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To date, there has been relatively little research comparing different types of online gamers. The main aim of this study was to provide robust benchmark data on different types of Massively Multiplayer Online Game (MMOG) players using a large sample of online gamers. An online survey was used to recruit 4,374 Hungarian online gamers from websites offering different types of MMOGs. In addition to sociodemographic characteristics, the study also collected data on gaming preference, amount of time spent gaming, amount of money spent on the game, and whether they played at an amateur or professional level. A latent profile analysis of gaming preferences differentiated between eight specific gamer types, of which four types emerged as clear categories, indicating clear preference for a specific type of game (role-playing games, first-person shooter games, real-time strategy games, and other games). Overall, 79% of gamers belonged to these four categories. First-person shooter gamers were almost exclusively male, younger aged, lower educated, and of lower socioeconomic status. Real-time strategy gamers were older. Female gamers were most likely to play "Other" games and/or role-playing games. In relation to time spent gaming, role-playing gamers appeared to be the most vulnerable. The results indicated that a significant number of gamers have clear gaming preferences, and these specific gaming types are associated with significant differences regarding sociodemographic and gaming characteristics of gamers.

1. INTRODUCTION

Video games have been very popular ever since they first appeared on the market. More recently, this popularity has escalated with the opportunity to play games online. Rudimentary online games began with the Multi-User Dungeon games back in 1980 (Bartle, 2003). In 1996, Massively Multiplayer Online Role Playing Games (MMORPGs) were developed and launched a new era of gaming (Achterbosch, Pierce, & Simmons, 2008). The growing demand for online gaming was evident from the inception of massively multiplayer games, and in 2006, 10 years after the appearance of MMORPGs, the income of the global online gaming market had reached $4.5 million USD; this amount tripled in the following 5 years (DFC Intelligence, 2006, 2009).

In Massively Multiplayer Online Games (MMOGs), the action takes place in a common virtual space that allows several hundred gamers to play at the same time. Users can also communicate, cooperate, and build relationships with other gamers (Griffiths, Davies, & Chappell, 2003). The game is never ending, and anyone can connect to virtual worlds at any time (i.e., it is a persistent universe; Safko & Brake, 2009).

According to Ghuman and Griffiths (2012), three types of MMOGs predominate: MMORPGs, Massively Multiplayer Online First-Person Shooter (MMOFPS) games, and Massively Multiplayer Online Real-Time Strategy (MMORTS) games (Kuss & Griffiths, 2012a, 2012b). In MMORPGs, the game is arranged around the character chosen by the gamer. Gamers choose their own cast and in this way define their skills and role in the game. Missions completed in the game provide possibilities for improvement and for acquiring valuable objects that differentiate gamers (Shin, 2010). MMOFPS games are usually skill-based action games because they utilize primarily the person's reaction time and attention skills. These games offer many opportunities for gamers to compete with each other individually or in teams. In MMORTS games, gamers coordinate troops/teams, develop their specialty areas, or ally with other players in order to gain higher status in the game in the name of an important figure of the virtual world (Rice, 2006).

Most previous studies examining the sociodemographic characteristics of gamers have surveyed MMORPG players (e.g., Cole & Griffiths, 2007; Griffiths et al., 2003, 2004; Williams, Yee, & Caplan, 2008; Yee, 2006). Only a few studies have examined MMORTS and/or MMOFPS game players (e.g., Ghuman & Griffiths, 2012; Jansz & Tanis, 2007). Empirical research into online gaming has reported that MMORPG gamers are mostly male (70–85%) and that the

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majority are in their mid-20s. Yee (2006) collected data from 30,000 gamers and found that the average age of gamers was 26.6 years, whereas Cole and Griffiths (2007), who collected data in 45 countries, reported that the average age of gamers was 23.6 years. Two studies examining the online game *EverQuest* (i.e., Griffiths et al., 2004; Williams et al., 2008) reported slightly higher mean average ages of 27.9 years and 31.2 years, respectively.

