JOURNAL OF COMPUTER-MEDIATED COMMUNICATION

Journal of Computer-Mediated Communication

How to be a gamer! Exploring personal and social indicators of gamer identity

Frederik De Grove

Department of Communication Sciences, Research group for Media and ICT (iMinds-MICT), Ghent University, Korte Meer 7-9-11, 9000 Ghent, Belgium

Cédric Courtois

The Leuven School for Mass Communication Research, KU Leuven, Parkstraat 45, 3000 Leuven, Belgium

Jan Van Looy

Department of Communication Sciences, Research group for Media and ICT (iMinds-MICT), Ghent University, Korte Meer 7-9-11, 9000 Ghent, Belgium

Over the past decades, digital games have continued to extend their audience as they moved into the cultural mainstream. Despite this fact, however, only a portion of those who play games consider themselves a gamer. Drawing on insights from social identity theory, this study explores the factors that contribute to why people attribute a gamer identity to self or others. It does so by considering 2 sites of identity construction: the social context of players and the broader cultural milieu. Results suggest that a gamer identity is first and foremost associated with stereotypical behaviors that find their origin in a consumption logic. Friendship networks, however, provide an important environment in which a gamer identity can be performed.

Keywords: Gaming, Games, Gamer, Identity, Social Networks, Friendship, Social Identity Theory.

doi:10.1111/jcc4.12114

In the past decades, digital games have moved from the cultural periphery to its center, reaching an ever greater and diversified audience (ESA, 2013; ISFE, 2012). Remarkably, however, only a portion of those who play games consider themselves gamers (Shaw, 2012). Understanding why some people identify as a gamer is interesting from an academic point of view for at least three reasons. In the first place, it adds to the growing body of research on digital games and its users and thus contributes to our understanding of a contemporary cultural phenomenon. Second, it adds to insights pertaining to research on social identity. Gamer as a social category provides an interesting point of departure in that it is not a typical group. Indeed, research on social identity is often conducted on small social groups of which the membership is unambiguous and arbitrarily assigned (Brown, 2000). Belonging to the social

Editorial Record: First manuscript received on May 14, 2014. Revisions received on October 27, 2014. Accepted by Matthew Lombard on December 31, 2014. Final manuscript received on January 5, 2015. First published online on February 6, 2015.

group of gamers, however, carries real meaning and is voluntary and less clear-cut. Gaining insight into why people identify as a gamer hence allows us to apply previous insights on in-group identification to a real-life group of which the boundaries are fluid rather than fixed. Third, digital games are different compared to other media when it comes to identity. Similar to other media, digital games provide a means through which one can express and experiment with one's identity (Murphy, 2004; Papacharissi, 2010). In contrast to other media, however, gaming itself provides opportunities for identity building in a more direct way. Indeed, whilst it would be hard for someone who uses social network sites to deny he or she is 'a social networker,' people who use digital games can easily claim they are not gamers. Hence, in exploring gamer identity, we study ways in which a medium offers opportunities for identification that are atypical for most media forms. This allows us to better understand where digital games belong in the contemporary media ecology.

Understanding Gamer Identity

In order to understand why people identify as gamers, the research presented by Shaw (2012; 2013) and Consalvo (2007) provides a fruitful starting point, in the first place because they illustrate how a gamer identity, just as any identity, is socially constructed. From a historical perspective, this construction can be traced back to the game industry crash in the early 1980s. As a consequence of this crash, actors connected to the industry started to address players on what it meant to be a gamer. Not only was being a gamer linked to certain types of consumption and knowledge (e.g., which games to buy or which magazines to read) but also to a specific market segment, that of the white, heterosexual, male adolescent boy (Shaw, 2013). Although today's media environment leaves more room to negotiate how being a gamer is constructed, it remains strongly tied to the idea of cultural capital, or using Consalvo's (2009) terminology: gaming capital. It refers to the knowledge and know-how of players regarding digital games and their paratexts (Consalvo, 2007). Drawing on critical feminist theory, Shaw (2012) builds further on the notion of capital by pointing out the importance of performance. Indeed, an important aspect of being a gamer seems to be built around specific types of consumption such as playing certain types of games, spending a certain amount of time playing games, ownership of certain devices and so on. Not only consumption of digital games is indicative for this kind of capital however. Also, knowledge regarding paratextual material can serve as an aspect of cultural capital to (be used to) perform a gamer identity. In addition to cultural capital, being a gamer is also connected to social capital. Having the opportunity to talk about digital games to other people can provide a means through which one can identify as a gamer at given moments. This feeds into another aspect related to gamer identity, namely, the way in which digital games are considered to be a legitimate way of spending leisure. Similar to media texts such as soap series, playing digital games still has a negative connotation attached to it (Shaw, 2012). It goes without saying that people subscribing to such negative views will be less inclined to be sociable about games. Finally, Shaw (2012) also points out the importance of representation in digital games in relation to a gamer identity. More specifically, she illustrates how the lack of representation of members of marginalized groups is connected to how those members position themselves in relation to games in general and gamer identity in specific.

In using critical feminist theory together with an interpretive epistemology, Shaw effectively succeeds in drawing a complex and in-depth picture of how gamer identity is constructed and articulated through a diversity of interrelated factors. Ultimately, her work is aimed at empowering marginalized groups in relation to how they are represented in games. She does so by uncovering the mechanisms underlying the construction of the gamer audience. These insights are relevant in informing the research questions raised in the current paper in that it allows us to identify relevant indicators of a gamer identity. In contrast to the previous studies however, we aim to understand the relative importance of these factors

in explaining why some people identity more as gamers than others. To illustrate how this approach can be useful, let us consider the activity of playing digital games. On the one hand, we know that playing games does not equal being a gamer. On the other hand, investing a certain amount of time in playing digital games is part of one's cultural capital and is thus connected to a gamer identity. A question that remains unanswered, however, is *to what extent* time investment matters in relation to a gamer identity when taking other relevant factors into account. With the research presented in this paper, we hope to understand the combined contribution of several of such factors in predicting and understanding why people identify as gamers.

