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The Development of the Online Player Type Scale:
Construct Validity and Reliability Testing

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Abstract

The present study outlines the development of the Online Player Type Scale (OPTS) utilizing the motivational taxonomy developed Bartle (1996). Bartle's taxonomy was comprehensively reviewed to create scale items, and the conceptual framework of the scale was defined. The study group comprised 1479 students attending grades 5 to 8 of a private school. A purposive sampling method was used to recruit the study group, and playing any videogame frequently was the criterion to be included in the sample. The construct validity and reliability testing showed the OPTS comprised four factors: achievement-oriented (ACH), socialization-oriented (SOC), exploration-oriented (EXP), and competition-oriented (COMP). The Cronbach alpha internal consistency coefficients and composite reliability coefficients were 0.89 and 0.99 for KIL, 0.83 and 0.98 for EXP, 0.83 and 0.98 for SOC, and 0.94 and 0.99 for ACH. It is concluded that Online Player Type Scale is a valid and reliable instrument for assessing gaming motivation.

Keywords: Online gaming; gaming motivation; massively multiplayer online games; Online Player Type Scale; gaming player types

Introduction

Videogames are played by millions of individuals all over the world and are types of entertainment digital media which have rules that are independent from the real world (Garris, Ahlers & Driskell, 2002). With advancements in digital technology, videogames are now more realistic in sound, graphics, and storytelling, and have become increasingly better in simulating reality. Videogames can now be distributed and played online via personal computers, mobile devices (such as tablets and smartphones), and dedicated game consoles. One of the most well-known examples of this is the evolution of Multi-User Dungeon (MUD) games to Massively Multiplayer Online (MMO) games. Although they are similar in gameplay, the main difference between these types of games are that MMOs can support more online players with better graphical interfaces and virtual worlds (Encyclopedia of Science Fiction, 2018).

MMOs are games in which millions of players can assume one of several roles offered by the game simultaneously in virtual worlds. They are games played within a digital environment comprising 2D or 3D virtual worlds where gamers play with others via their avatar (Steinkuehler and Williams, 2006; Yee, 2006b). There are also predefined boundaries and rules within MMOs (Williams, Ducheneaut et al., 2006). MMO games can be complex games that can require thousands of different decisions and making smart choices about character development (Nardi, Ly & Harris, 2007). A typical MMO player can walk around a virtual world, go hunting, collect plants and mines, go fishing, carry out tasks, fight, beat their competitors, have a job, and/or increase their level to become stronger in the game either alone or with other players (Steinkuehler & Duncan, 2008). Furthermore, players can join several social groups with short-term objectives to more longstanding groups which can extend to real world and where continuous relationships be established (Cole & Griffiths, 2007; Williams, Ducheneaut et al., 2006). MMOs possess multiple types of motivations and

actions that can be present in real life but may be realized more easily via gaming in virtual environments.

One of the most important components in gaming behavior is players' motivations and their corresponding actions (Ghuman & Griffiths, 2012). Studies have shown that various types of action and motivations within games are important variables in predicting individuals' levels of having fun while playing games (Bartle, 1996; Lazarro, 2004). Lazarro (2004) claimed there were four motivation types that unlock emotions. These are (i) *hard fun* (i.e., players having to overcome difficult obstacles to progress in the game in pursuit of winning), *easy fun* (i.e., players just enjoying the game even if they don't win), *altered states* (i.e., players engaging in the game because it makes them feel good psychologically and changes their mood for the better), and *the people factor* (i.e., players wanting to socially interact with others in the game).

Kim and Ross (2006) identified five different gaming motivation types, namely, fantasy, competition, entertainment, social interaction, and diversion in sport video game playing. Yee (2002) conducted research investigating gamers' motivations for playing massively multiplayer online role-playing games (MMORPGs). His research suggested five motivation types; relationship, immersion, grief, achievement, and leadership. Another study by Yee (2006a) on gaming motivations MMORPGs reduced the number of main gaming motivation types for MMORPG players to three; social motivation, achievement motivation, and immersion. Achievement motivation included mechanics, advancement and competition. Social motivation included teamwork, relationship and socializing. Immersion included escapism, customization, discovery and role-playing.

