[the game is fun] because there are many people playing the game, many levels to reach...generally it has many ...hundred different things to do” (Interview 4), “with my level 70 I was mostly in battlegrounds, arena, dungeon or raids. [I was playing] battleground and arena to get better gear for PvP and dungeons for PvE... I wanted to try them all and this is why I was playing” (Interview 5).*

##### b. Game as a progression platform

*“I just started a new character Human Warrior level 6 now and I want to try another class and different playing style it’s like a new adventure like the past one...” (Interview 8).*

##### c. Game design calls for social, group play

*“Yes [I used to be in a group] because my class has low DPS [a lot of damage]...so I preferred being with other gamers [...]. Also to do instances it was required to be in a group” (Interview 6).*

##### d. Guild and social work

*“At the moment, I do nothing with the guild...you have to be level 70 to participate in guild’s activities” (Interview 5).*

*“Yes [I belong to a guild]. Guild is an easy way to find other people to play with and do some group activities [...] I do stuff with my guild but now I stopped because even five-people groups require at least two hours and I don’t have the time” (Interview 4), “Yes I’m in a guild. Well I like to chat with other people and be part of a friendly community” (Interview 8).*

#### 2. The role of social praxis in game appropriation

##### a. Friendships

*“I would like keep playing the game because is a way to communicate with friends that have a common interest in the game...you come to know other people [...] it’s nice to know people from other countries even if you’ve never met them in real-life” (Interview 6).*

b. Fun with other gamers

*“First thing I do when entering the game is see who else is logged in because I’m bored doing things alone [...] I look for questing with someone else...or dungeon” (Interview 5).*

c. Types of relationships-Friendly

*“....still are people that do not know whether I’m a man or woman [...] they have their suspicions but I’m not telling them the one way or the other [...] [I have had] very entertaining conversations about what role that makes in the game” (Interview 1).*

*“I play with a Greek guy I met online and whenever we are in the game we quest together” (Interview 5).*

*“[Have you made any online friendships? How has this happened?] Yes, we leveled up together we played for months together we see each other every day.” (Interview 8).*

d. Type of relationships-Competitive

*“With WoW you can compare yourself to other gamers” (Interview 5).*

e. Out-of-the-game communication-Online forums

*“I like learning new things about the game. It is helpful...you read the discussions of other gamers...learn how to beat other classes or bosses...when you read [game forums] you learn new stuff about the game[...] [when I become level 70] I’ll [start reading game forums] to see what is better to do with my character, what gear to buy, where to find stuff...” (Interview 5).*

f. The blurring of sociality (within and around the game)

*“...there is [...] another couple [we play with] they live [...] maybe half an hour from where we live...we haven’t met up with them yet [...] we chat a lot [...] we know their names we know their address we’ve written [e-mail] to each other occasionally and we are writing several stuff through the game” (Interview 1).*

g. Commonalities between real-life and online relationships

*“....is this guy and is mum that we know [...] is [...] quite humorous and so we kept in touch with him and we’ve got to come to know him quite well [...] sometime he plays with his mum .... I mean he is about 25 or 28 [...] actually I get better with his mum [...] because he is a bit moody....” (Interview 1).*

### **3. The role of personal preferences in game appropriation**

#### **a. Responsibilities**

*“...I am in a guild and I am the guild master because when I started playing WoW the other guild treated player like crap so I want a place for people to relax and enjoy the game with a good guild and friendly people” (Interview 9).*

#### **b. Socially-oriented gamers**

*“[Is it something more than a game?]No...It’s a game...but I like playing...I relax...it’s more like a hobby...it’s not like other games you play alone...it’s always someone there to talk to...” (Interview 5)*

### **4. The process of game appropriation**

#### **a. Time spend on gaming**

*“[How many hours per day do you play?] When I study 2 hours most of the days...during the summer...almost every day 5 to 6 hours [...] I play only when I find time...WoW is the life for some people but not for me” (Interview 3), “Can’t really tell, I’m on and off all the time, studies sometimes stop me.” (Interview 10), “5 days a week...5 hour a day nope I wouldn’t like to play more hours this is enough for me to raid and do what I need to do” (Interview 9).*

### **5. The nature of game appropriation**

#### **a. Alternative characters**

*“The others [alternatives] were just to see what class I wanted to use for the game” (Interview 7).*