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# A real child in a virtual world: children's motives for participating in virtual gaming communities

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# A REAL CHILD IN A VIRTUAL WORLD: CHILDREN'S MOTIVES FOR PARTICIPATING IN VIRTUAL GAMING COMMUNITIES

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# A REAL CHILD IN A VIRTUAL WORLD: CHILDREN'S MOTIVES FOR PARTICIPATING IN VIRTUAL GAMING COMMUNITIES


## ABSTRACT

There is a dearth of research on children's motivations to participate in online gaming communities, despite their growing popularity, as well as the ethical concerns and debates associated with that. This study builds a theoretical framework explaining children's motivations to participate in online gaming communities that integrates theories from a variety of disciplines including cyber psychology, consumer behavior, consumer socialization and developmental psychology. The framework is then examined with children between the ages of 8 to 12 years through two qualitative studies, one using group interviews and the other using individual in-depth interviews. The results suggest that gender has a strong impact on children's motives to participate in online gaming communities as children's primary motivations for play as well as the type of games that they play online are more gender specific than adults. The results further confirm that these children's motives to participate in online gaming communities will be similar to adults as hypothesized. Academic implications are discussed and practical guidelines are provided for designing more child-friendly online gaming communities.


**Keywords:** Children, Social Development, Motivations, Online Games, Virtual Communities, Gender Differences

## INTRODUCTION

Modern day online games are known as massively multiplayer online games (referred to as MMOGs). These make suitable use of advanced technology with features containing 3D visual representations and are capable of supporting hundreds or thousands of players simultaneously and are necessarily played on the Internet (Griffiths, Davies, & Chappel, 2003; Ng & Hastings, 2005; Yee, 2006). Latest data suggests that 16 million players interact with each other every day in such online gaming environments (Woodcock, 2008a), and this is a growing phenomenon (Woodcock, 2008b). Emerging research has created (Bartle, 1996) and empirically validated (Yee, 2006) a motivational typology which examines the motivations of adults to participate in online gaming communities because of the importance of understanding such motivations in order to (1) ascertain if different types of players are motivated differently and (2) examine if some motivations are highly correlated with usage patterns and in-game behaviors, both problematic and non-problematic. However there is a dearth of research on children's motivations to participate in online gaming communities. Children are an important part of the online game consumer market today in many countries. While recent American research shows that 57.81% of kids aged 6-11 accessed the internet in the preceding month to play online games (Kelly, 2009), similar French research shows that 52% of French school children aged 11-15 surveyed, used the internet for online gaming ("France: Les Jaunes Internautes," 2009). In the context of virtual multiplayer gaming communities and children also, one finds that 34% of American children and teens who use the internet visited a virtual world at least once a month in 2008; a figure that's expected to rise to 42% in 2009, and 71% of such digital kids feel their virtual worlds are important to them

(Hendrick, 2009). Further, today, there is a lot of ethical debate and concern over children's growing interest in the online world, due to the various dangers that the internet poses, which in the context of online gaming primarily translates as problematic in-game behavior. This has led to significant psychological research and literature on adolescent computer game playing with a focus on the more negative aspects such as excessive play and addiction (e.g., Greenberg, Lewis, & Dodd, 1999 ; Griffiths & Hunt, 1998; May, 1994; Salguero & Moran, 2002 ), the effects of playing aggressive games (e.g., Anderson & Bushman, 2001 ; Anderson & Morrow, 1995; Griffiths, 1998) and the medical and psychosocial consequences (e.g., Anderson & Bushman, 2001 ; Funk, 1993 ; Griffiths, 1997). Recent research in the field of consumer psychology (Hartman, Shim, Barber, & O'Brien, 2006; Rose, Rose, & Blodgett, 2009) has also examined some aspects of children's and adolescent's behavior as consumers of the virtual world because of their growing numbers. While Rose, Rose and Blodgett (2009) have investigated the influence of website design on children's information processing performance; Hartman, Shim, Barber and O'Brien (2006) investigate the web-consumption behavior of adolescents using a cognitive-hierarchical decision making perspective. Therefore, it becomes critical to examine children's motivations to participate in online gaming communities, due to the growing importance of the children's market, as well as the ethical concerns and debates associated with that.

This issue is getting further complicated due to two reasons. Firstly, the role playing component of such multiplayer games is increasing in importance to the extent that a whole new class of highly popular games, the Massively Multiplayer Online Role

Playing Games (referred to as MMORPG) is emerging (Yee, 2006), even amongst child gamers. This is leading to an evolution in the reasons why people come online to play such games with more and more people getting attracted to the social side of the games and the opportunity to interact socially with other players, rather than the conventional motives of competing against other players and moving up levels of achievement. Secondly, a related development is that there is a growing tendency of online gamers to engage in virtual purchases within the online gaming environment, due to the different types of interpersonal influence. Both these emerging issues in online gaming are likely to lead to differences in children's participation in such online gaming communities versus adults, given age related differences in their intellectual, social and consumer development (John, 1999; Piaget, 1952; Selman, 1980).

This paper builds an extended theoretical framework explaining children's motivations to participate in online gaming communities. The framework is based on Yee's (2006) typology of motivations of play in online games, and extended using Popp, Worartschek and Roth's (2008) work on motives for participation in online brand communities and finally hypothesizes whether adult motivations can equally apply to children given their developmental differences. This framework is then examined using two studies where complementary qualitative data collection methods – particularly suited to discover motivations – are utilized. The first study uses group interviews and the second study uses individual in-depth interviews coupled with some observation.

## THEORETICAL BACKGROUND

The theoretical foundation for this study is based upon research from a variety of disciplines and areas including consumer behavior, developmental psychology, cyber psychology and virtual communities.

### Children's Social and Consumer Development

Research in both consumer behavior and developmental psychology consistently finds that not only are children less advanced compared to adults in their social skills but they go through progressively different stages of social development which subsequently leads to different levels of ability to accept reference group influence and understand the social aspects of consumption (see John, 1999 for a detailed review).