More recently, Yee, Ducheneaut, and Nelson, (2012) developed the Online Gaming Motivation Scale (OGMS). The scale has a three-factor structure based on Yee's (2006a) research. These factors are (i) *social* (i.e., players focus on socializing, teamwork while

playing), *achievement* (i.e., players focus on progress completion and competition while playing), *immersion* (i.e., players focus on spending time exploration and discovery while playing). OGMS developed based on the self-reports of World of Warcraft game players.

Based on SDT, Lafrenière, Verner-Filion and Vallerand (2012) developed the Gaming Motivation Scale (GAMS) to create a standardized tool for assessing gaming motivation. The scale comprised six dimensions including *intrinsic motivation* (i.e., desire to perform play activity), *integrated regulation* (i.e., behavior regulated through external means such as rewards), *identified regulation* (behavior is emitted out of choice), *introjected regulation* (i.e., the regulation of behavior through internal pressures such as anxiety and guilt), *external regulation* (i.e., behavior regulated through external means such as rewards) and *amotivation* (i.e., relative absence of motivation either intrinsic or extrinsic). GAMS developed based on the self-reports of 276 video game players who engaged in over 25 different games like Call of Duty, World of Warcraft, NHL11 (Lafrenière, Verner-Filion, & Vallerand, 2012).

Tondello et al. (2016) developed and validated the Gamification User Type Hexad Scale (GUTHS) based on the Marczewski's (2015) user type hexad framework. Marczewski's (2015) user type hexad framework is a gamification user types model. This framework created based on research on human motivation, player types, and practical design experience for personalize gamified systems, gamification and gameful designs (Marczewski, 2015). The GUTHS focused on six user types: *philanthropists* (i.e., they are people who altruistic and willing to give without expecting a reward), *socializers* (i.e., they are people who want to interact with others and create social connections), *free spirits* (i.e., who motivated by freedom and express themselves and act without external control.), achievers (i.e., they are who seek to progress within a system by completing tasks, or prove themselves by tackling difficult challenges), *players* (i.e., they are motivated by extrinsic rewards and they will do whatever to earn a reward within a system), and *disruptors* (i.e., they motivated by the

triggering of change. They tend to disrupt the system either directly or through others to force negative or positive changes.) (Tondello et all., 2016).

Considering these aforementioned studies, Bartle (1996) presents more suitable theoretical framework for player types in MMO games. There are different types of MMO games like; MMO Battle Arena (MMOBA; *Heroes of Storm, League of Legends,* etc.), MMO Real Time Strategy Games (MMORTS; *Clash of Clans, Starcraft,* etc.), MMO First Person Shooter Games (MMOFPS; *CS-GO, Destiny,* etc.), MMO Racing Games (MMOR; *Rocket League, Asphalt,* etc.), MMO Role Playing Games (MMORPG; *World of Warcraft, Elder Scrolls Online,* etc.) etc. (Dragon Blogger Technology and Entertainment, 2008). As gameplay acting socializer, achiever, killer and explorer types could exist in MMO genres. Some of the typologies existing in literature was developed for specific games or games types (Kim, & Ross, 2006; Yee (2006a)). Also, Ryan, Rigby and Przybylski's (2006) typology mainly focus on engagement types and level of motivational emotions not gameplay acting. For example, it focuses on explaining whether the motivation is intrinsic or extrinsic rather than discovering it's for socializing. Therefore Bartle's (1996) framework focusing players actions and is more inclusive for MMO game genres. Bartle's (1996) seminal study of MUD players (arguably the forerunners of MMO players) examined players' in-game behaviors defined by the main types of in-game action. Results showed that MUD players interacted in-game in accordance with four types of action-oriented motivation, namely, achievement-oriented, socialization-oriented, competition-oriented and exploration-oriented motivations (Bartle, 1996).