Research has also indicated that female gamers are older compared to male gamers (e.g., Cole & Griffiths, 2007; Yee, 2006). Cole and Griffiths (2007) reported that slightly more than one fourth of the gamers (28.2%) were older than 25, whereas only one fifth were younger than 18 (20.6%). Furthermore, studies on MMORPGs have consistently shown that online gaming is not highly prevalent among adolescents (Williams et al., 2008). Jansz and Tanis (2007) reported that the mean age of MMOFPS gamers was 18 years and that the gender was almost exclusively male (99%). In general, previous studies have indicated that the majority of MMORPG gamers are single. However, the rate of married gamers is relatively high (36%). The majority of married gamers are women. The observation that many women gamers start playing because of their partners might explain this finding (Yee, 2006).

Studies report that the education level of gamers is higher than that of the general population (Griffiths et al, 2003; Williams et al., 2008). However, the results are diverse concerning their occupational status. According to Yee (2006), 50% of role-playing game players work full time, 12% work part time, and 22% are students. Cole and Griffiths (2007) reported a significantly higher rate of students (46.7%). However, the average age of their sample was 3 years younger. A few smaller studies have also collected such data and have reported similar results to the aforementioned studies (e.g., Caplan, Williams, & Yee, 2009; Griffiths et al., 2004; Ng & Wiemer-Hastings, 2005; Smahel, Blinka, & Ledabyl, 2008). It also appears that there are regional differences. For instance, Asian studies into online gaming report a lower mean age (21 years) and, in line with this, higher student rates (70%; e.g., Kim, Namkoong, Ku, & Kim, 2008; Lo, 2007; Whang & Jee, 2005).

Weekly average gaming time of MMORPG players is 23 to 26 hr (Cole & Griffiths, 2007; Griffiths et al., 2003, 2004; Williams et al., 2008; Yee, 2006), whereas this number appears to be much lower for MMOFPS players at 12 to 16 hr per week (Ghuman & Griffiths, 2012; Jansz & Tanis, 2007) and MMORTS players at 14 hr a week (Ghuman & Griffiths, 2012). Although the reported ratio varies, studies consistently indicate that 60 to 80% of gamers are more likely to play with people who they know in real life (Cole & Griffiths, 2007; Williams et al., 2008). To date, most studies have evaluated sociodemographic data and gaming habits of MMORPG players. In fact, one of the key limitation with the contemporary online gaming research literature is that direct comparison of game genres across a wide range of variables are rare. As Griffiths (1993) pointed out many years ago when developing a taxonomy of different gaming genres, different types of games are likely to be played by different people for different reasons.

Research from a different theoretical perspective has also indicated that video game playing may also be influenced by the structural characteristics of video games (King, Delfabbro, & Griffiths, 2010). Structural characteristics refer to those features inherent within the game itself (e.g., narrative features, game rewards, socialization features, etc.) that may facilitate initiation, development, and maintenance of video game playing over time. King et al. (2010) argued that different types of people may be attracted to different types of games and that some games may feature some structural characteristics that facilitate excessive and/or problematic gaming.

Therefore, the aim of the present study was to compare gamers playing different types of MMOGs among a large sample of gamers in relation to their socio-demographic characteristics and gaming characteristics. There was an additional aim to explore a typology of online gamers using latent class analysis. The major aim in terms of contribution to the psychological literature is to provide of a benchmark for the demographic profile of players from three previously unresearched genres of games.