Social Identity and Digital Games

In order to build a model that allows us to understand why some players identify as gamers, we draw on the concept of social identity. Social identity is concerned with the processes governing the relations between individuals and groups. It has been defined as "*that part of an individual's self-concept which derives from his knowledge of his membership of a social group (or groups) together with the value and emotional significance attached to that membership*" (Tajfel, 1981, p. 255). According to a social identity approach, groups are integrated in the self through the cognitive processes of social categorization, social identification and social comparison (Spears, 2011). Social categorization concerns a cognitive process that serves two functions. First, it allows for systematically defining others by ordering the social environment according to certain stimuli. The person being categorized is subsequently attributed behaviors and characteristics that are prototypical for that category. Second, through the same cognitive process, social categorization allows one to classify oneself in the social environment and in relation to others (Ashforth & Mael, 1989; Turner, 1987). Others who are similar to us are considered to be in-group members, whilst those who are not are considered to be out-group members (Hogg & Abrams, 1998). Social identification follows social categorization and entails the process through which one considers the self as belonging to a social group (Ashforth & Mael, 1989). Governing these processes of categorization and identification is the process of social comparison. By comparing the in-group with the out-group, the self and its associated social groups gain meaning and value. Whilst these processes are fundamental to the social identity approach, the approach itself is composed of two closely related theories: social identity theory and self-categorization theory. Social identity theory's central interest lies in understanding intergroup phenomena such as discrimination, intergroup conflict, and social change (Spears, 2011). Self-categorization theory extends social identity theory and is considered to provide a more general theory on social identity (Hogg & Abrams, 1998; Hogg & Terry, 2000). More specifically, self-categorization theory focuses on how the process of self-categorization works as a cognitive basis for group behaviors. It conceptualizes personal and social identity as two different aspects of the self, arising from different levels of self-categorization (Ashforth & Mael, 1989; Hogg & Terry, 2000; Tajfel & Turner, 1986). When a social identity becomes salient (i.e., activated), self-conceptualization tends to shift from the personal to the social identity (depersonalization) which in turn leads to cognitions, perceptions, attitudes, and behaviors conforming to prototypical group characteristics (Turner, 1987; Turner, Oakes, Haslam, & McGarty, 1994). An important aspect of the theory is that self-categories become salient by the interaction with the immediate social context (Ellemers, Spears, & Doosje, 2002). Indeed, self-categorizing is not fixed and enduring but fluid, variable and highly context-dependent (Turner et al., 1994). Whether a self-category becomes relevant is dependent on its accessibility and fit with the social situation (Turner, 1987). Accessibility refers to the "readiness" of the perceiver in terms of individual characteristics (e.g., previous uses, importance and value of the category) in relation to the specific situation. Fit concerns the match between the category and the social situation in terms of similarities and differences between people (comparative fit) and whether the behavior and attributes of those present fit the expected content of

the category (normative fit) (Turner, 1987; Turner & Oakes, 1986). For instance, when discussing digital games with friends, the self-category gamer might become salient because one has frequently used that category in similar situations before (accessibility). In addition, it could emerge because the knowledge about games differs between people in the group (comparative fit). This difference could be attributed to the perceiver being more knowledgeable about the relevant topic (normative fit). If the context of the discussion was different, consider for instance the same friends discussing religious practices, this situation would most likely render another self-category salient (e.g., Muslim). Similarly, if one was discussing digital games with professional e-sports players, normative fit (knowing *less* about the topic), might lead to refraining from self-categorizing as a gamer in that context. Underlying the interaction between accessibility and fit are prototypes which can be best described as fuzzy sets of attributes that are typical or representative for a category (Hogg & Terry, 2000; Reid, Byrne, Brundidge, Shoham, & Marlow, 2007; Turner, 1987). They are cognitive constructs that are formed and maintained in interaction with social contexts. Revisiting the example of friends discussing games, an attribute that is considered as prototypical for a gamer would be knowledge about games. Based on how group members relate to that attribute, i.e., how prototypical they are, in- and out-group membership is decided. As a consequence, prototypes maximize intergroup differences whilst minimizing intragroup ones. This makes social categorization inherently comparative in that identification with the in-group is based on comparisons with the out-group.

At this point, we have used the social identity approach to explore how groups and group behaviors are formed within specific social situations. Ultimately, however, we are interested in how being a gamer can be understood as a relatively stable identity category. Drawing on self-categorization theory, several researchers have shown that a social identity can, to a certain extent be integrated in the self-concept (Spears, Doosje, & Ellemers, 1997; Tropp & Wright, 2001; Turner, 1987; Tyler, Kramer, & John, 1999). Based on these studies, we consider a stable identity category as the extent to which one attributes the in-group to the self or to others. Whether or not the in-group becomes a salient category remains dependent on the specific social context. Understanding gamer identity might now be understood through how social categories are formed. According to Turner (1987), there are two main determinants: immediate social situations in which social categorizations can emerge and the availability of preformed, culturally available classifications. In fact, this is similar with the idea that a gamer identity is social constructed and thus a culturally available classification and that it can be performed in the context of everyday social contexts. In what follows we consider how both aspects can be conceptualized and linked to a gamer identity.

Gamer identity and immediate social contexts

When it comes to the relation between the a gamer identity and immediate social situations, it can be pointed out that stable categories stem from stable social contexts (recurring social situations, social groups) that provide stable norms, values and motives (Ellemers et al., 2002). In other words, a stable identity category can be considered as a reciprocal process in which recurring social situations provide recurring fit and accessibility of specific categories and vice versa. Stable social contexts are thus an important factor in understanding the degree to which one includes the in-group in the self or to which one attributes a category to others. However, in order to define a relevant social context we first need to demarcate a relevant population. For this study, we are interested in gamer identification of players attending high school. The reason for this is twofold. First, proportionally they represent the group of people who play the most digital games (ESA, 2013; ISFE, 2012). Second, research has shown that the development of a social identity differs between early and late adolescence (Tanti, Stukas, Halloran, & Foddy, 2011; Tarrant et al., 2001). Indeed, it is assumed that due to the transition between elementary and

high school, early adolescents' need to belong to valued social groups is, in general, more outspoken than that of late-adolescents still in high-school. This makes considering adolescents interesting. Moreover, the importance of peers in general and of friends in specific has shown to be important in developing a personal identity (Meeus, Oosterwegel, & Vollebergh, 2002). It can therefore be expected that friends are important in including the category of gamer in the self.