According to Bartle's study; about 10% of MUD players were exploration-oriented, 10% achievement-oriented, 80% socialization-oriented, and 1% competition-oriented (Bartle, 1996). Individuals with an achievement-oriented motivation were described as 'men of duty'. Losing in-game may reduce their interest in the game. Therefore, such individuals are outcome-oriented and do not want to stop playing before achieving the tasks in hand.

Individuals with a socialization-oriented motivation were described as interacting with other players socially, and benefited from the advantages of such interaction. For socializers, it is not that important to win the game or beat other players. They would rather cooperate with other players and play as a team. For these players, games are medium for them to achieve long-term social interaction. Individuals with a competition-oriented motivation were described as exhibiting similar behaviors to achievers, but it is not enough for them to achieve. Other players must lose while they are winning. They mostly focus on other players and try to beat them. They may not feel they must follow the rules to beat or eliminate other players. Finally, individuals with an exploration-oriented motivation were described as having a focus on exploring the game rather than other players and tasks. They want to explore everything in-game and discover hidden places. In short, it is fun for them to explore. Bartle's (1996) motivational player types are in Figure 1 and were called achievers, socializers, killers, and explorers.

Figure 1 about here

Knowing which motivations individuals are more oriented towards within MMO games and which aspects of MMO games are most attractive help researchers determine the reasons for excessive gaming and potential addiction (Ng & Wiemer-Hastings, 2005; Kuss, Louws, & Wiers, 2012). Studies have shown that different motivations and in-game actions directing the user types can be important variables in determining which motivations are important in the design of games (Orji et al., 2013, 2014), of gamification (Orji et al., 2017), internet gaming disorder (Beard, & Wickham, 2016), and MMO gaming addiction (Hsu, Wen & Wu, 2009; Caplan, Williams, & Yee, 2009). Game design can be effective in helping players in acquiring information, supporting behavioral changes, and increasing interest in specific topics (Busch et al., 2015).

To date, there is little in the way of player type scales for MMO games in the Turkish literature (Doğan & Şahin, 2017). The Gamification User Types Hexad Scale developed by Tondello et al. (2016) was adapted into Turkish by Akgün and Topal (2018). However, this scale was developed for gamification purposes rather than for MMO-type videogames. Consequently, the present study utilized Bartle's (1996) MUD taxonomy to develop a valid and reliable Turkish instrument for identifying user types in MMO videogames.

Methods

The present study developed a new scale, based on Bartle's theoretical framework for player types in MMO games. Bartle's taxonomy was comprehensively reviewed to create scale items to define the scale's conceptual framework Information concerning the sample and scale development procedure are explained in the following section.

Participants

The sample comprised students attending grades 5 to 8 of a private school chain in the spring term of 2017-2018 academic year. A purposive sampling method was used for recruiting the participants (Büyüköztürk et al., 2013), and playing any videogame frequently (approaximately *1.93* hours per day, *sd=0.82*) was the sole criterion for inclusion. The final sample comprised 1479 students (46.4% girls and 53.6% boys). The data were collected online. The form was prepared on *Survey Monkey*, an online platform used to recruit as many participants as possible. The sample was split into two so that exploratory factor analysis (EFA) could be performed on the first group (n=756) and confirmatory factor analysis (CFA) could be performed on the second group (n=723).

Online Player Types Scale (OPTS)

Procedure and data analysis.

A 45-item pool was created for the development of OPTS via an extensive literature review alongside a team of three field experts (a linguist, a psychometrician, and a psychologist). The combined feedback was evaluated and any necessary adjustments were made before the commencement of a pilot study where a small group of students tested the items for understanding. Any problems that occurred in the pilot phase were dealt with before the finalized scale.