2. METHOD

2.1. Sample and Procedure

All Hungarian websites that offer the playing of online games were identified ($N = 18$). All 18 sites were contacted and asked for information about the number of visitors and whether they were willing to participate in the study. Based on the information received from all 18 sites, the number of (ever) registered users was estimated to be approximately 30,000. However, this number may have contained a large overlap between the sites, as (a) some online gamers play at more than one site, and (b) some formerly registered online gamers of one site who are no longer active are likely to have moved to other sites. Based on the information provided, the amount of potential overlap and the number of inactive users are not known. All sites agreed to help in the recruitment of online gamers either on their website itself or in the form of a newsletter sent directly to the player base. In the call for participation, online gamers were asked to visit the research team's survey website, to sign in with a password, and to complete the questionnaire. A total of 4,390 completed questionnaires were received. However, 16 questionnaires were excluded from the analysis, as they did not contain any data on the characteristics of gaming activity. Therefore, the analysis was carried out on the remaining sample of 4,374 online gamers.

2.2. Measures

Sociodemographic questions. Major sociodemographic characteristics of online gamers were collected (i.e., gender,

age, educational qualifications, marital status, schooling, occupation, etc.).

Characteristics of gaming. Gaming habits of online gamers were explored in detail. All participants were asked to short-list online games that they usually played and to classify these games into four possible categories: MMORPG, MMOFPS, MMORTS, and other games (Rice, 2006). Two gaming experts checked and—if necessary—corrected and amended this classification to produce a correct classification of all the games. Correction was necessary in 4.2% of the cases, and data were missing and thus amendment of this variable was required by the expert in 7.6% of the cases. Respondents were asked to indicate the amount of the time spent playing a specific online game. Online gamers were also asked to indicate how many hours they played weekly, how much money they spent on gaming, and whether they played at an amateur or professional level.

2.3. Statistical Analysis

A latent profile analysis was performed to determine latent classes of players. The latent profile analysis (Collins & Lanza, 2010) is a latent variable analysis with categorical latent variable and continuous indicator variables. Latent profile analysis can be regarded as person oriented, as it looks for subtypes of players who exhibit similar patterns of characteristics of the playing behavior. In the process of determining the number of latent classes, Bayesian information criteria parsimony index, the minimization of cross-classification probabilities, entropy, and the interpretability of clusters were used. In the final determination of the number of classes, the likelihood-ratio difference test (Lo-Mendell-Rubin Adjusted LRT Test), which compares the estimated model with a model with one less class than the estimated model (Muthén & Muthén, 1998–2007) was also used. A low probability value ($p< .05$) indicates that the model with one less class is rejected in favor of the estimated model.

3. RESULTS

3.1. Latent Profile Analysis of Players

To identify the latent classes of players, a latent profile analysis on the time spent playing different types of games was performed. One-class to nine-class solutions were estimated. Table 1 presents the information-based criteria and entropy for each solution. The Akaike Information Criteria, Bayesian Information Criteria (BIC), and sample-size adjusted BIC continued to decrease as more latent classes were added. However, a leveling off after the eight-latent-class solution was noted. When inspecting the entropy, the eight- and nine-latent-class solutions reached the maximum level. Based on the Lo-Mendell-Rubin adjusted likelihood ratio test, we accepted the eight-class solution.

Figure 1 presents the characteristics of these classes. As one can see, four "clear" classes emerged, each class comprising online gamers who played exclusively one of the four basic game types (MMORPG, MMOFPS, MMORTS, and other games). Overall, 79% of the gamers belonged to one of these four classes. The largest class was the MMORPG, comprising 46% of all the gamers ($n = 2,013$). This was followed by MMOFPS ($n = 1,193$), MMORTS ($n = 164$), and other games ($n = 85$). In addition to these, four mixed classes were identified: MMORPG+MMORTS ($n = 171$), MMORPG+MMOFPS ($n = 458$), and MMORTS+MMOFPS ($n = 124$); the final group comprised 166 gamers and is an undifferentiated group characterized by the common preference of MMOFPS, MMORPG, and other games.