An important question in this context is how to understand the relation between stable social contexts and stable identity categories. This relation is not necessarily evident since the processes underlying social categorization such as normative and comparative fit are dependent on what happens in specific situations. Even within stable social contexts, myriad situations can emerge that may or may not elicit gamer as a salient category. Empirically assessing all those individual situations to see when and where one attributes the category of gamer to self or others is near impossible. A more practical solution would be an approach that considers an aggregate of those specific situations in which a gamer identity has become activated. For this, the interplay between the categorization of the self and the categorization of others can serve as a starting point. Indeed, in order to categorize friends as gamers, one needs situations that provide accessibility and fit rendering the category of gamer salient. Since it are the same situations that allow one to self-categorize as a gamer, it follows that the degree to which others are categorized as gamers is indicative for those situations that make it possible for a gamer identity to become salient. Compare, for instance, a player of whom none of the friends play digital games (player A) with a player who has several friends that are invested in playing games (player B). The probability that gamer will emerge as an important category in social situations is bigger for player B than player A. In other words, gamer as a category can be expected to be more accessible for player B than for player A. Furthermore, for player B, more situations can potentially arise in which similarities and differences among friends can be explained through the category of gamer (comparative fit). Similarly, more situations can arise in which gamer-related behaviors are performed (normative fit). Since the interaction of accessibility and fit turns gamer into a salient category, the social environment of player A offers little opportunities for gamer to become salient whereas the opposite is true for player B. Suppose that all other behaviors and characteristics are identical between player A and B (e.g., they play the same games for the same amount of time and so on) then it would be easier for player B to identify as a gamer since the category itself is more easily activated. From this perspective, categorizing friends as gamers implies a social environment that is open to a gamer identity. This reasoning is also congruent with the work of (Shaw, 2012) in that an environment in which a gamer identity can flourish supposes an environment in which one can be sociable about games and in which gaming does not need to be a guilty pleasure. It is also congruent with the work of identity theorists whom have pointed out that the activation of a social identity in specific social situations is associated with the degree to which that identity is embedded in one's social structure (Stets & Burke, 2000; Stryker & Burke, 2000). Furthermore, in considering gamer identity in one's friendship network from an aggregate level, we put it on equal footing with the idea of a relatively stable concept which is also the result of a combination of specific situations rather than the result of a single one. This has a clear advantage in that the influence of extreme cases is flattened out. Take for instance the presence of a professional e-sports player in one's friendship network. For an average player, social situations together with this friend would probably lead one to identify less as a gamer. It would be wrong, however, to conclude that this prevents the inclusion of being a gamer in the self. Indeed, these situations are only a part of the larger collection of social situations in which other friends also have a part to play and in which these friends stand in relation to one another. Some of these friends will be considered as nongamers whilst others will be considered as gamers to some extent. Therefore, the extent to which one includes being a gamer in the self can best be understood through the way gamer identity is present in the friendship network in general rather than through specific cases or situations. This allows us to formulate our first hypothesis.

H1: The degree to which gamer identity is attributed to friends will be positively associated with respondents' gamer identity.

Gamer identity and the cultural context

Next to the importance of a social environment, we need to consider how gamer as a predefined cultural category stands in relation to gamer as a relatively stable identity category. Here, the concept of prototypicality might prove useful. People judge others and themselves on how prototypical they are for a certain social category. This is done by considering the degree to which they live up to stereotypical attributes, i.e., those attributes that produce a high contrast between intergroup differences and intragroup similarities. Since prototypes are cognitive constructs, it has been argued that one can compare oneself and others with a prototype, separate from any specific social context (Reid et al., 2007). Therefore, it stands to reason to assume that those who consider themselves or others as highly prototypical for a certain category will more likely attribute the in-group to the self or to others respectively. The challenge now lies in identifying those attributes (i.e., behaviors and characteristics) that can be considered to be prototypical for a gamer. Considering the myriad possibilities addressed by authors such as Shaw (2012; 2013), the question is how we identify those factors that can be expected to be the most efficient in distinguishing between different levels of categorization as a gamer. This is important if one takes the requirement of parsimony in mind. Indeed, when constructing a statistical model, the inclusion of a large number of variables should be avoided (Hair, Black, Babin, Anderson, & Tatham, 2006). For this study, we expect two types of behavior to be relevant in terms of self-categorization: the amount of time one invests in playing digital games and the kind of games one plays. In the first place, they seem the most relevant candidates because they are directly tied to the practice of playing games. Looking into the frequency of play furthermore allows for an approach that goes beyond the dichotomy between playing games or not which has proven to be insufficient in distinguishing between gamers and nongamers (Shaw, 2012). As for game genres, previous research has shown that there is a difference in the kind of content people play (Williams, Yee, & Caplan, 2008) and that, due to being a gamer is in part an industry construction, certain content is more prototypical for a gamer than other content (Shaw, 2012). Therefore, we expect those that play so-called core genres (e.g., first person shooters, role-playing games) to identify more strongly as a gamer than those who do not. Other possible behavioral indicators seem less clear relation to a gamer identity. Economic investment and more specifically, buying digital games, for instance, is an indicator that might be troubled by the availability of pirated games. Furthermore, the interaction with paratextual material such as specialized magazines is not inherently tied to gaming as an activity. We believe that indicators that are inherently tied to gaming will be more performant in explaining the degree to which people identify as a gamer than indicators that are not. Therefore, to build a parsimonious model, behaviors that are not directly tied to gaming are not included in the current study. In addition to behaviors, a prototypical characteristic that can be expected to be influential is that of gender. In fact, one of the most consequent findings is that gaming and gamer identity are considerably gendered (Shaw, 2012; Williams, Consalvo, Caplan, & Yee, 2009). Therefore, we expect that it is easier for male players to identify as a gamer than it is for females. We also expect age to be a relevant indicator of gamer identity. In the first place because younger adolescents gain more benefit from adopting a social identity (see above), but also because it can be expected that being invested in games is, in Western societies, considered to be more acceptable for younger people than for older ones as games are often still considered as entertainment for children.