The new scale was then subjected to validity and reliability analyses. Expert opinions were consulted for both content and face validity. EFA and CFA were carried out to test the scale's factorial validity. Kaiser-Meyer-Olkin (KMO) and Bartlett's Sphericity test values were calculated for the suitability of carrying out EFA on the data. The shared factor variance and the factor load values were calculated. The factor construct achieved with the EFA was confirmed using CFA, and the fit indexes were calculated. The results obtained on scale's construct validity were also examined with the convergent and divergent validity testing. Finally, Cronbach's Alpha internal consistency and composite reliability coefficients were used to determine the reliability of the scale. Normality, outlier, multicollinearity, and linearity assumptions that are the prerequisites of analyses were tested. It was found that there are no outliers in any of the items in the scale (Hair, Black, Babin and Anderson, & Tahtam, 2006). Reliability analysis and EFA of the scale were performed in SPSS 20.0 and CFA in AMOS 21. The findings obtained concerning the construct validity were processed using the Excel software package.

Development of the OPTS

The OPTS is a 38-item scale comprising four factors with each item assessed using a 5-point Likert scale where 1=strongly disagree, 2=disagree, 3=neutral, 4=agree, and 5=strongly agree. The four factors were achievement-oriented (ACH; 14 items; scoring range 14-70; e.g., *"I*

find it important to solve a puzzle which cannot be solved by anyone in online games"), competition-oriented (KIL; 10 items; scoring range 10-50; e.g., *"I find it entertaining to beat the enemy in online games"*), socialization-oriented (SOC; 7 items; scoring range 7-35; e.g., *"It is important to be someone known in online games"*) and exploration-oriented (EXP; 7 items; scoring range 7-35; e.g., *"The number of areas/places to explore in online games is important"*). The factor with the highest mean indicates the individual's dominant player motivation.

Results

Exploratory factor analysis

The data obtained from 756 participants for EFA appeared to be normally distributed (Skewness=-0.780, Kurtosis= 0.607; Tabachnick & Fidell, 2007). The KMO value testing the sample size in the EFA was performed to test the scale's factorial validity which was found to be 0.97. It was then determined that the data differed significantly and were fit for factor analysis by checking Bartlett's Sphericity test (χ^2=15608.5, p=0.001) (Büyüköztürk, 2011; Hutcheson & Sofroniou, 1999). Following the EFA, the number of items in the scale was reduced from 45 to 38. The final four-factor construct comprised 38 items with an eigenvalue higher than 1 and explaining 54.34% of total variance with a rotation of 25%. The explained variance was above 30% and considered sufficient in test development studies in the behavioral sciences (Büyüköztürk, 2011). Values obtained in the EFA are reported in Table I.

Table 1. Results of the exploratory factor analysis

Items	Killers		Explorers		Socializers		Achievers	
	Common Factor Variance	Factor Load Value	Common Factor Variance	Factor Load Value	Common Factor Variance	Factor Load Value	Common Factor Variance	Factor Load Value
1	.632	.705						
2	.639	.710						
3	.523	.648						

4	.417	.563						
5	.539	.518						
6	.521	.630						
7	.515	.608						
8	.537	.620						
9	.500	.647						
10	.560	.610						
11			.535	.601				
12			.482	.646				
13			.591	.693				
14			.558	.445				
15			.594	.719				
16			.597	.651				
17			.419	.311				
18					.505	.411		
19					.515	.555		
20					.482	.468		
21					.602	.705		
22					.515	.600		
23					.550	.671		
24					.377	.331		
25							.564	.567
26							.467	.577
27							.628	.653
28							.539	.583
29							.468	.577
30							.487	.596
31							.557	.605
32							.598	.569
33							.619	.614
34							.654	.583
35							.679	.712
36							.642	.668
37							.584	.617
38							.461	.570

Variance explained by the factors %	16.84	9.59	9.80	18.11
Explained Total Variance %	54.34			

Figure 2 about here

As can be seen in Table 1, the factor loadings of the 38 scale items varied between 0.311 and 0.719. Factor loading of items in the KIL factor varied between 0.518 and 0.710 and explained 16.84% of total variance. Factor loadings of items in the EXP factor varied between 0.311 and 0.693 and explained 9.59% of total variance. Factor loadings of items in the SOC factor varied between 0.331 and 0.705 and explained 9.80% of total variance. Finally, factor loadings of items in the ACH factor varied between 0.331 and 0.705 and explained 18.11% of total variance. Figure 2 shows the four-factor construct of the scale. As noted above, the results indicated that the OPTS had four factors (KIL items 1-10; EXP items 11-17; SOC items 18-24; and ACH items 25-38).