3.2. Characteristics of the Gaming Types

To examine the differences among gaming classes, the univariate associations of gaming classes with demographic and gaming-related variables were tested. Depending on the type of variable, a chi-square test and analysis of variance were carried out. The highest percentages of women were found in the group

TABLE 1
Fit Indices for the Latent Class Analysis of the Gamers

No. of Latent Classes	AIC	BIC	SSABIC	Entropy	L-M-R Test	p
2	156475	156558	156516	0.957	7910	.0001
3	149089	149204	149147	0.977	7223	.0001
4	141932	142079	142005	0.983	7790	.0001
5	138434	138613	138524	0.983	3426	.0001
6	135235	135446	135541	0.983	3134	.0001
7	132534	132777	132656	0.983	2648	.0023
8	130730	131004	130867	0.986	1772	.0002
9	129327	129633	129480	0.987	1380	.2287

Note. AIC = Akaike Information Criteria; BIC = Bayesian Information Criteria; SSABIC = sample size adjusted Bayesian Information Criteria; L-M-R Test = Lo-Mendell-Rubin adjusted likelihood ratio test value; p = p value associated with L-M-R Test.
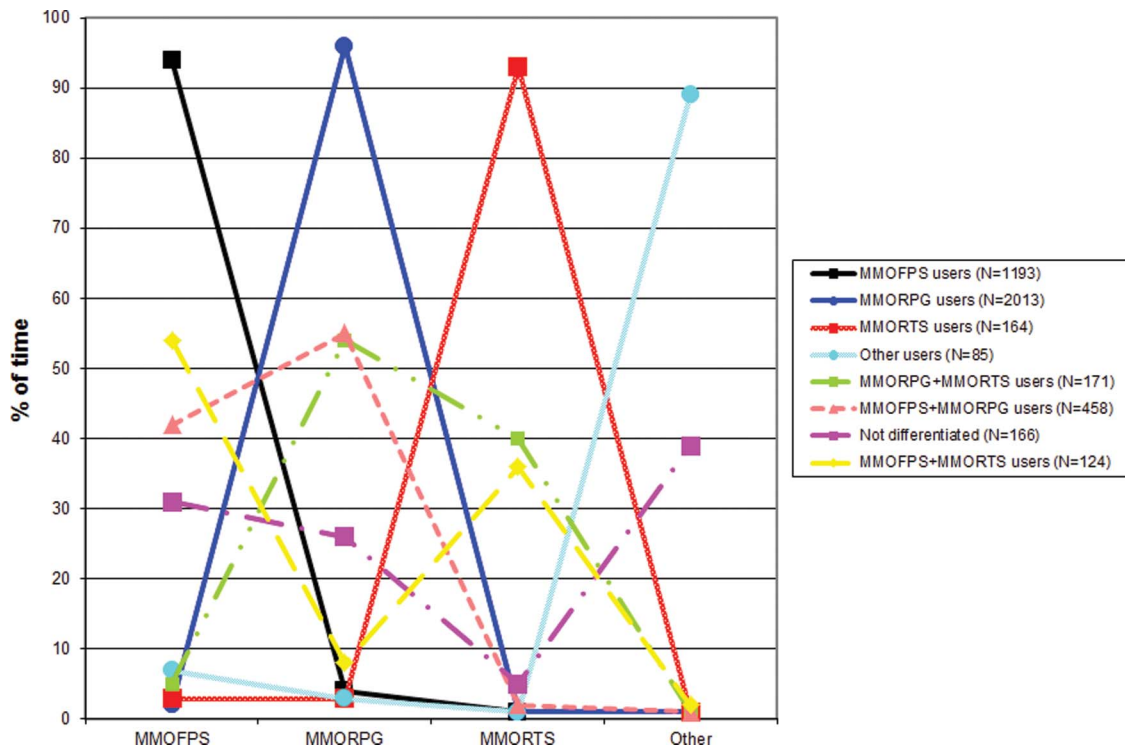
FIG. 1   Latent profile analysis of MMOG players according to the time spent with different types of games. *Note.* MMOFPS = First-Person Shooter games; MMORPG = Role-Playing Games; MMORTS = Real-Time Strategy games (color figure available online).