Social perspective taking provides a theoretical infrastructure or base for children's understanding of social and psychological relationships (Selman, 1980). In order to role play a child must be able to take on another person's perspective, understand their thoughts and feelings, and anticipate the other person's reactions (Selman, 1980). So, the theory distinguishes four levels of role taking in childhood between the ages of three to twelve years characterized by increasing levels of understanding of this. In the first level (3-6 years), while children cannot distinguish between their and other's thoughts and feelings and do not understand that other people may interpret situations differently; their understanding steadily increases such that they are mentally able to step outside themselves in order to take a second person perspective on their own thoughts, by the time they are in the third stage (8-10 years). All this culminates when they reach the

fourth level (10-12 years). They are then clearly able to take a true third person perspective and can therefore understand the social effect of situations (Selman, 1980). Moving from general social relationships to specific social relationships that are critical to children at certain ages, such as peer group relationships or friendships, Selman and Schultz (1998) suggest that the 'deep structure' of the levels of perspective coordination can be used to analyze more fully the developmental aspects of the meaning children make of the core issues that define these relationships. Therefore, children also undergo four levels of development in their understanding of friendship. In the first level (3-6 years) children cannot clearly differentiate between physical and psychological characteristics of persons, because of which, they cannot distinguish between actions and feelings and between unintentional and intentional behaviors (Selman, 1980). However their understanding increases to such an extent by the third stage (7-12 years) due to their developing ability to take a second person perspective (Selman, 1980), that children can now begin to influence each other. This finally culminates in adolescence, when mutual commitment within a relationship, rather than simple two way reciprocity, is the major organizing principle around which children think about issues in friendship (Selman, 1980).

Impression formation is another type of social ability that undergoes dramatic development from childhood to adolescence (Barenboim, 1981). Before the age of six, children like to describe other people in concrete or absolute terms, emphasizing often upon either their physical appearance or overt behavior, without incorporating comparisons with other people however. But in the first stage (ages 6-8 years), children

make comparisons between people based on their impressions, although the comparisons continue to be based on concrete attributes or behaviors developing this ability as they grow older, until they finally start making comparisons based on psychological and abstract attributes and have more adult-like impressions of people (Barenboim, 1981). Impression formation, therefore involving the ability to make social comparisons, is strongly related to understanding the social aspects of products and consumption, motivations that emphasize the importance of consumption for social expression and status and promote materialistic values in children, values emphasizing the acquisition of material goods as a means of achieving personal happiness, success and self-fulfillment (John, 1999). This is supported by research, which shows that children in the lowest stage of development in this ability (in first grade or younger) value material goods (Baker & Gentry, 1996; Goldberg & Gorn, 1978), but their desire for the material goods appears to be driven by very simple considerations, such as novelty or quantity (John, 1999). On the other hand, children in the latter stages of development approaching adolescence (from the ages of 7-11), begin to understand the social meanings and status attached to possessions, which results in the emergence of motivations for consumption that have more social connotations (see Baker & Gentry, 1996) such as expressing uniqueness and attaining a sense of personal achievement through rare possessions (John, 1999).

Reference groups such as peer groups can exert influence on children's product choices and decisions only if children have developed certain social sensibilities and cognitive skills (Bachmann, John, & Rao, 1993). The previous discussion suggests that social perspective taking and impression formation theories can act as building blocks and

provide a basis for predicting and explaining when peer group influence might emerge and how it might develop as children mature (Bachmann et al., 1993). Research suggests however, that peer group influence does not accelerate with increasing age for a wide range of products, as older children become more susceptible to peer group influence only for those products that are conspicuous in nature (Bachmann et al., 1993).

## Motivations for Participation in Online Games

This section seeks to examine the existing work done on motivations to participate in online gaming communities, since such understanding is critical, as discussed earlier. Firstly, literature and research from cyber psychology is discussed about the basic motivations to participate in online games, and recent developments in this field. Secondly, this is integrated with virtual community literature to extend the motivations from game participation to the emerging trend of community participation.

### *Bartle's Theory of Motivations for Participation in Online Games*

People's motivations for their participation in online gaming communities are not identical across players (Castronova, 2004). Bartle (1996) suggests that there are four things that people typically enjoy about such games, namely, (1) achievement within the game context, (2) exploration of the game, (Jackson et al.) socializing with others and (4) imposition upon others. These differences in the reasons and motivations for participation in online gaming communities has hence been summarized by Bartle (1996). In his pioneering research, he proposes a simple typology of players related to the four key

types of motives identified earlier: the Achievers, the Explorers, the Socializers and the Killers.

***Yee's Typology of Motivations for Participation in Online Games***

A review of the literature suggests that two other groups of researchers have tried to further work on these theoretical underpinnings to develop empirically validated typologies of types of players and people's motivations to play online. Whang and Chang (2004) have developed a typology of player lifestyles in the online world, based on the consideration of individual differences in player values and personality, as well as the socioeconomic status of players in the virtual world as constructed through game activities. This typology will not be considered here however, since it focuses on the players of only one very popular virtual role playing game called Lineage (see Whang & Chang, 2004 for a detailed discussion).

Yee (2006) has used Bartle's (1996) theory of the online game player typology along with qualitative information obtained from earlier surveys of MMORPG players, to further develop an empirically and quantitatively validated typology of motivations for people to play and participate in online gaming communities. This was an important advancement for two reasons. Firstly, Bartle's (1996) model was a well-known taxonomy but one where the underlying assumptions had never been tested. Secondly, there was no empirical evidence to show if the four types of players were independent and distinct people or if there was a high degree of correlation between some types of players. Yee (2006) has finally developed a typology which suggests that people's motives to play online and participate in virtual gaming communities consist of three types of motives,

namely, (1) Achievement, (2) Social and (Jackson et al.) Immersion, which may co-exist at an equivalent level in the same player, unlike what Bartle (Bartle, 1996) has theorized.

After examining Yee's (2006) motivational typology, one realizes that although Bartle's (Bartle, 1996) player type theory was based on all types of online games, Yee (2006) has empirically validated his typology using only players of MMORPG, which are social games that focus more on role playing rather than the traditional combat and action aspects. This justifies why Yee (Yee, 2006) does not appear to have a motivational type that directly addresses the Killer type of players. But this may not be problematic nowadays since industry reports and analyses suggest that more and more online games seem to be characterized by a significant element of role playing with a small proportion of traditional action as will be discussed.

## Current Trends in Online Games

A review of the literature suggests that there are two major trends in the online gaming market – the increasing social nature of games and the tendency to engage in virtual purchases - which could lead to developments in terms of people's motivations to play online, as discussed briefly in the introductory section.