Confirmatory factor analysis (CFA)

The data obtained from 723 participants for CFA appeared to be normally distributed (Skewness=-0.569; Kurtosis=-0.214 for the KIL factor; Skewness=-0.834; Kurtosis= 0.694 for the SOC factor; Skewness=-0.835; Kurtosis=0.716 for the EXP factor; and Skewness=-0.763; Kurtosis= 0.229 for the ACH factor). The factor construct achieved in the EFA was confirmed via CFA in the Turkish sample. Normality distribution of the data was taken into account and the "maximum likelihood" method was chosen for the CFA. The factor loadings of the model of scale's four-factor construct achieved in the CFA are shown in Figure 3.

Figure 3 about here

As shown in Figure 3, standard regression weights of items in their factors varied between 0.50 and 0.82. This indicates that the standard values were important in terms of their factors (p<0.001) (Büyüköztürk, 2012). Fit index values of the scale found in the CFA are presented in Table 2. As demonstrated in Table 2, the model appeared to have almost perfect and acceptable fit indexes ($^{*}\chi^2$/SD=2.48; CFI=0.93; GFI=0.88; AGFI=0.87; RMSEA=0.04; SRMR=0.04) (Bentler, 1980; Bentler & Bonett, 1980; Bollen, 1990; Browne & Cudeck, 1993; Byrne, 2006; Byrne & Campbell, 1999; Hu & Bentler, 1999; Kline, 2011; Steiger, 2007; Tanaka & Huba, 1985; Schermelleh-Engel & Moosbrugger, 2003).

Table 2. Fit index values of the model

Fit index values	Perfect fit	Acceptable fit	Fit index values Achieved in the CFA
X^2/DS	$0 \leq \chi 2/sd \leq 2$	$2 \leq \chi 2/sd \leq 3$	2.48
GFI	$0.95 \leq$ GFI	$0.85 \leq$ GFI	0.88
AGFI	$90 \leq$ AGFI ≤ 1.00	$85 \leq$ AGFI	0.87
CFI	$0.95 \leq$ CFI ≤ 1.00	$0.90 \leq$ CFI ≤ 0.95	0.93
RMSEA	$0.00 \leq$ RMSEA $\leq$ 0.05	$0.06 \leq$ RMSEA ≤ 0.08	0.04
SRMR	$0.00 \leq$ SRMR ≤ 0.05	$0.06 \leq$ SRMR ≤ 0.10	0.04

Convergent and divergent validities

Convergent and divergent validity were investigated for the construct validity regarding whether the OPTS actually assessed its four-factor construct, and average order values (AOVs) were examined for each factor. AOVs were 0.88 for the KIL factor, 0.89 for the EXP factor, 0.87 for the SOC factor, and 0.91 for the ACH factor. Because all these values were

$^{*}\chi^2$/SD: Chi-square/standard deviation; CFI: Comparative fit index; GFI: Goodness of fit index; AGFI: Adjusted goodness of fit index; RMSEA: Root Mean Square Error of Approximation; SRMR: Standardized Root Mean Square Residual

higher than .50, its scale factors demonstrated convergent validity (Bagozzi and Yi, 1988). For divergent validity, the AOV square roots of the scale were tested to see whether they were above the correlation between constructs and 0.70 (Fornell and Larcker, 1981). Subsequently, the scale was found to have divergent validity (Table 3).