playing other games (16.5%) and MMORPGs (13.9%). The lowest percentages were found in the MMOFPS group (2%) and the mixed groups (1.6–9.6%). MMOFPS gamers were on average 2 years younger (19.8 years) compared to MMORPG gamers and 2.4 years younger compared to MMORTS gamers. MMOFPS gamers came from the lowest socioeconomic status and had the lowest education. In addition, this group comprised the highest proportion of gamers not in a relationship (70.9%) and the lowest proportion of gamers having a full-time job (17.8%; see Table 2).

MMORPG gamers spent the most time playing, with 38% of users playing more than 28 hrs per week (more than 4 hrs per day). Among other gamers, the proportion of those playing more than 28 hrs a week was 19.7% (MMOFPS), 17.7% (MMORTS), and 9.5% (other games). Overall, 73.8% of individuals playing other types of games, 28.6%, of MMORPG gamers, 44.7% of MMOFPS gamers, and 48.2% of MMORTS gamers reported playing less than 2 hrs per day. None of the groups spent a significant amount of money on the games. The percentage of gamers who spent more than 50 USD on games monthly was between 1.4% and 4.1%, whereas 41.7% to 69.8% did not spend any money on games. Becoming a professional gamer was most characteristic of MMORPG players (17.1%) and MMOFPS players (17%). In addition, more than 80% of the gamers of these two types of games belonged to an amateur, semiprofessional, or professional team. However, only 59% of

MMORTS gamers and 36.5% of gamers playing other types of games belonged to a team.

In the multivariate analyses, the focus was on the three groups with clear gaming preferences because the vast majority of the players belonged to these groups. Three binary logistic regressions were performed to compare the groups (Table 3). When compared to MMORPG players, MMOFPS players were more likely to be male, of lower economic position, and of lower education, and were less likely to have full-time job. They also spent less time gaming, and they were more likely to belong to an amateur or semiprofessional group. Considering sociodemographic variables, MMORTS players differed from the MMORGP players only regarding their gender (i.e., MMORTS were more likely to be male). Furthermore, MMORTS players spent less time on gaming, tended to spend more money on gaming, and were less likely to belong to semiprofessional groups. When compared to the MMORTS players, MMOFPS players were more likely to be male and to have a vocational school education. However, these two groups of players did not differ significantly on gaming characteristics. The only difference was that MMOFPS players were more likely to belong to semiprofessional groups.

4. DISCUSSION

The main aim of the present study was to provide robust benchmark data using a large sample on different

TABLE 2
Univariate Associations Between Gaming Types and Demographic and Gaming-Related Variables