### *Social Games – Extending Participation from Games to Communities*

As discussed earlier, industry reports and analyses suggest that more and more online games seem to be social games that focus more on role playing rather than the traditional game like games that have the combat and action aspects. This focus is leading people to

create virtual personas and identities for themselves called avatars. These avatars, in fact roles played by the users, allow them to indulge in full-fledged role playing and engage in different types of interpersonal interactions with people inside that gaming community, now also happening within traditional adventurous and combat gaming communities. The motivations for this are varied such as community social norms; social interaction, identity expression and need to escape from reality (see Boss, 2007; Castronova, 2004; Healy, 2007; Levine, 2007).

Outside the gaming context, digital environments, right from commencement, have provided users with the opportunity to organise support and communicate, giving rise to a unique social entity that is now commonly known as a virtual community (Rheingold, 1993). Virtual communities are mediated social spaces in the digital environment that allow groups to form and be sustained primarily through on-going communication processes, due to mutual goals, whether functional or hedonic (Bagozzi & Dholakia, 2002). A functional goal for community formation is the symbiotic exchange of useful information regarding products (Bagozzi & Dholakia, 2002); an example being, online brand communities. A hedonic goal on the other hand, could be the creation and consumption of a positive, confluent experience through interaction (Bagozzi & Dholakia, 2002); an example being, the typical MMORPGs. In either case, the virtual community acts as an important reference group for its individual participants (Bagozzi & Dholakia, 2002), to the extent of going beyond just supplementing existing primary and secondary reference groups, and actually replacing other influential reference groups for many participants (see Constant, Sproull, & Kiesler, 1996).

Traditional virtual communities share five key characteristics (Bagozzi & Dholakia, 2002), of which, the first four have strong similarities to the characteristics of today's increasingly social online gaming communities. These are, namely, (1) organization around a specific area of interest; (2) presence of community oriented social norms and processes; (Jackson et al.) presence of shared conventions, language, rituals, and communal goals; (4) active creation of content by community members and (5) criticality of communication as a community shaping force. The last characteristic is emerging with unique differences between traditional text-based virtual communities and the emerging online gaming communities, but it has utmost significance since it is related to both the emerging trends in the online gaming market. Virtual communities basically provide members with an opportunity to participate in social interactions with others that do not care about their looks or speech, but are more interested in knowing about their thoughts and the way in which they communicate (Rheingold, 1993). Online gamers are today uniquely turning this notion on its head as the increasingly social games These new game types place various advanced tools and techniques at their disposal apart from text, such as advanced gaming features, and avatar creation facilities, which provide them with opportunities to express their social identity online, and can be purchased if necessary, as will be discussed later. Gamers do this in line with the norms of the particular gaming community they are members of. They reflect different personas or statuses in order to steer other member's perceptions of what they look and sound like, before they actually start revealing their attitudes and styles of communication.

There are two main drivers for the participation in virtual communities which are individual level motives and group-level motives. So, people who participate in small group-based communities, where members usually interact with the same group of people, have different motives from participants in network-based virtual communities, where members usually interact with different individuals (Bagozzi & Dholakia, 2002). People's participation in virtual communities is further moving into their participation in virtual brand communities, which are the first type of traditional virtual communities discussed by Baggozi and Dholakia (2002), formed due to the mutual functional goals of consumer exchange of useful information regarding products. Popp, Worartschek and Roth (2008) have worked on people's motivations for participation in virtual brand communities and propose a scale which reveals three factors of motivation: "community-related motives, brand-related motives and motives related to "added value", with some of the motives being similar to the existing typologies of people's motivations to play online games.

***Virtual Purchases inside Online Games***

In what could be considered a related development, there is a growing tendency of online gamers to engage in virtual purchases within the online gaming environment. Lin (2008) explains that consumption is driven by different motivations such as: "to satisfy inherent desires; to fulfil manipulated desires; to establish identity and communicate with others; and to pursue pleasure and experiences (p. 89)." In the virtual context, this could be either to just go up the level within the game, or to emulate another virtual persona who is very successful in the game, where his success can be attributed to the purchase of a

virtual gaming accessory. Therefore, virtual purchase behaviors can result within the online gaming environment due to different types of interpersonal influence and motivations. This suggests that it is now becoming very important to analyse how the influence from other players and player's social norms and interactions with each other works. Such influence can either enhance the social motivation to play online games, or act as an additional related motivation to play online games to engage in virtual purchases. Hence, examining this is imperative. These additional developments and motivations are helping in the formation of virtual communities of online gamers, rather than people playing online games, primarily due to personal motivations, as was happening in the past.

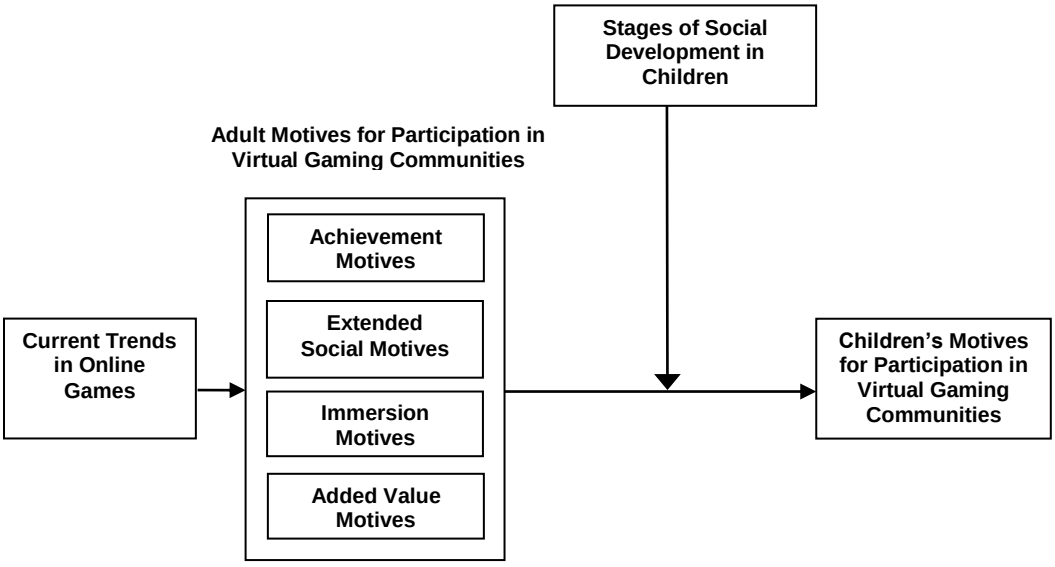
The current study builds upon past research by using the preceding discussion on current trends in online games, as well as the Popp Worartschek and Roth (2008) scale, to build an extended typology of Motivations to Participate in Virtual Gaming Communities, which is a more valid way of assessing motivations to play in today's online gaming environment both in the case of adults and children.