Table 3. Divergent validity values on the Online Player Type Scale (OPTS)

	KIL	EXP	SOC	ACH
Killers	**0.938**			
Explorers	0.604	**0.944**		
Socializers	0.632	0.670	**0.931**	
Achievers	0.754	0.692	0.755	**0.957**

Reliability

Cronbach's alpha internal consistency coefficients and composite reliability coefficients of the scale's 38-item four-factor construct were found to be 0.89 and 0.99 for the KIL factor, 0.83 and 0.98 for the EXP factor, 0.83 and 0.98 for the SOC factor, and 0.94 and 0.99 for the ACH factor. Research shows that a reliability coefficient lower than 0.60 refers to very poor reliability while a coefficient between 0.60 and 0.70 means within acceptable limits and a coefficient higher than 0.80 refers to good reliability (Fraenkel & Wallen, 2006). Consequently, all the factors of the OPTS had very good to excellent reliability. The results obtained in the validity and reliability testing indicated that the OPTS has a consistent structure.

Discussion

The aim of this study was to develop and validate an online video game player type scale (Online Player Type Scale) based on the framework of Bartle's (1996) seminal typology. Findings from exploratory factor analysis and confirmatory factor analysis supported the four-factor structure of the OPTS. Reliability analyses show that the four-factor construct had good

psychometric properties. Results regarding different types of validity also demonstrated that the scale has both good convergent and divergent validity. The OPTS is therefore a valid and reliable instrument comprising 38 items and four factors that can be used to assess motivation of online videogame players.

Bartle (1996) created his original motivational framework based on the reports of MUD players. Although there was some unpublished previous psychometric testing of Bartle's (1996) player type framework by Andreasen and Downey (2001) called the 'MUD Personality Test' (MPT), no information has been shared in the public domain regarding the validity and reliability of the MPT (Bartle, undated). Therefore, research focus of the present paper was to develop a standardized tool for assessing player motivation types in online games based on Bartle's (1996) framework adapted to MMOs rather than MUDs.

Bartle's (1996) framework was simple, inclusive, and can be applied to many types of online games. However, OPTS may reflect more comprehensive perspective amongst MMO game types. Because some existing gaming motivation scales developed for specific games such as MMORPGs (Yee, Ducheneaut, & Nelson, 2012). Moreover, some existing gaming motivation scales developed for emotional engagement for satisfaction not by gameplay actions (Demetrovics et al., 2011; Lafrenière, Verner-Filion,, & Vallerand, 2012). OPTS was focus on gaming action types. On the other hand, to avoid statistical errors sample of the OPTS development research was consist of 1479 students who play at least several different video games for the suggestions of Demetrovics et al. (2011), Lafrenière, Verner-Filion,, & Vallerand (2012), Yee, Ducheneaut, & Nelson (2012). Therefore the OPTS may contribute to the gaming research field based on its psychometric reliability. At present there is no valid and reliable instrument developed to identify online player types by motivation type in Turkish literature. Although there is the Gamification User Types Hexad Scale adapted into Turkish by Akgün and Topal (2018) comprising player types such as philanthropists,

socializers, free spirits, achievers, players, and disruptors, the scale was developed in relation to gamification rather than motivation. Although there is some crossover in player types, the player types in the two scales arguably have different scopes and fields of application.

A considerable amount of research demonstrates that gaming motivation may have an effect on problematic and addictive game play (e.g., Kuss, Louws, & Wiers, 2012; Ng & Wiemer-Hastings, 2005, 2006a; Caplan, Williams, & Yee, 2009), in-game behaviors (Ryan, Rigby, & Przybylski, 2006), and design of games (Orji et al., 2013, 2014). Knowing which motivations drive individuals to play online games is important for researchers, game designers, and educators studying in the field.

There are of course some limitations to the present study. First of all, the OPTS has limited use in terms of player types. There may be more player types than those examined in the present study because the OPTS only assesses four player types based on their motivational preferences in gameplay based on self-reports. Because players act differently in different games, players may respond to the OPTS differently after playing different types of games. Therefore, the videogame in players' mind at the time of completing the OPTS may provide different responses if tested at a different point in time and with different games. Therefore, test-retest reliability studies need to be carried out. More basic limitations include the fact that the data were self-report (and subject to well-known biases) and only collected from Turkish adolescents. Therefore, the OPTS needs testing on other samples (e.g., emerging adults) from other countries and cultures.