Variables	Total Sample	Classes of Gamers								Stat. Test ($p <$)
		MMO-RPG	MMO-FPS	MMO-RTS	Other Games	MMOFPS + RPG	MMORPG + RTS	MMOFPS + RTS	Not Diff.	
Gender (% of Females)	8.8	13.9	2.0	9.1	16.5	2.6	3.9	1.6	9.6	$\chi^2 = 172.8$ ($< .001$)
M age, years (SD)	20.72 (5.70)	21.84 (6.07)	19.76 (5.16)	22.16 (6.73)	21.28 (5.61)	18.58 (4.15)	20.74 (5.46)	19.41 (4.44)	19.40 (5.18)	$F = 30.3$ ($< .001$)
Subjective economical position M (SD)	3.48 (0.91)	3.52 (0.91)	3.44 (0.91)	3.50 (0.96)	3.69 (0.98)	3.45 (0.92)	3.44 (0.83)	3.38 (0.87)	3.39 (0.93)	$F = 2.16$ (.05)
Residence (%)										
Budapest	26.7	28.4	25.9	25.6	24.7	24.5	26.5	25.8	22.3	$\chi^2 = 19.3$ (.152)
Other cities	54.4	54.4	55.2	54.9	48.2	53.3	50.0	51.6	60.2	
Villages	18.9	17.2	18.9	19.5	27.1	22.2	23.5	22.6	17.5	
Highest education (%)										
Elementary	46.3	37.4	56.9	36.2	39.3	61.1	37.3	49.6	59.0	$\chi^2 = 233.8$ ($< .001$)
Vocational school	4.9	4.1	6.0	3.7	4.8	4.0	6.5	6.5	7.8	
High school	38.2	44.4	31.0	44.8	39.3	27.3	46.7	36.6	30.1	
College/University	10.6	14.1	6.1	15.3	16.7	7.7	9.5	7.3	3.0	
Marital status (%)										
Single	66.3	61.9	70.9	58.0	56.6	71.9	62.0	80.3	79.3	$\chi^2 = 84.7$ ($< .001$)
Having a partner but not living together	21.9	23.4	20.0	24.7	31.3	19.9	29.8	13.9	13.4	
Living together	11.7	14.7	9.1	17.3	12.0	8.2	8.2	5.7	7.3	
Working full time (%)	23.3	30.2	17.8	28.0	25.9	12.9	19.3	12.9	13.9	$\chi^2 = 121.2$ ($< .001$)
Time spent with gaming (hr/week)										$\chi^2 = 349.5$ ($< .001$)
Less than 7 hrs	11.6	8.8	14.7	17.7	51.2	6.8	6.4	13.7	13.9	
7–14 hrs	23.6	19.6	29.3	30.5	22.6	17.9	29.8	30.6	29.5	
15–28 hrs	34.6	33.7	36.3	34.1	16.7	38.2	33.3	29.0	37.3	
29–42 hrs	20.4	25.1	15.3	12.8	7.1	23.8	17.5	19.4	10.2	
More than 42 hrs	9.8	12.9	4.4	4.9	2.4	13.3	12.9	7.3	9.0	
Monthly gaming costs										
No cost	51.9	41.7	63.6	69.8	68.2	51.0	60.6	53.2	59.0	$\chi^2 = 252.1$ ($< .001$)
< $25 per month	36.3	46.1	24.6	24.1	23.5	35.2	32.4	37.1	27.1	
$25–50 per month	9.4	10.7	7.7	3.7	4.7	11.6	7.1	8.1	10.2	
> $50 month	2.3	1.4	4.1	2.5	3.5	2.2	0.0	1.6	3.6	
Amateur group member	31.7	31.4	32.9	30.7	21.2	32.0	32.2	37.1	27.1	$\chi^2 = 8.6$ (.283)
Semiprofessional group member	34.1	34.1	38.4	17.8	10.6	37.1	26.5	38.7	27.1	$\chi^2 = 61.0$ ($< .001$)
Professional group member	16.3	17.1	17.0	10.5	4.7	17.3	12.9	16.1	14.5	15.8 (.027)

Note. MMO = Massively Multiplayer Online; FPS = First-Person Shooter games; RPG = role-playing games; RTS = real-time strategy games.

types of MMOG players and their description in terms of sociodemographic and gaming characteristics. To date, the study is the largest to target all types of gamers comprehensively (as the only other study that the authors are aware of comparing different online gaming genres comprised only 353 online gamers; i.e., Ghuman & Griffiths, 2012). The results showed that a majority of MMOG players (79%) had a clear gaming preference. In relation to this, one could speculate perhaps that specific games fulfill specific psychological needs and that gaming preferences are being formed in accordance with these needs. This may also have implications for why some people play excessively and why a small minority appears