H2a: Frequency of play will be positively associated with gamer identity.

H2b: Players who are more deeply invested in core-genres will identify more strongly as a gamer than those who do not.

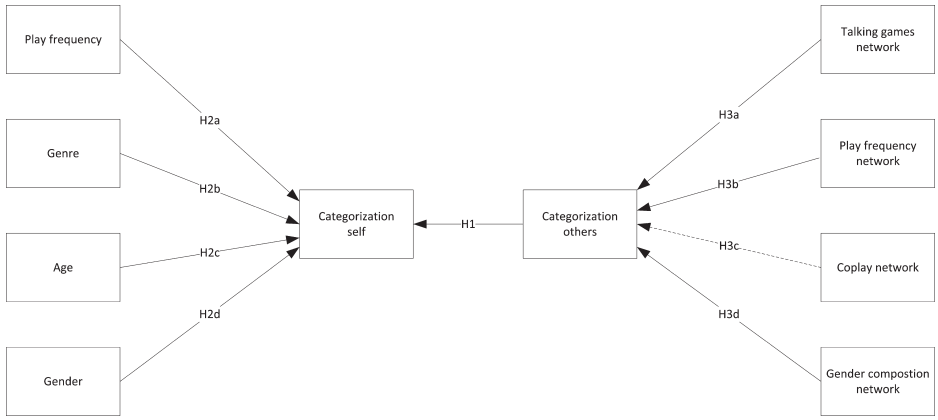

Figure 1 Hypothesized path model

H2c: Age will be negatively associated with gamer identity.

H2d: Male respondents will identify more strongly as gamers than female respondents.

Similar to the reasoning applied to self-categorization as a gamer, we expect certain behaviors and characteristics to be relevant in order to categorize others as gamers. In the first place, we expect that the time that is invested by friends in playing digital games will be positively associated with attributing them a gamer identity. This is expected to be the case for play frequency of individuals and for the frequency with which friends play together (coplay). Furthermore, to account for the idea of social capital, the degree to which conversational practices are present in one's network are also expected to be associated with the attribution of a gamer identity. Finally, similar to self-categorization as a gamer, we expect gamer identity to be more widespread in networks in which the composition is male oriented compared to those networks in which the composition is female oriented. Figure 1 shows the hypothesized model with all relevant hypotheses.

H3a: The frequency of game-talk will be positively associated with the extent to which gamer identity is attributed to friends.

H3b: Play frequency in the network will be positively associated with the extent to which gamer identity is attributed to friends.

H3c: The frequency of coplay will be positively associated with the extent to which gamer identity is attributed to friends.

H3d: Gamer identity in the network will be more widespread in male oriented networks than in female ones.

Method

Participants and procedure

Through the social networks of undergraduate students taking a course in social network analysis, high school students playing digital games ($N = 100$) were recruited. In total, 67 of the respondents were male. For all minors in the sample, parental consent was obtained. In order to allow sufficient

variation in the types of players, participants were only required to have played any kind of game on any kind of electronic device in the past year (Kallio, Mäyrä, & Kaipainen, 2011). To increase reliability, data were collected by means of structured face-to-face interviews. Special care was taken to obtain independent networks (Carrington, Scott, & Wasserman, 2005; Matzat & Snijders, 2010). Furthermore, several days before the interview took place, participants were asked to complete an online survey in which they had to provide a list of people they considered to be friends. Interviews were built up around two blocks. A first block probed for a list of friends, albeit in a different way than in the survey. Friend names in the survey were obtained by following the approach proposed by Kirke (1996). During the interviews, however, the names of friends were probed for by asking whether there were people in specific spheres of life (e.g., at school, in the neighborhood, hobby-related, …) they considered as friends. Subsequently, both lists of friends were joined together and respondents were asked to rank all friends in terms of most important friends at the moment. To limit the duration of the interview, the top 10 of friends was used for all following questions if more than 10 friends were named. In focusing on the most important friends, we also focused on the most stable relations between our respondents and their friends. The second block of questions consisted of assessing respondent's and their friends' characteristics and mutual relations. Drawing on previous research, friendship in the survey and during the interview was repeatedly described as "people with which you have a good relationship and/or people who know more of you than mere acquaintances and/or people with which you regularly do things together and/or people with which you can have conversations about serious matters" (Bernard et al., 1990; Milardo, 1992). Digital games were described as "any game that can be played on any type of digital platform."

Measures

For the respondents, information was collected on gender, age, frequency of play, genres played and to what extent they included the category of gamer in the self. Gender was measured as a binary category and age as a continuous variable in years. To measure play frequency, respondents were asked how often they had played digital games during the past month. Answers were presented on a 5-point Likert scale ranging from (*Almost) never* to *Daily*. The inclusion of gamer in the self was measured on a 5-point scale using the graphical instrument developed and validated by Tropp and Wright (2001). More specifically, the instrument shows a series of Venn diagrams. These Venn diagrams are composed of two circles, one representing the self, the other representing the gamer category. Different levels of overlap between both circles represent different choice options.

Based on the information provided by the respondents, information on friends for gender, age, and frequency of play was collected. Similar to the inclusion of gamer in the self, respondents were asked to what extent they attributed a gamer identity to each friend in the network using the instrument developed by Tropp and Wright (2001). In terms of relations, two types were measured on 6-point Likert scales: the frequency of conversation about games during the past month (*Never* to *Daily*) and the frequency of playing games together during the past month (*Never* to *Daily*). Coplay was conceptualized as playing digital games together in any form. Hence, taking turns in playing a game on a smartphone was also considered as coplay.