## THEORETICAL FRAMEWORK

This study examines the influence of the extension of online games into virtual gaming communities, and stages of social development, in the context of children's motives to participate in such virtual communities. Figure 1 presents an overview of the theoretical framework. The current trends that are converting online games into virtual gaming communities are directly impacting upon motives to participate in such virtual

communities by creating extended motivations. However, stages of social development (earlier vs. later stages), could have a moderating impact upon these extended motivations to create differences in motives between children and adults. In the following sections each of these constructs and issues are reviewed and propositions are advanced.

**Figure 1: Theoretical Framework Overview**




## The Extended Typology of Motivations for Participation in Online Gaming Communities

Positive anticipated emotions, act as an individual level motive, and social identity (consisting of self-categorization, affective commitment, and group-based self-esteem) acts as a group-level motive for people's participation in virtual communities (Bagozzi & Dholakia, 2002). This leads to social benefits being the primary motive for participation

for the people who participate in small group-based communities (Bagozzi & Dholakia, 2002). This appears to be the case with online gaming, especially in the case of the increasingly popular MMORPGs, which appear to have a strong group base, although sometimes quite large, of loyal players of the game and members of that particular community.

Examining Popp, Worartschek and Roth's (2008) community-related motives to participate in online brand communities, one finds that these are quite similar to (Yee, 2006)'s social motivations to play online games, but with some additional dimensions. This is because virtual brand communities have been formed due to mutual functional goals (Bagozzi & Dholakia, 2002), as discussed earlier, and therefore have a very strong group-oriented driver for participation similar to what online gaming communities are beginning to have thanks to their increasing social nature. These additional dimensions are (1) For actively participating in the community, (2) Because the other members have the same goals that I have, (Jackson et al.) Because it is important to me to be part of the community, (4) For gaining recognition from other members of the community and (5) Because I identify with other members of the community. The additional group-oriented motivational dimensions identified from virtual brand community literature appear to be an extension of the teamwork dimension of Yee's (2006) social motivations, lending theoretical support to the contention that the increasing social component in online gaming necessitates the need for an extended motivational typology that represents people's motivations to participate in online gaming communities rather than just their motivations to play online games (refer to Table 1).

In addition, referring back to the related development of a growing tendency of online gamers to engage in virtual purchases within the online gaming environment, this is happening due to different types of interpersonal influence, but also different motivations, as discussed earlier. People not only have varied motivations for online purchase and consumption within the game such as desire satisfaction, communication and pleasure seeking (Lin, 2008), but major components of within game purchases such as the purchase of online identity and avatar formation accessories and aids, also happen due to varied motivations such as community social norms; social interaction, identity expression and need to escape from reality (Boss, 2007; Castronova, 2004; Healy, 2007; Levine, 2007). Therefore, one realises that the second emerging trend in online gaming could be addressed by developing an additional motivational category similar to Popp, Worartschek and Roth's (2008) added value-related motives where dimensions such as (1) buying tools and aids to build a suitable online identity and appearance in accordance with the social norms of the virtual community (2) buying accessories, rewards and awards to aid in building virtual reputation and social status, (Jackson et al.) buying tools and accessories to aid in better performance and results and (4) buying tools and accessories to emulate other successful performers can be included. One may argue that this already seems to be reflected in the customization dimension of Yee's (2006) typology, but he refrains from discussing the commercial aspect of virtual purchases within online gaming communities. Therefore, the increasing trend towards in-game virtual purchases makes the inclusion of this additional category of motivations for participation in online gaming communities extremely important (refer to Table 1). The

preceding discussion manifests in a proposition that a typology of motivations to participate in online gaming communities will have extended social motivations and new added value motivations for participation (refer to Table 1). Thus it is proposed that:

**P1:** People's motivations to participate in online gaming communities will be an extension of motivations to participate in online games such that there will be an increase or enhancement of the 'teamwork' component of social motivation and there will be an additional range of motivations related to virtual purchases inside the game.

**Table1: Extended Typology of Motivations for Participation in Online Gaming Communities**

| Achievement | Social | Immersion | Added Value |
|---|---|---|---|
| **Advancement** Progress, Power, Accumulation, Status | **Socializing** Casual Chat, Helping Others, Making Friends | **Discovery** Exploration, Lore, Finding Hidden Things | **Virtual Persona** Purchase of accessories and aids for desired avatar/image |
| **Mechanics** Numbers, Optimization, Templating, Analysis | **Relationship** Personal, Self-Disclosure, Find and Give Support | **Role Playing** Story Line, Character, History, Roles, Fantasy | **Virtual Assets** Purchase of goods and awards/rewards for enhanced status and reputation |
| **Competition** Challenging Others, Provocation, Domination | **Teamwork** Collaborations, Groups, Group Achievements, Active Participation in Community, Similarity of Member Goals, Importance of Belonging to Community, Gaining Recognition in Community, Identification with Community | **Customization** Appearances, Accessories, Styles, Color Schemes | **Virtual Tools and Aids** Purchase of online tools and accessories for better game performance, Purchase of online tools and accessories to emulate successful players |
| | | **Escapism** Relax, Escape from Real Life, Avoid Real Life Problems | |

**Interrelationship between Children's Stages of Development and Extended Motivations**

While P1 seeks to establish an extended typology of people's motivations to participate in online gaming communities, P2 and P3 are concerned with the interrelationships

between children's stages of social development and the extended motivations which create similarities or differences with adults (refer to Figure 1).