Future studies should focus on cross-cultural studies to validate the OPTS in other countries. This is because existing studies in the literature concerning gaming motivation and player types have focused on specific games or specific people who play videogames from specific regions in the world (as has happened in the present study). In addition to self-report methods, player types could perhaps be verified by diversifying data with different data collection

methods such as observations in gameplay, players' in-game and out-of-game conversations, and data from various behavioral monitoring devices (EEG, eye-tracking etc.).

In summary, the OPTS developed in the present study demonstrates good validity and reliability analyses and will be of use in studies on online videogames that need to examine motivational reasons for playing online videogames. Other scales could also be tested alongside the OPTS to see if there is any direct or indirect associations between or among such scales.

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Appendix 1: Turkish version of the Online Player Type Scale (OPTS)

Çevrimiçi Oyunlar için Oyuncu Tipleri Ölçeği (Online Player Type Scale Items)
1.Çevrimiçi oyunlarda düşmanı yenmeyi eğlenceli bulurum.
2.Çevrimiçi oyunlarda düşmanı yenmeyi önemli bulurum.
3.Çevrimiçi oyunlarda başka bir oyuncunun bana zarar vermeyi planladığını öğrendiğimde, o bana zarar vermeden önce ben ona zarar veririm.
4.Bire bir oyun oynarken en iyi arkadaşımı yenmek benim için eğlencelidir.
5.Çevrimiçi oyunlarda diğer oyuncuları yenmemi sağlayacak bir özelliğe sahip olmak önemlidir.
6.Çok oyunculu bir oyunda mücadelelerde kaç tane oyuncuyu yendiğimle övünürüm.
7.Çok oyunculu bir oyunda savaşçılar grubuna katılmak benim için önemlidir.
8.Savaş oyununda mücadele etmeyi heyecan verici bulurum.
9.Çevrimiçi oyunlarda korkulan kişi olmak önemlidir.
10.Çevrimiçi oyunlarda sahip olduğum güç ile tanınmak isterim.
11.Çevrimiçi oyunlarda yeni bir yer keşfetmek önemlidir.
12.Çok oyunculu bir oyunda bir alanda yalnız başına kalmanın keşfetmek için önemli olduğunu düşünürüm.
13.Çevrimiçi oyunlarda yeni bir mekan/alan/yer açıldığında yeni alanları keşfetmek, bu alanın tarihini öğrenmek isterim.
14.Başka bir oyuncunun beni yenmek için plan yaptığını öğrendiğimde, rakibimin bilmediği yerleri keşfedip hazırlık yaparım.
15.Çok oyunculu bir oyunda "etrafı dolaşıp keşif yapanlar" grubuna katılmayı önemli bulurum.
16.Çevrimiçi oyunlarda keşfedilecek alan/mekan sayısı önemlidir.
17.Çevrimiçi oyun oynarken kimsenin bilmediği şeyleri bilme konusunda yetenekliyim.
18.Çevrimiçi oyunlarda bir takım, klan veya birliğe kabul edilmeyi önemli bulurum.
19.Çok oyunculu bir oyunda oyun arkadaşlarımla çevrimiçi konuşmak hoşuma gider.
29.Çok oyunculu bir oyunda oyun arkadaşlarımla konuşabileceğim gizli bir alana sahip olmayı önemli bulurum.
21.Çevrimiçi oyunlarda arkadaşsız kalmak kötü bir durumdur.
22.Çevrimiçi oyunlarda zor bir engel ile karşılaştığımda, engeli aşmama yardımcı olacak oyuncuları oyuna dahil ederim.
23.Çok oyunculu bir oyunda zor bir engel ile karşılaştığımda oyun arkadaşımdan bu engeli nasıl geçeceğim konusunda yardım isterim.
24.Çevrimiçi oyunlarda başka birisinin benim hakkımda ne dediğini bilmek önemlidir.

25.Çevrimiçi oyun oynarken deneyim puanı almayı önemli bulurum.

26.Çevrimiçi oyunlarda arkadaşlarımdan daha hızlı bir şekilde oyunu bitirmeyi önemli bulurum.