Results

Preliminary results

Table 1 gives an overview of the relevant descriptive measures. The mean age of our respondents was 16.39 ($SD = 1.81$) and the mean age in the networks was 15.87 ($SD = 1.81$). Average network size was 8.87 ($SD = 1.70$) which is similar to previous research on players' friendship networks (Domahidi, Scharkow,

Table 1 Descriptive Measures

	Mean	SD	Min	Max
Age	16.39	1.81	12	20
Play frequency	4.15	1.49	1	6
Identity	2.64	1.18	1	5
Network size	8.87	1.70	4	10
Age network (average)	15.87	1.81	11.7	20.6
Play frequency (average)	3	1.07	.78	5.71
Network identity (average)	2.06	.70	.67	4
Gender composition network (ratio)	.38	.36	0	1
Talking about games	.90	.63	0	2.91
Co-play frequency	.25	.37	0	1.72

& Quandt, 2012). To compute the gender composition of the network, the ratio between female and male friends was computed. Hence, a score of 1 concerns a network with female friends only and a score of .50 concerns a balanced network in terms of gender. On average, our networks were slightly more male (M = .38, SD = .36). Furthermore, respondents scored, on average, 2.64 (SD = 1.18) on the identity question and the average mean identity in the networks was 2.06 (SD = .70). Play frequency of respondents (M = 4.15, SD = 1.49) was somewhat higher on average than the average mean play frequency in the networks (M = 3, SD = 1.07). To compute the occurrence of game talk and coplay between respondents and friends, the standardized weighted degree was computed for both relations (Wasserman & Faust, 1994). A low score means that there is little conversation about games or that a respondent and one's friends do not often play games together respectively. On average, respondents talked more about games with their friends (M = .90, SD = .61) compared to playing together (M = .38, SD = .36). For game genres, a latent class analysis was performed to extract two groups (Collins & Lanza, 2010). One group can be described as playing core genres, whilst the other group is best described by the absence of playing core genres. Hence, the difference between both groups is not that one group is more inclined to play casual genres whereas the other group is inclined to play core genres. The relevant difference lies in the probability to play core genres. This is especially true for genres such as shooters, fighting games, action-adventure games, and strategy games. Table 2 shows the probabilities of both groups to play each genre. Finally, Table 3 shows the bivariate correlations for all interval variables.

Main Results

To answer our hypothesis, a path model was constructed using the *lavaan* package in *R* (Rosseel, 2012). Figure 2 shows the model with standardized regression coefficients and Table 4 gives additional information on these estimates. Fit indices of the model indicated a good fit (N = 100, $\chi 2/df$ = .38, CFI = 1, TLI = 1, $RMSEA$ = 0 CI_{90} = [0; .034]) (Hair et al., 2006).

When considering the degree to which respondents include the gamer category in the self, all predictors were significantly associated. Indeed, attributed gamer identity in the network was positively associated with respondents' gamer identity **(H1)**. Furthermore, older respondents, on average, tended to identify less as a gamer than younger respondents **(H2c)**. Similar to gender composition in the network, the gender of the respondent was also negatively associated with gamer identity **(H2d)**. More specifically female respondents tended to identify less strongly as a gamer than male respondents. Another negative association was that with genre preference. The group playing fewer core genres tended to

Table 2 Player groups and genre probabilities

Genre	Noncore-genre players (N = 30)	Core-genre players (N = 70)
Action- adventure	.30	1
Adventure	.17	.43
Casual games	.53	.50
Fighting games	.10	.47
Management games	.21	.30
MMORPGs	.05	.41
Party games	.24	.30
Platform games	.13	.31
Racing games	.44	.67
RPGs	.04	.54
Shooter games	.28	.95
Simulator games	.08	.06
Social network games	.24	.32
Sports games	.48	.43
Strategy games	.10	.74

Table 3 Correlation coefficients

	1	2	3	4	5	6	7	8
1. Age	1	***−.05***	***−.21***	***−.14***	***.08***	***−.11***	***−.20***	***−.09***
2. Play frequency self	–	1	.61	***.40***	−.48	.36	.42	***.37***
3. Identity self	–	–	1	.41	−.52	.47	.53	.43
4. Play frequency others	–	–	–	1	−.39	.82	.66	.56
5. Gender composition	–	–	–	–	1	−.47	−.48	−.37
6. Identity others	–	–	–	–	–	1	.67	.49
7. Talking games	–	–	–	–	–	–	1	.73
8. Coplay frequency	–	–	–	–	–	–	–	1

Note: bold italicized numbers are correlations that are not significant at the .05 level.

identify less strongly than the group that did **(H2b)**. Finally, the frequency by which respondents had played games during the past month was positively associated with inclusion of being a gamer in the self **(H2a)**. In fact, play frequency is the strongest predictor followed by genre preference, gender, gamer identity in the network and age respectively. These predictors explain 55% of the variance in gamer identity.

When it comes to the degree to which the category of gamer is attributed to friends in the network, three predictors were statistically significant. First, a positive association was found for game talk with friends **(H3a)** and for play frequency in the network **(H3b)**. Thus, the more frequent one talks about digital games with friends, the higher the average network identity score. The same was true for the more frequent one's friends play digital games. However, the occurrence of coplay in the network was not

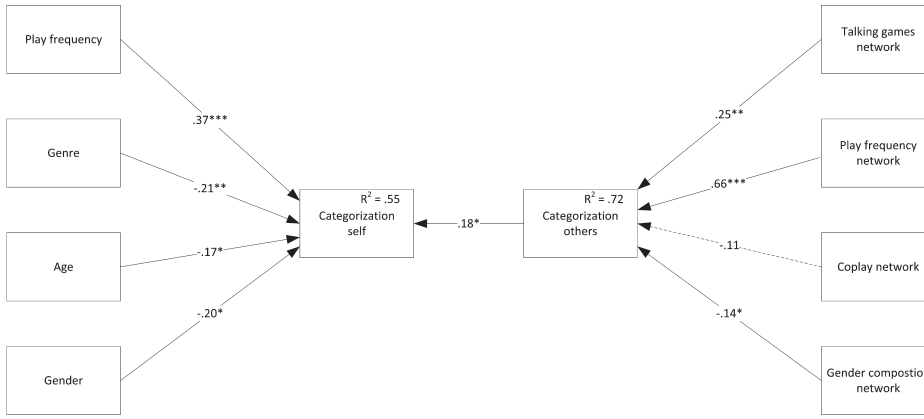

Figure 2 Path model with coefficients

Table 4 Path model results

H	Dependent	Independent	β	SD	Std β	Result
H1	Categorization self	Categorization others	.30 *	.13	.18	Accept
H2a	Categorization others	Play frequency self	.29 ***	.06	.37	Accept
H2b		Genres	−.51 **	.19	−.21	Accept
H2c		Age	−.11 *	.05	−.17	Accept
H2d		Gender	−.51 *	.20	−.20	Accept
H3a	Categorization others	Talking games	.28 **	.10	.25	Accept
H3b		Play frequency network	.44 ***	.05	.66	Accept
H3c		Coplay network	-.22	.15	-.11	Reject
H3d		Gender composition	-.26 *	.12	-.14	Accept