The first extension to the motivations to play is that there will be an enhancement of the 'teamwork' component of social motivations, as players now wish to participate in online gaming communities rather than play online as individuals. This implies that children must have the developmental capacity to understand the concepts outlining such motivations, which are in fact related to relationship building with other community members. Children's developments in social perspective taking (Selman, 1980) and the deep structure of such levels of perspective coordination (Selman & Schultz, 1998) provide a theoretical basis for organizing and analyzing what children understand of social and psychological relationships and the core issues thereof. Children's social development should therefore be related to all aspects of the teamwork component of social motivations, as is reflected in the following hypothesis:

**P2:** Only children in the latter stages of social development (8-12 years) will begin to display an increased 'teamwork' component of social motivations to participate in online gaming communities similar to adults.

**Interrelationship between Children's Development and Added Value Motivations**

The second extension to the motivations to play is that there will be an additional motivational category due to the growing tendency of online gamers to engage in virtual purchases, due to interpersonal influence within the online gaming environment. This implies that children must have the developmental capacity to understand the concepts

outlining such motivations, which are in effect related once again to the social aspects of life, the need for consumption in order to achieve all that, and finally the role of interpersonal influence in consumption. Impression formation is strongly related to understanding the social aspects of products and consumption (John, 1999) as also the understanding that people draw inferences about each other based on product choices and possessions, which leads to peer group purchase influence (Bachmann et al., 1993). Children's developing abilities in social perspective taking are also one of the key building blocks that will provide a basis for predicting and explaining when peer group influence might emerge and how it might develop as children mature (Bachmann et al., 1993). Finally, older children become more susceptible to peer group influence only for those products that are public and conspicuous in nature (Bachmann et al., 1993). This appears to be the case with virtual purchases carried out while participating in an online gaming community, because these are being done in a public domain, to satisfy various social norms. Children's social development should therefore be related to all aspects of the additional component of added value motivations, as is reflected in the following hypothesis:

**P3:** Only children in the latter stages of social development (8-12 years) will have added value motivations to participate in online gaming communities, by engaging in virtual purchases due to interpersonal influence, which will be similar to the case of adults.

## METHODOLOGY

### Sample Description

Children between 8 and 12 years selected for both phases of the study from households representing similar socio-economic classes (i.e. the upper middle class) from Paris in France, in order to ensure the comparability of data. Young people have personal, social and cognitive differences as compared to adults. Thus, while some of the existing research into adult virtual communities may be applicable, it lacks a developmental lens (Beals & Bers, 2009), as examined in our theoretical framework. That is why the focus of this study was on the 8-to-12-year-old range. These children were hypothesized theoretically to have the same motivations for participation in virtual gaming communities as adults thanks to their levels of social development, which lead to greater need for and belonging with peer groups and also to the recognition of the importance of objects for this. So this hypothesized effect was examined.

### Research Methods

To empirically validate the framework and propositions related to children's motivations to participate in online gaming communities compared to adults, a two phase qualitative research project consisting of focus groups and in-depth interviews was used. The underlying assumption here was that using multiple research phases and types of data sources could deepen the understanding of children's motivations. Each qualitative method of data collection has unique strengths and weaknesses, but methodological triangulation and investigator triangulation can improve the way research questions are answered (Hall & Rist, 1999). So, it was expected that the use of different types of

research methods in the two phases would serve to lessen their respective drawbacks as discussed below. Moreover, numerous authors have argued that – when working with young consumers – different methodological approaches should be used due to the limited (or different) cognitive abilities of these age groups (e.g., Derbaix & Pecheux, 2000).

## Research Technique

### *Focus Groups*

The first phase of the study consisted of two focus groups of children 8-10 years of age, consisting of 5 persons each, one group for boys and one group for girls. Todd (2001) suggests that focus groups offer an appropriate method for researchers wanting to study children in their role as consumers, although there could be a potential problem due to children's susceptibility to peer group influence. In the specific case of this study, the problem of peer group influence acting within the focus group was beneficial for the study, as virtual gaming communities are places where peer pressure acts significantly on children's participation and purchases within the community. Further, as Gunter and Furnham (1998) suggest, focus groups also yield insights into the language children use when discussing consumption issues, which is critical information for child researchers who have been advised to speak to them using their own terms (Todd, 2001). Therefore, the group interviews were not only an important source of data for the study but also fed into the creation of the research instrument for the second phase of the study – the individual interviews.

### *In-depth Interviews*

The second phase of the study consisted of 10 in-depth interviews combined with observations, of children aged 8-12 years, taking care that they were evenly split as sex and age are concerned (i.e. above and below 10 years of age). Individual interviews have been suggested to overcome problem associated with group interviews such as the undue influence of the peer group, and may offer greater potential for children to discuss their 'true' underlying tastes and preferences (Todd, 2001). In the case of this study, the individual interviews allowed a deeper investigation into the topic of children's participation in virtual gaming communities and combined with direct observation, this part of the data-collection process focused more on children's lived experiences.

## Procedures

### *Focus Groups*

The first phase of the study with the group interviews was conducted in a small independent room within a day-care center for children between 8 and 12 years-old. Two separate focus groups were conducted following the advice of Ffelan and Marshall (1999) to separate the genders when conducting focus groups with children to ensure the best possible discussion. All these participants already knew each other, which allowed them to feel free to speak in a friendly way. On the basis of the literature review and the theoretical framework, a semi-structured guide was created to help conducting the group interviews properly. The group interview discussions lasted for one hour each, and were started by asking the children to create a new online game, which is the perfect game according to them. In addition, the discussion went over different topics from their

favorite games (with a detailed explanation), their motivations to play in a particular type of game to the kind of interactions they have with the other players and why they would possibly buy virtual products.

### *In-depth Interviews*

The in-depth interview and observation phase took place in real conditions which means at home directly on the Internet. Before that, the interviewer had a chance to talk with parents who provided her with more insight about the child's family life including the presence of siblings, the parents' perceptions of online games, whether parents play online games themselves or whether they just focus on controlling their children's use of the Internet (especially online games). In this way, both multiple methods and multiple informants were used when conducting this phase of research with children as suggested by Palan (2002 ). This provided an additional source to validate the information obtained from children. Individual in-depth interviews sessions lasted around one hour each and were conducted in the child's home while he/she was playing to his/her favorite game. So, the researcher went to the Internet with the child and observed the child playing his/her favorite online game. She was alone with him/her in order to avoid any bias from the family and this allowed her to be in an open relationship with the participant, based on confidence and empathy. A semi structured interview guide with open-ended questions was built, for this phase of research, relying on the initial findings of the groups interviews, as the purpose of the individual depth interviews was to go deeper into some particular topics discussed by the groups in the first phase.