TABLE 3
Three Binary Logistic Regressions to Compare Gamer Types

Variables	MMOFPS Gamers Versus MMORPG Gamers[a]		MMORTS Gamers Versus MMORPG Gamers[b]		MMOFPS Gamers Versus MMORTS Gamers[c]	
	OR	95% CI	OR	95% CI	OR	95% CI
Gender						
Male	8.54***	5.46, 13.34	2.37**	1.32, 4.25	2.87**	1.37, 6.04
Female	Ref.		Ref.		Ref.	
Age (years)	1.00	0.97, 1.02	1.03	0.99, 1.08	0.98	0.93, 1.03
Subjective economical position	0.89*	0.81, 0.97	0.91	0.76, 1.10	1.02	0.84, 1.24
Residence						
Budapest	1.03	0.80, 1.32	0.92	0.55, 1.55	1.29	0.76, 2.18
Other cities	0.99	0.79, 1.23	0.92	0.59, 1.43	1.13	0.72, 1.79
Villages	Ref.		Ref.		Ref.	
Education						
Elementary	2.32***	1.56, 3.46	1.13	0.53, 2.42	1.90	0.88, 4.12
Vocational school	3.39***	2.13, 5.39	1.08	0.40, 2.94	2.80*	1.02, 7.67
High school	1.28	0.91, 1.79	1.10	0.60, 2.01	1.21	0.64, 2.25
College/University	Ref.		Ref.		Ref.	
Marital status (%)						
Single	1.01	0.73, 1.39	0.92	0.51, 1.66	1.45	0.78, 2.70
Having a partner but not living together	0.83	0.59, 1.18	0.98	0.52, 1.84	1.09	0.56, 2.13
Living together	Ref.		Ref.		Ref.	Ref.
Working in full time						
No	1.34*	1.01, 1.78	1.25	0.73, 2.14	0.95	0.53, 1.69
Yes	Ref.		Ref.		Ref.	
Time spent with gaming (hr/week):						
Less than 7 hrs	7.73***	5.13, 11.79	3.86**	1.64, 9.11	1.72	0.68, 4.35
7–14 hrs	6.74***	4.63, 9.82	3.17**	1.40, 7.15	1.71	0.71, 4.14
15–28 hrs	4.20***	2.94, 6.00	2.53*	1.15, 5.55	1.28	0.54, 3.03
29–42 hrs	2.06***	1.41, 3.00	1.25	0.53, 2.96	1.29	0.50, 3.32
More than 42 hrs	Ref.		Ref.		Ref.	
Monthly gaming costs						
No cost	0.38***	0.22, 0.65	0.67	0.21, 2.10	0.60	0.20, 1.79
< $25 per month	0.15***	0.09, 0.26	0.22**	0.07, 0.68	0.69	0.23, 2.12
$25–50 per month	0.19***	0.10, 0.33	0.18*	0.05, 0.70	1.34	0.34, 5.21
> $50 month	Ref.		Ref.		Ref.	
Amateur group	0.82*	0.68, 0.97	0.87	0.60, 1.26	0.88	0.60, 1.29
Yes	Ref.		Ref.			
No						
Semiprofessional group	0.72***	0.60, 0.85	1.57*	1.01, 2.44	0.40***	0.26, 0.63
Yes	Ref.		Ref.			
No						
Professional group	0.96	0.77, 1.21	1.25	0.72, 2.20	0.63	0.36, 1.12
Yes	Ref.					
No						
Cox & Snell R^2	0.19		0.05		0.05	
Nagelkerke R^2	0.26		0.11		0.10	

Note. MMO = Massively Multiplayer Online; FPS = First-Person Shooter games; RPG = Role-Playing Games; RTS = Real-Time Strategy games; OR = odds ratio; CI = confidence interval.

[a]MMOFPS was coded 1 and MMORPG was coded 0. [b]MMORTS was coded 1 and MMORPG was coded 0. [c]MMOFPS was coded 1 and MMORTS was coded 0.

*: $p < 0.05$; **: $p < 0.01$; ***: $p < 0.001$.

to develop problematic gaming behavior (Kuss & Griffiths, 2012b). However, verification of this possible interpretation requires further empirical research.