significantly associated with attributed gamer identity **(H3c)**. Hence, playing digital games with friends did not contribute to attributing the gamer category to friends. Finally, the model suggested a negative association between attributed gamer identity and gender composition of the network **(H3d)**. In other words, the higher the ratio of female friends in the network, the lower the average network identity score. When comparing the relative strength of the associations, our data suggest that the frequency of friends' play behavior is the strongest predictor, followed by game talk and gender composition of the network. In total, these variables explain 72% of the variation in the mean network identity.

Discussion

The central aim of this study was to identify relevant indicators of why players attribute the category of gamer to themselves or to others. Based on literature on the topic, we expected a gamer identity to be formed and maintained in relation to the broader cultural context and in relation to the everyday social situations in which players live. The latter was conceptualized by means of friendship networks. Our results suggest that these networks are able to provide an environment in which a gamer identity can flourish over and above the influence of individual behaviors and characteristics that are performed

in relation to gamer as a cultural category. In general, this confirms the relevance of friendship groups when studying gamer identity as a relatively stable phenomenon. More specifically, the more one sees one's friends in the network as gamers, the more one will tend to include the gamer category in the self **(H1)**. This can mainly be understood through the processes linked to social categorization. It is not just because a gamer identity is attributed to friends that one will automatically self-identify as a gamer. Rather, the distribution of a gamer identity in one's network is indicative for a social environment in which accessibility and fit allow for a gamer identity to become salient. From this perspective, whether one will self-categorize as a gamer depends partly on the degree to which a gamer identity is relevant in one's important everyday relations. Categorizing as a gamer, however, is not only a conversation with one's direct social environment; it is also a conversations in relation to the way being a gamer relates to one's broader cultural milieu. Indeed, taken together, prototypical behaviors and characteristics prove to be important indicators of a gamer identity over and above the friendship context in which players are embedded. First and foremost, the frequency of play is an important indicator of gamer identity. In fact, it is the most important predictor in relation to self-categorization as a gamer (**H2a**). In other words, the more frequent one plays digital games, the stronger one will, on average, identify as a gamer. In addition, the kind of games that are consumed also showed to be a relevant indicator (**H2b**). People playing those genres that are typically considered as core genres tend to identify more strongly as a gamer than those who do not play those genres. Whilst the division between players of so-called core genres and casual genres, which is typically advocated in information disseminated by the industry (ESA, 2013; ISFE, 2012), is reflected in our data, it is important to note that the difference between both groups is explained by people not playing core genres rather than by people not playing casual genres. As a consequence, there is an alternative explanation for the association of content with gamer identity. It might be that the determining aspect lies in the fact that there is a group that can be considered as omnivores versus a group that plays only a limited amount of genres. At this point, it is hard to say whether it are specific genres that lead one to identify as a gamer, the omnivorous behavior, or a combination of both. In addition to prototypical behaviors, age, as a characteristic also proved to be significantly related to self-identification as a gamer (**H2c**). Indeed, as we expected, younger players tended to identify more strongly as a gamer than older players. In the first place, this can be explained by the fact that young adolescents tend to be more active in looking for a valued social identity. In addition, it might be that early adolescents are not only more actively looking for a valued social identity but that a gamer identity is simply more valued when one is younger. Indeed, playing games is not a neutral activity but a normative one (Shaw, 2012). From this point of view, age is considered to be an identity category that intersects with the inclusion of being a gamer in the self. The same is true for gender (**H2d**). Indeed, even when all other factors are kept constant, i.e., controlling for the type of games that are played, the amount of time that is spent playing games, the social environment and the age of players, gender is relevant in relation to a gamer identity. This does not mean that female or older players are excluded from self-categorizing as a gamer. It does point out that, on average, female or older players tend to perform more prototypical behaviors in terms of frequency and content before they self-identify as a gamer to the same extent as male or younger players respectively.

When looking at the behaviors and characteristics that are associated with attributing a gamer identity to others, a similar picture emerges. In terms of behaviors, game talk (**H3a**) and play frequency of friends (**H3b**) constitute relevant prototypical behaviors. In contrast, coplay (**H3c**) does not seem to be associated with categorizing friends as gamers. There are at least two possible explanations for this. A first one might be that perceived play frequency catches both the individual and the coplay behavior. As a consequence, coplay would not explain unique variation over and above the aggregation of individual group members' play frequency. Play frequency in the network would in that case be a more adequate predictor than coplay. Another, complementary, explanation might be that the occurrence of coplay in our sample is too low to explain additional variance. Indeed, in principle, coplay can vary between 0 and

5. In practice, however, its mean amounts to .25. It is therefore not unreasonable to assume that coplay will only contribute in explaining unique variance once a certain threshold is exceeded. This kind of reasoning is supported by the idea of a stable context. Stable and recurrent patterns of play probably benefit more from coplay behavior that is frequent rather than sporadic. In that respect, our study shows that a specific range of coplay is not associated with the extent to which one attributes the gamer category to friends. It is possible, however, that targeting a population in which coplay is more frequent might yield different insights. Whilst behavioral indicators are the most potent predictors of identity attribution, gender composition **(H3d)** also shows to be important when controlling for those behavioral indicators. This shows that the interplay between multiple identities is not only relevant for individuals categorizing themselves, but also for individuals categorizing others.