### *Data Analysis Reliability and Validity Issues*

Group interviews as well as in-depth interviews were audio taped and then fully transcribed by the primary researcher. The transcripts from both the phases of research were then analyzed and interpreted in two ways, using the technique of pattern matching (Campbell, 1975). Pattern matching is a useful technique linking data to propositions, and leads to a situation where several pieces of information from the same data set may be related to some theoretical proposition (Campbell, 1975). In fact, Trochim (1985) argues that all social research is based on pattern matching of ideas, where a pattern match involves a correspondence between a theoretical or conceptual expectation pattern and an observed or measured pattern. In the case of this study, research (Ffelan & Marshall, 1999) had suggested that gender segregation is critical while conducting group interviews for better quality of data. Therefore, firstly, the data was analyzed across the two phases of research and matched with literature in the areas of child and adolescent psychology and behavior with respect to online gaming. This helped to identify if the patterns were leading to gender specific issues and themes with respect to children's participation in virtual gaming communities. Further, data from both the group interview and individual interview phases was matched with the extended theoretical typology of people's motivations to participate in virtual gaming communities, to validate if children in the ages of 8-12 years had the same motivations as adults, as hypothesized.

## EMERGING FINDINGS

As discussed earlier, the data was firstly analyzed across the two phases of research to identify if there were gender specific issues and themes with respect to children's overall

motivations for participation in virtual gaming communities. The data reveal particular behavioral and motivational patterns for boys and girls throughout the analyses. Children's specific motivations for participating in online gaming communities are then discussed in more details and propositions derived from Figure 1 are validated.

**Gender differences in children's overall motivations to participate in online gaming**

As to date direct evidence is still scant in the academic literature about gender differences in terms of the intensity and nature of children's Internet use and more particularly in terms of online games participation. Nevertheless, some studies do already suggest gender differences on computer use in general (Subrahmanyam, Kraut, Greenfield, & Gross, 2000) as well as Internet use (Calvert, Mahler, Zehnder, Jenkins, & Lee, 2003; Jackson et al., 2008).

Focus groups clearly bring to the fore gender differences among young participants to online games. When asking what is their favorite game or their dream game, boys express a clear preference towards action games while girls favor role-playing games. This is illustrated by the following verbatim:

> *"It's also a war game…[…] It's a little bit like the World War II or something like that: you have to destroy towers for example."* (Florian, 9, Boys' focus group)

> *"It's game, you are an adventurer, you have guns and everything blows up. […] You take your bazooka and you kill them."* (Idriss, 9, Boys' focus group)

> *"We are in charge of a horse, walk around the riding stables [...] Then we can have pure-breed horses. We can also colour the horses. We can go outing with our horses and friends."* (Callista, 9, Girls' focus group)

> *"In the game, there is a girl who owns a store. She has a horse, a pet, a house, a car, and friends. She can cook, do the meals, dress and wash her horse. There is a park, she can sleep, work, put make-up, comb her hair, create her parents, adopt a child and go to school. She can do some exercises, go out, trek, and meet people."* (Sarah, 9, Girls' focus group)

Boys are especially attracted to games involving fighting, weapons and blood. Girls would rather spend their time creating things instead of destroying things; enjoy everyday life activities and metaphors just as much if not more than fantasy adventures. They tend to enjoy games that allow for open-ended play and exploration that does not necessarily require completion of one goal or level to get to the next (Gorriz & Medina, 2000). These finding are in line with Subrahmanyam et al.'s (2000) work indicating that girls tend to prefer games based on reality and boys games based on action and fantasy. They also seem rather obvious as children live and develop in a gender-based world (Calvert, Strouse, Strong, Huffaker, & Lai, 2009). They construct their personal identity partly by being a girl or a boy, which is related to gender-based behaviors, such as play patterns and choices. Moreover, boys are more likely to play games with a more dominant, power-based approach whereas girls are more likely to communicate or even to strike up friendships.

The focus groups and interview data were further analyzed in detail to examine children's overall motives to play online games and further look for gender differences.

Boys and girls both mentioned the desire for *achievement*. Advancement and competition motives are really essential for boys. The following quote illustrates the importance of power and domination:

> *"The goal is to avoid submachine guns and not to break the car […] In fact, there are levels, each time you win a duel you can increase your level […] The goal is to go as far as possible without being touched."* (Adrien, 9, Boys' focus group)

> *"You have to cut trees in order to obtain points… It shows that I am stronger, that here is my territory and that I am the only one able to come…"* (Gaspard, 8)

Girls are also deeply interested by advancement but this motivation reflects more a desire to progress and to increase social status as one could get on in real life:

> *"It's a girl who works in a restaurant "Flunch". [...] If she makes her customers wait, she fails. She tries to get as many customers as possible. In total, she has 10 levels. And she can restart the game but it's more difficult, which means with more customers. [...] If she succeeds to get the 10$^{th}$ level, she wins a bowl...By improving levels, we can become rich!"* (Fatsy, 9, Girls' focus group)

Possessions and accumulation of goods seem also crucial for girls:

> *"We have to look after babies in a day-care center, we have to earn money and buy diapers, pacifiers, toys… […] We can take the bus, the boat, the plane. We can go to clubs, casinos... The goal of the game is to create several houses and, at the end, create our family, children, etc. [...] I like games with levels, because it is more interesting afterwards. If we spend all the time doing the exact same things, it becomes a little bit boring…"* (Magalie, 10, Girls' focus group)

> *"Being powerful, it's not so important in those games because we create our lives… The most important is to get new things to live better… I like to be rewarded because it shows that I won."* (Camille, 11)

Children (and more specifically girls) begin to understand the social meanings and status attached to possessions as explained by impression formation (Baker & Gentry, 1996). They meet a sense of personal achievement through the accumulation of possessions (John, 1999).