27.Çevrimiçi oyunlarda herkesten hızlı yüksek deneyim seviyesine ulaşmak önemlidir.

28.Çevrimiçi oyunlarda yeni bir rozet kazanmak hoşuma gider.

29.Çok oyunculu bir oyunda deneyim puanı kazanmak için engelleri kendi başıma aşmak hoşuma gider.

30.Çok oyunculu bir oyunda milyonlarca puan değerindeki bir eve sahip olmayı önemli bulurum.

31.Çevrimiçi oyunlarda yeni bir mekan/alan/yer açıldığında alandaki yeni malzemeye/ekipmana sahip olan ilk kişi olmayı isterim.

32.Çevrimiçi oyunların sonundaki ödülleri almak hoşuma gider.

33.Çevrimiçi oyun oynarken listedeki en yüksek skora sahip olmak önemlidir.

34.Çevrimiçi oyunlarda güçlü olmak isterim.

35.Çevrimiçi oyunlarda kimsenin sahip olmadığı şeylere sahip olmak isterim.

36.Çevrimiçi oyunlarda diğer bütün nesnelerden iki kat daha güçlü bir nesneye sahip olmak önemlidir.

37.Çevrimiçi oyunlarda sahip olduğum oyun seviyesi/deneyim/score/xp puanı ile tanınmak isterim.

38.Çevrimiçi oyunlarda kimsenin çözemediği bir bulmacayı çözmeyi önemli bulurum.

Appendix 2: English version of the Online Player Type Scale (OPTS)

Online Player Type Scale Items
1. I find it amusing to defeat an enemy in online games.
2. I find it important to defeat an enemy in online games.
3. When I recognize that another player plans to hurt me in an online game, I beat him to the punch before he hurts me.
4. It's funny for me to defeat my best friend while playing one-vs-one.
5. In an online game, it is important to have a feature to defeat other players.
6. I boast about how many players I've defeated in a multiplayer game.
7. It is important for me to join a group of warriors in a multiplayer game.
8. I find it exciting to challenge in a war game.
9. In online a game it is important to be a fearful player.
10. I want to be known for the power I have in an online game.
11.It is important to discover new places while wandering in online games.
12.I think being alone in a virtual world in a multiplayer game is important for exploring.
13.I would like to know the history of this area, discovering new areas when a new terrain / space / place is created in online games.
14. When I recognize that another player plans to defeat me, I make preparations to discover and prepare places that my opponent doesn't know.
15. In a multiplayer game, I find it important to join the group of "wanderer & explorers."
16. The number of terrains/places to explore is important in online games.
17. I'm capable of knowing what no-one knows when I'm playing online.
18.I find it important to be join to a team, clan or guild in online games.
19. In a multiplayer game, I like chatting to my friends online.
20. In a multiplayer game, I find it important to have a hidden place where I can chat to my friends.
21. It is a bad situation to stay without friends in online games.
22. When I encounter a difficult task in online games, I rally with players who can help me to overcome it.
23. When I encounter a difficult task in a multiplayer game, I ask my teammates for help on how to overcome it.
24. In online games it is important to know that someone else can talk about me.
25. I find it important to gain experience points when playing online games.
26. I find it important to finish the game faster than my friends in online games.
27.In online games it is important to achieve a high level of experience faster than anyone else.

28. I like to gain a new badge in online games.
29. I like to overcome obstacles on my own to gain experience points in a multiplayer game.
30. I find it important to have a home worth millions of points in a multiplayer game.
31. I like to be the first person to have new material/equipment in the an online game when a new terrain/space/place is opened.
32. I like gaining the rewards at the end of online games.
33. It is important to have the highest score on the leaderboard when playing online games.
34. I want to be strong in online games.
35. I'd like to have something in online games that nobody else has.
36. In online games it is important to have an item that is twice as powerful as all other items.
37. I would like to be known by the game level/experience/score/XP score I have in online games.
38. I find it important to solve a puzzle that no-one can solve in online games.