Conclusion

This study has shed light on the relative importance of social context and individual behaviors and characteristics in relation to gamer identity. Whereas previous research on the topic has identified a multitude of potentially relevant indicators, knowledge on *how* important they were in relation to a gamer identity was lacking. When considering the variance explained in the attribution of being a gamer to self (55%) and others (72%), it is not unreasonable to assume that this study has set some first successful steps towards understanding the relative impact of relevant indicators. It goes without saying, however, that these indicators do not fully cover the idea of cultural capital as described by other authors. It might therefore be interesting for future research to look into this matter by means of a measure that more thoroughly captures concepts such as cultural capital. Such endeavor would in the first place require an instrument able to assess all components of social and cultural capital tied to digital games.

When considering our results more generally, at first sight, a gamer identity still largely seems to be defined in relation to the stereotypical image forwarded by the gaming industry. Indeed, a gamer identity is still constructed, first and foremost through a direct investment in the medium itself, i.e., by playing digital games. This holds true for the categorization of self and of others. A gamer identity is also connected to issues of gender albeit less radical than one might have expected. Indeed, gender plays an equally important role as the kind of content that is played or the age of the player. Hence, whilst a gamer identity started out as an industry construction typically addressing males, today it seems that there is some room to be more inclusive. The role played by a friendship environment is also something to take into account. Considering that players live in a multitude of social contexts and situations, the degree to which a friendship environment is associated with one's gamer identity is highly relevant. It might be interesting for future research to consider how a gamer identity relates to other social environments, for instance, those environments that have been created especially with gamers in mind such as websites.

This also brings us to the relevance of a social identity approach in relation to studying a certain kind of group. Empirical research employing a social identity approach is often executed in experimental settings with clear-cut small groups and arbitrary assignment of participants. Being a gamer, however, is primarily built on consumption practices and it is a group membership that is fuzzy. In addition, people choose whether and to what extent they embrace being a gamer as part of the self-concept. In our opinion, a social identity approach has provided a solid theoretical basis to conceptualize and understand how a stable social context and individual behaviors can be linked to a gamer identity. Although the main focus of a social identity approach lies in specific social situations, the underlying mechanisms governing category formation allow for extrapolations to relatively stable levels of identity formation in stable social contexts whilst also accounting for the cultural embeddedness of identities.

Finally, as explained previously, a social category is constructed based on comparing the in-group with the out-group. Whilst this mechanism is an assumption underlying our study (e.g., by means of

prototypes), it is not the focus of it. Recent developments, however, might make in-group out-group comparisons highly relevant. Indeed, during the writing of this paper, several incidents have occurred in which self-identified gamers have started organizing themselves in a reaction against what they see as an attack on their gamer identity organized by academic scholars and the popular press (Hern, 2014). Research using the social identity approach has shown that threats to the in-group and more specifically to the homogeneity of the social group will make group members who are highly committed to their identity to collectively respond to these threats (Ellemers et al., 2002; Spears et al., 1997). In fact, this illustrates again how relevant a social identity approach can be in understanding what is happening today. A rather interesting question is now how the activities of these highly committed and thus prototypical gamers will renegotiate what it means to be a gamer. Indeed, a gamer identity is for a significant part dependent on how being a gamer is socially constructed in a cultural context and this social construction is now openly being subject to discussion and reconfiguration. As a consequence, this might change the reasons why people will identify as a gamer in the future. Keeping track of these developments from an academic perspective might further our understanding of how social identities are formed, maintained and changed.

References

Ashforth, B., & Mael, F. (1989). Social identity theory and the organization. *Academy of management review,* 14(1), 20–39. doi: 10.5465/AMR.1989.4278999

Bernard, H., Johnsen, E., Killworth, P., McCarty, C., Shelley, G., & Robinson, S. (1990). Comparing four different methods for measuring personal social networks. *Social Networks,* 12(3), 179–215. doi: 10.1016/0378-8733(90)90005-T

Brown, R. (2000). Social identity theory: Past achievements, current problems and future challenges. *European Journal of Social Psychology,* 30(6), 745–778. doi: 10.1002/1099-0992(200011/12)30:6<745::AID-EJSP24>3.0.CO;2-O

Carrington, P. J., Scott, J., & Wasserman, S. (2005). *Models and methods in social network analysis*. Cambridge, UK: Cambridge university press.

Collins, L. M., & Lanza, S. T. (2010). *Latent class and latent transition analysis: With applications in the social, behavioral, and health sciences*. Hoboken, NJ.: John Wiley & Sons.

Consalvo, M. (2007). *Cheating: Gaining advantage in videogames*. Cambridge, MA: The MIT Press.

Domahidi, E., Scharkow, M., & Quandt, T. (2012). Real friends and virtual life? Computer games as foci of activity for social community building. In *Communication and community* (pp. 149–169). New York, NY: Hampton Press.

Ellemers, N., Spears, R., & Doosje, B. (2002). Self and social identity. *Annual Review of Psychology,* 53, 161–186. doi: 10.1146/annurev.psych.53.100901.135228

ESA, Entertainment Software Association. (2013). Essential facts about the computer and video games industry. Retrieved from http://www.theesa.com/facts/pdfs/esa_ef_2013.pdf

Hair, J. F., Black, W. C., Babin, B., Anderson, R. E., & Tatham, R. L. (2006). *Multivariate data analysis*. Upper Saddle River, NJ: Prentice Hall.

Hern, A. (2014, 16 October 2014). Lazy coverage of Gamergate is only feeding this abusive campaign. *The Guardian*. Retrieved from Retrieved from http://www.theguardian.com/technology/2014/oct/16/gamergate-abuse-feminist-new-york-times-anita-sarkeesian

Hogg, M. A. , & Abrams, D. (1998). *Social identifications: A social psychology of intergroup relations and group processes*. London, UK: Routledge.