Regarding *immersion* motives, findings suggest that role playing (with more particularly story line, character and fantasy dimensions) is the key dimension for boys while customization (with appearance, styles and color schemes) is of paramount importance for girls:

> *"You are a dragon and you have to walk through the game, you have to be careful not to be killed, when you see a monster, you have to kill it… In another game, you are a kind of military and you have to conquer the world and there are monsters…"* (Gaspard, 8)

Moreover, children do not hesitate to use online technologies that offer ways to explore new identities. Anonymity of the Internet allows them to truly be themselves (Lenhart, Rainie, & Lewis, 2001 ). This is shown in the following verbatim:

> *"I make my avatar red hair because I like girls with red hair in real, I try to make her really pretty, I add this necklace and I would like to buy a new dress in order to be even prettier."* (Diane, 10)

> *"You can create your clothes, you can even change for being a boy, you can make many things."* (Fatsy, 9, Girls' focus group)

This last quote also shows that children easily change their gender identity online by altering the biological sex of their avatar (Calvert, 2002) Children are actually living and developing in a time allowing a relative freedom from cultural constraints on how children present themselves and interact with others (Valkenburg, Schouten, & Peter, 2005).

*Social/community*-related motives seem to be of critical importance both for boys and girls. Using computers to socialize and communicate with others is an increasingly popular activity, especially among teen girls (Subrahmanyam & Greenfield, 1998). Girls enjoy communication with other girls, and games that encourage or incorporate chat and social activity in conjunction with the game can support this (Gorriz & Medina, 2000). The following examples reflect how girls speak about this social dimension and their relationships inside the game:

> *"We could go to out with friends, meet a little bit more […] You can help if someone asks you, you either agree or not."* (Sarah, 9, Girls' focus group)

> *"I meet someone and then she might become my friend, afterwards I look for her house; we can also share our horses."* (Callista, 8, Girls' focus group)

Girls enjoy forging relationships – visiting other characters, writing letters, learning about how other characters feel about what is going on (Subrahmanyam & Greenfield, 1998). What differs from the boys is that girls do not consider the teamwork notion as boys do:

> *"We can make alliances, we find each other on a map."* (Loïc, 9, Boys' focus group)

> *"It's better to belong to a team while fighting someone because it avoids me to die."* (Yann, 11)

> *"I like the powerful players because they can give me some help… It's important to have friends within the game because they stay next to me in order to protect me."* (Loïc, 10)

Boys make alliances and join forces with each other because it helps them to advance within the game. Moreover, they tend to prefer working in bigger teams than girls do (Subrahmanyam & Greenfield, 1998). According to Beals and Bers (2009), the children's main reason to join a community in a virtual world is to explore their social skills with peers. Furthermore, when playing, children practice collaborative activities. This observation is particularly salient for boys. It was also shown that, when using avatars to "stand in" for them, boy peers adapted a playful interaction style whereas girl peers were more likely to chat with each other (Calvert et al., 2003).

Finally, as for adults, an additional category of motivations related to virtual purchases (also called added-value motives) appears. Children know that they can buy virtual items (accessories, additional features for their avatar and weapons) with the money earned during the game. As for social motives, the goal of their purchases often underlies achievement motives: they want to advance and progress within the game. Examples of this include:

> *"You can buy some guns, a new engine, some accessories for your motorbike, in order to go faster!"* (Idriss, 9, Boys' focus group)

> *"With the money earned, I would buy a big house, adopt children and hire a nurse."* (Clara, 8, Girls' focus group)

Yet again, boys buy online tools and accessories for better game performance while girls want to enhance their social status and reputation.

As far as children's motives to play online games are concerned, the adults' motivations typologies seem to be confirmed overall for these children aged 8 to 12 years. In conclusion, the analyses allow one to confirm that in general these children's motivations to participate in online gaming communities will follow an extended motivational typology similar to adults (see Bartle, 1996; Yee, 2006) with an achievement component, immersion motives, enhancement of the "teamwork" component and additional motivations related to virtual purchases (refer to Table 1), and some connections between these. For example, the additional motivations related to virtual purchases were established as children exhibited a growing tendency to buy virtual items inside the game generally in order to meet achievement motives. Further, differences related to gender continued to emerge across the two phases of research and confirmed the initial findings. For example, children's primary social motives were to develop social links through friendly relationships for girls; while it was through alliances and collaborations for boys.

Contents of interviews with children were then analyzed in order to examine the influence of children's' social development on their motives to participate in online

gaming communities and so to support (or not) propositions P2 (influence on extended social motives) and P3 (influence on added-value motives).

**Children's social development and the enhancement of the teamwork component (P2)**

Children interviewed start to better understand what involve teamwork in the game for them and attempt to increase this component of social motives. Bachmann, John and Rao (1993) observed that children from 9 to 11 are beginning to understand external influences and are open to influences from their peers. More specifically, in online gaming communities, they exchange advices and opinions or help each other within the game. This is illustrated by the following quotes:

> *"It's better to play in a team and to ask for advices… when someone is new, I give him some advices, I tell him how to play, I help him to create his personage."* (Théo, 9)

> *"We could go to out with friends, meet a little bit more […] You can help if someone asks you, you either agree or not."* (Sarah, 9, Girls' focus group)

> *"By forming groups, you are sure to always have a friend with whom you can play instead of playing alone […] While playing games with others, some members come and say "hi", we speak to each other..."* (Valentin, 12)

Children want to be part of a group, a team, an online community rather than play as individual. A child between 7 to 12 years-old is able to *"mentally step outside himself or herself to take a self-reflective or "second-person" perspective on his or her own thoughts and actions"* (Selman, 1980, p. 13). Because they are now able to conceptualize a "second-person" perspective, it can be said that children influence each another.

In conclusion, further analyses show that children in the latter stages of social development (8-12 years) specifically display an increased "teamwork" component of social motivations to participate in online gaming communities similar to adults confirming the second proposition.