The survey also provided an opportunity to describe and compare different types of online gamers. In line with the studies of Jansz and Tanis (2007) and Ghuman and Griffiths (2012), and compared to other types of player, MMOFPS players were almost exclusively male, were younger, had less education, and were of lower socioeconomic status. This may be because less knowledge is required to play these particular games. Nearly two thirds did not spend any money on gaming. However, a high proportion of online gamers in this group (4.1%) spent more than $50 USD. These gamers were predominantly students, and although they spent relatively less time with online games, especially when compared to MMORPG players, they might be considered a vulnerable group if not for other reasons than their age. MMORPG gamers spent more time playing than other gamers. This suggests that (a) role-playing games may be more reinforcing than other types of game due to the structural characteristics of the game, and/or (b) role-playing gamers may have particular demographic and/or inherent psychological characteristics that facilitate and enhance prolonged play (King et al., 2010).

MMORPG players appeared to be the most vulnerable to potentially problematic gaming, as they spent the most time on gaming. Approximately 13% of them played more than 6 hrs per day and an additional one fourth (25.1%) spent 4 to 6 hrs playing these games. The persistence of such time consumption potentially disrupts other basic or important activities due to lack of time. Therefore, this phenomenon undoubtedly requires further attention, particularly in relation to possible problematic and/or addictive play (Demetrovics & Griffiths, 2012; Demetrovics et al., 2012; Kuss & Griffiths, 2012a, 2012b). However, the present study cannot answer the question of to what extent this kind of involvement is a transient or a persistent phenomenon. Nevertheless, finding an answer to this question would have a basic importance in estimating the actual risks of the phenomenon. Longitudinal studies may be able to provide a more definitive answer to this question. Although rates are lower, nearly 20% of MMOFPS and MMORTS gamers played more than 4 hrs per day. Therefore, the phenomenon requires further attention. In addition to the large amount of time spent on gaming, which previous empirical research identified as an evident risk factor (e.g., Hussain & Griffiths, 2009, Hussain, Griffiths, & Baguley, 2012), the financial expenditure on these games does not appear to be significant. Online gamers spending more than $50 USD per month represented only a small percentage of the sample.

Several studies have emphasized the social aspect of MMOGs (e.g., Cole & Griffiths, 2007; Ducheneaut, Yee, Nickell, & Moore, 2006; Griffiths et al., 2011; K. M. Lee, Jeong, Park, & Ryu, 2011; M.-C. Lee & Tsai, 2010; Weibel, Wissmath, Habegger, Steiner, & Groner, 2007; Yee, 2007), and the results of the present study also confirm its importance.

A significant number of gamers, especially those playing MMORPGs and MMOFPSs, are constant members of amateur, semiprofessional, or professional groups. Although the issue of online interpersonal relationships is also controversial, the importance of these relationships should be highlighted. These relationships do not necessarily mean alienation from real-time relationships. As Griffiths (2010) highlighted in his study of context in the role of excessive playing, the games can help avoid isolation, satisfy social needs, and indicate a start of offline relationships. Exploring dynamics, history, and roles of these group-based relations is also a task for future empirical research.

Clearly, there are a number of limitations with the present study. The data were self-selected, self-reported, and comprised only Hungarian gamers. Therefore, there are issues surrounding generalizability of the results. Despite these limitations, the present study can be considered a first step toward gaining robust data and a benchmark knowledge of the main types of MMOG player. To date, this is the largest study to compare gamers with different game preferences and to identify their dominant characteristics. The study also raised further meaningful questions that are worth studying. In the future, it would be interesting to investigate the stability of gaming preference over time. Moreover, in case of the mixed preference group, which makes up nearly one fifth of the gamer population, it would be interesting to assess whether a primary preference develops over time or, on the contrary, whether the mixed preference is due to losing a former preference. Future studies could also examine personality or motivational characteristics (Demetrovics et al., 2011) associated with the preference for specific types of gaming and the extent to which problem gaming is linked to these preferences.

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