Hogg, M. A., & Terry, D. I. (2000). Social identity and self-categorization processes in organizational contexts. *Academy of management review,* 25(1), 121–140. doi: 10.5465/AMR.2000.2791606

ISFE, Interactive Software Federation of Europe. (2012). Videogames in Europe: Consumer study. Retrieved from http://www.isfe.eu/videogames-europe-2012-consumer-study

Kallio, K. P., Mäyrä, F., & Kaipainen, K. (2011). At least nine ways to play: Approaching gamer mentalities. *Games and Culture,* 6(4), 327–353. doi: 10.1177/1555412010391089

Kirke, D. M. (1996). Collecting peer data and delineating peer networks in a complete network. *Social Networks,* 18(4), 333–346. doi: 10.1016/0378-8733(95)00280-4

Matzat, U, & Snijders, C. (2010). Does the online collection of ego-centered network data reduce data quality? An experimental comparison. *Social Networks,* 32(2), 105–111. doi: 10.1016/j.socnet.2009.08.002

Meeus, W., Oosterwegel, A., & Vollebergh, W. (2002). Parental and peer attachment and identity development in adolescence. *Journal of Adolescence,* 25(1), 93–106. doi: 10.1006/jado.2001.0451

Milardo, R. M. (1992). Comparative methods for delineating social networks. *Journal of social and personal relationships,* 9(3), 447–461. doi: 10.1177/0265407592093007

Murphy, S. C. (2004). Live in your world, play in ours: The spaces of video game identity. *Journal of Visual Culture,* 3(2), 223–238. doi: 10.1177/1470412904044801

Papacharissi, Z. (Ed.). (2010). *A networked self: identity, community, and culture on social network sites*. London, United Kingdom: Routledge.

Reid, S., Byrne, S., Brundidge, J., Shoham, M., & Marlow, M. (2007). A critical test of self-enhancement, exposure, and self-categorization explanations for first-and third-person perceptions. *Human Communication Research,* 33(2), 143–162. doi: 10.1111/j.1468-2958.2007.00294.x

Rosseel, Y. (2012). lavaan: An R package for structural equation modeling. *Journal of Statistical Software,* 48(2), 1–36.

Shaw, A. (2012). Do you identify as a gamer? Gender, race, sexuality, and gamer identity. *New media & society,* 14(1), 28–44. doi: 10.1177/1461444811410394

Shaw, A. (2013). On Not Becoming Gamers: Moving beyond the constructed audience. *Ada: A journal of gender, new media and technology,* 2. doi: 10.7264/N33N21B3

Spears, R. (2011). Group identities: The social identity perspective. In S. J. Schwartz, K. Luyckx & V. L. Vignoles (Eds.), *Handbook of identity theory and research* (pp. 201–224). New York, NY: Springer.

Spears, R., Doosje, B., & Ellemers, N. (1997). Self-stereotyping in the face of threats to group status and distinctiveness: The role of group identification. *Personality and Social Psychology Bulletin,* 23(5), 538–553.

Stets, J. E., & Burke, P. J. (2000). Identity theory and social identity theory. *Social psychology quarterly,* 63(3), 224–237.

Stryker, S., & Burke, P. J. (2000). The past, present, and future of an identity theory. *Social Psychology Quarterly,* 63(3), 284–297. doi: 10.2307/2695840

Tajfel, H. (1981). *Human groups and social categories: Studies in social psychology*. New York, NY: Cambridge University Press.

Tajfel, H., & Turner, J. C. (1986). The social identity theory of intergroup behavior. In S. Worschel & W. G. Austin (Eds.), *Psychology of intergroup relations*. Chicago, IL: Nelson-Hall.

Tanti, C., Stukas, A. A., Halloran, M. J., & Foddy, M. (2011). Social identity change: Shifts in social identity during adolescence. *Journal of adolescence,* 34(3), 555–567. doi: 10.1016/j.adolescence.2010.05.012

Tarrant, M., North, A. C., Edridge, M. D. , Kirk, L. E., Smith, E. A., & Turner, R. E. (2001). Social identity in adolescence. *Journal of adolescence,* 24(5), 597–609. doi: 10.1006/jado.2000.0392

Tropp, L. R., & Wright, S. C. (2001). Ingroup identification as the inclusion of ingroup in the self. *Personality and Social Psychology Bulletin,* 27(5), 585–600. doi: 10.1177/0146167201275007

Turner, J. (1987). *Rediscovering the social group: A self-categorization theory*. Oxford, UK: Basil Blackwell.

Turner, J. C., & Oakes, P. J. (1986). The significance of the social identity concept for social psychology with reference to individualism, interactionism and social influence. *British Journal of Social Psychology,* 25(3), 237–252. doi: 10.1111/j.2044-8309.1986.tb00732.x

Turner, J. C., Oakes, P. J., Haslam, S. A., & McGarty, C. (1994). Self and collective: Cognition and social context. *Personality and social psychology bulletin,* 20, 454–454. doi: 10.1177/0146167294205002

Tyler, T. R., Kramer, R. M. , & John, O. P. (Eds.). (1999). *The psychology of the social self*. Mahwah, NJ: Lawrence Erlbaum Associates.

Wasserman, S., & Faust, K. (1994). *Social network analysis: Methods and applications* (Vol. 8). Cambridge, UK: Cambridge University Press.

Williams, D., Consalvo, M., Caplan, S., & Yee, N. (2009). Looking for gender: Gender roles and behaviors among online gamers. *Journal of Communication,* 59(4), 700–725. doi: 10.1111/j.1460-2466.2009.01453.x

Williams, D., Yee, N., & Caplan, S. E. (2008). Who plays, how much, and why? Debunking the stereotypical gamer profile. *Journal of Computer-Mediated Communication,* 13(4), 993–1018. doi: 10.1111/j.1083-6101.2008.00428.x

About the Authors

Frederik De Grove (frederik.degrove@ugent.be), Ph.D. is a researcher at the Communication Sciences department of Ghent University, Belgium. He is a member of the research group for media and ICT (iMinds-MICT). His research interests focus on digital media and the way they interact with everyday social life.

Cédric Courtois (cedric.courtois@soc.kuleuven.be), Ph.D. is assistant professor in Media Sociology and Research Designs at the Faculty of Social Sciences, KU Leuven, Belgium. He is a member of the Leuven School for Mass Communication research. His research interests are in the appropriation of digital media, and social change in the field social media in specific.

Jan Van Looy (jan.vanlooy@ugent.be), Ph.D. is assistant professor at the research group for Media and ICT (iMinds-MICT) at Ghent University, Belgium, where his team conducts multidisciplinary research into digital games and immersive media. Topics include digital game usage and experience, serious game effectiveness, gender and gaming, parental mediation of gaming behavior and augmented reality.