**Children's social development, added value motivations and interpersonal influence (P3)**

As already mentioned, impression formation emerged from our analysis: possessions acquired through virtual purchases seem to be of primary importance for children participating in online games. Objects are helpful for someone willing to enter in a group. Any child who wants to join needs to possess particular objects if he/she wants to be accepted (Delalande c.f. Brée, 2007). In online gaming communities, children share knowledge about products and even about strategies that will help them to progress within the game:

> *"I prefer playing with friends because alone, it's boring… Being with someone else means not feeling deserted or lonely. […] I do everything to help the poor*

> *people; that way they can help me fighting against the others, otherwise I won't go far alone with my poor little army."* (Gaspard, 8)

A child who slightly diverges from his peers, who does not have the same interests, will make the others feel embarrassed (Gayet c.f. Brée, 2007). That is the reason why children are willing to get the same objects at the same time as their friends. In online gaming communities, these objects can be any kind of weapons that allow boys to increase their power or clothes, pets or houses that allow girls to improve their social status. One who has enough money to buy an "expensive" item within the game will receive glory and friendship from every other (*"Friendship comes with success!"* as children interviewed say). According to Bachmann, John and Rao (1993), children are more subject to their friends' influence when considering products consumed publicly. Because the product is seen by everybody, it is really important for the child to choose the best one which suits the group image and is "validated" by the others. In online gaming communities this conformity to the group is also expressed through power acquisition and children wanted to demonstrate that they are the best:

> *"I like it because I am more powerful than the others and I kill them all…The goal is to obtain as many points as possible… I prefer attacking than defending which is for loser… I like this game: we have to play with the keys and that's difficult! When I am strong, I prefer playing one against the others because otherwise it's too easy"* (Loïc, 10)

In conclusion, further analyses show that children in the latter stages of social development (8-12 years) are specifically engaged in virtual purchases due to interpersonal influence within the online game environment like adults, supporting the third proposition.

## DISCUSSION

This study provides a theoretical framework for explaining motivations to participate in online gaming communities by understanding how current trend and issues in online gaming such as (1) the increasingly social nature of such games and (2) virtual purchases within online games can lead to an extended typology of such motivations. It further examines how children's stages of social development can affect children's motivations to participate in online gaming communities compared to adults. This study found as proposed that children of 8-12 years of age due to their level of social development exhibit the same kinds of motives for participation in online gaming communities as adults with a growing social (i.e. teamwork) component and interpersonal influence leading to added-value motivations. Despite the criticality of examining children's motivations to participate in online gaming communities, due to the growing importance of the children's market, as well as the ethical concerns and debates associated with that, there has been a dearth of research on this issue. This research therefore makes a significant contribution.

**Gender differences in children's overall motivations**

There is a dearth of academic research and evidence on gender differences in terms of children's use of the internet, whether in terms of the intensity and nature of their internet use, or in terms of their participation in online games. However, emerging research suggests that children will exhibit gender differences when it comes to computer use in general (Subrahmanyam et al., 2000) as well as Internet use (Calvert et al., 2009; Jackson et al., 2008). The data and analyses highlight significant gender differences that were not assumed in the framework and propositions. Achievement motives seem to be of primary importance for children, but with different primary motivations for both the genders. Boys need to progress within the game and to gain power, while girls need to enhance their social status. Similarly, role-playing provides evidence for immersion motives for boys; whereas it is customization (e.g. through an avatar) for girls. Further, social motives appear through an increased teamwork dimension, where children prefer to build alliances (in the case of boys) or new relationships (in the case of girls) within the game, rather than playing alone. Added-value motives are also displayed through the purchase of virtual tools and accessories by all children. Finally, it can be observed that achievement motives often underlie the three other types of motives. Hence, although both boys and girls both display added value motives to engage in virtual purchases within the gaming community, they will engage in different types of purchases due to the differences in their primary achievement motives.

**Children's extended motivations to participate in online gaming versus adults**

Since children in the latter stage (i.e. 8-12 years) are developing the ability to take a second person perspective, this implies that children's social development has an impact on social motives, and children can now begin to influence each other. Therefore, although these children use online gaming communities for socializing and self-expression, they also now want to be part of a group, a team, an online community rather than play as individual. In conclusion, these children specifically display an increased "teamwork" component of social motivations to participate in online gaming communities similar to adults confirming the second proposition.

As already discussed, the data suggests that these children seem to be displaying developing abilities for impression formation. Hence, possessions acquired through virtual purchases seem to be of primary importance for these children while participating in online games, especially due to peers' influences inside online gaming communities. By acquiring objects, children conform to online peers and feel part of the community. That way, children show their differences from the others who are not part of the group. In conclusion, this shows that these children are specifically engaged in virtual purchases due to interpersonal influence within the online game environment like adults, supporting the third proposition.

## LIMITATIONS AND FUTURE RESEARCH

This current investigation has obviously just scratched the surface of an enormous iceberg. This qualitative study must be considered as an exploratory phase for the

understanding of children's behaviors in online gaming communities. Results have to be interpreted cautiously as far as they have been generated by a limited sample of children. Motivation has been a staple in consumer behavior research. But answering the "why" question in the specific under-researched context of children and online gaming could however allow further research to better understand children's particular behavior patterns when participating in online gaming communities in relation to their social development as well as to interpersonal influence.

Future studies could incorporate other methods as well as quantitative forms of research in order to further validate the typology of children's motivations to participate in online gaming communities. Moreover, the impact of the different stages of children's socialization as well as the influence of peers on motivations to participate in online gaming communities could be confirmed with quantitative models such as structural equation modeling. Research should also be conducted on children less than 8 years of age to confirm that they do not have the extended social motivations and added value motivations similar to adults, as children from 8-12 years begin to display.

Further, since this study has been conducted in France, further research is required in other countries and cultural contexts to assess the general applicability and validity of the theoretical framework and propositions. Finally, the risks of playing computer games for children must be considered and studied carefully. Virtual worlds and online games move children into a world where the distinction between real life and simulation may not be clear (Subrahmanyam et al., 2000). Therefore, the effects of playing violent games (for

boys) or leading a virtual life (for girls) must be understood as it could have an impact on children's developing identities and views of the world.

## PRACTICAL IMPLICATIONS

Unique considerations must be taken into account when designing adapted online games for children. First of all, it appears to be important to make a distinction between boys' and girls' games as conformity to gender status seems to be important at this age. Also, bearing in mind gender differences in motivations to participate in online games will allow companies to better meet boys' and girls' specific expectations. Secondly, interactions among players must be facilitated through blogs or private chat boxes for example. Finally, in order to benefit from the influential aspect toward purchase decisions, companies must allow recognition for success by providing specific and recognizable items that show power and high status.

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