Letter to the Editor

# Correlates of Online Game Play Motivations, Social Anxiety and Psychological Distress

**Dear Editor,**

Online gaming is a popular pastime among children and adults alike, and research on its impact on behaviour has increased in recent decades. With growing concerns over problematic gaming, Internet Gaming Disorder was introduced in Section 3 of the Diagnostic and Statistical Manual of Mental Disorders Fifth Edition (DSM-5), prompting necessary research before including it as a diagnostic category.

Massively multiplayer online role-playing games (MMORPGs) is the game genre most often studied with regard to online gaming behaviour. Whang and Chang[1] described the online world of MMORPGs as virtual "living" places and described players as having different "lifestyles" in-game, with different reasons and ways of playing. Yee[2] proposed 10 motivations describing reasons MMORPG players feel motivated to play and these are commonly used to assess gaming motivations. One of the motivations described is 'escapism' which involves playing games to relax, escape from real life and avoid real life problems; and was found to be a predictor of internet addiction and problematic internet use. Other studies[3] have cited achievement and socialising to be predictors as well.

Though some develop problematic use, not all gamers become addicted. Researchers have proposed that online games are used as a method of coping with psychosocial problems or unmet needs and that excessive use may not necessarily indicate addiction but something termed 'compensatory internet use'.[4]

Psychosocial distress is thought to have both direct and mediated effects on addictive gaming[5] and may even precede it.[6] Some psychosocial stressors which are ostensible causes of compensatory internet use or addiction use are loneliness, low self-esteem, depression, anxiety, body dissatisfaction, social phobias and stress.[6,7,8] With escapism and socialising being two motivations of play,[2] it is arguable that distress in these areas can motivate people to play games beyond normal levels of use as a means of compensation.

These studies demonstrate that motivations could be indicators of unmet psychosocial needs. Thus, the authors explored the sociodemographic factors relating to motivations of play and investigated the relationship between motivations of play, social phobia and psychological

distress. Data was collected as part of a study on internet gaming disorder in Singapore.[9]

Participants aged 13-40 years old, residing in Singapore at the time of the study were recruited through convenience sampling. Responses were collected via an anonymous online survey which took approximately 10-15 minutes to complete. Informed consent was obtained from all participants online before beginning the survey.

Sociodemographic data including age, gender, ethnicity, education level and employment status was obtained. Yee's[2] Motivations To Play Inventory (MTPI) scale that measures 10 different motivations of online game-play that fall under 3 main components, was used to measure participants' motivations of play. Details of the different motivations are provided in Table 1. The Social Phobia Inventory (SPIN)[10]

Table 1. Gaming Motivations*

| Component | Subcomponent | Description |
|---|---|---|
| Achievement | | |
| | Advancement | The need to progress or advance in the game in terms of gaining points or other achievements. |
| | Mechanics | Seeking to analyse and understand the system as a way of maximising their performance in the game. |
| | Competition | The need to compete or vie with an opponent. |
| Social | | |
| | Socialising | Perceiving it as a social interaction that involves chatting and interacting with other players. |
| | Relationship | Forming important and relevant relationships with other players. |
| | Teamwork | Perceiving the game as a team-effort and gaining fulfillment from it. |
| Immersion | | |
| | Discovery | Unearthing novel events or approaches in the game. |
| | Role-playing | Creating, assuming and acting out the role of a fictional character. |
| | Customisation | Customising their character based on personal preferences. |
| | Escapism | Using the game as a means to seek distraction and escape unpleasant realities. |

*Described by Yee N. Motivations for play in online games. Cyberpsychol Behav 2007;9:772-5.

was used to measure social anxiety symptoms. The General Health Questionnaire (GHQ-12)[11] was used to measure psychological distress.

Multiple linear regression was conducted to explore the relationship between MTPI scores, sociodemographic factors, SPIN scores and GHQ-12 scores. Responses from 737 respondents who played MMORPGs were included in the analysis. Sample characteristics are shown in Table 2. Overall, the results revealed sociodemographic differences in motivations of play as well as correlations between social phobia, psychological distress and select motivations.

Gender was significantly associated with more motivations than any other sociodemographic factor and was similarly identified as a significant factor in Yee's[2] study. These gender differences are different to those found by Yee.[2] Males scored higher than females on the motivations for

achievement (advancement, mechanics and competition) in both studies. However, Yee[2] found females to be more motivated by the relationship subcomponent while the opposite was found in this study. Males were more motivated by the relationship and socialising subcomponents while females were motivated by teamwork. This is not to say that females in our study were not motivated by relationships and socialising, but perhaps the contrasting findings reflect an interaction between culture and gender. Yee also found no gender differences in the role-playing and escapism subcomponents though males in our sample scored higher in these motivations than females. Studies from Taiwan reported gender differences in game-play habits suggesting that males were more motivated to play video games[12] and that certain factors including distress such as "lower self-esteem and lower satisfaction with daily life were associated with more severe addiction among males, but not females".[13] Gender differences in gaming behaviour could be more prominent in Asian countries, but more cross-cultural research is needed to explore this possibility.

Similarly, further cross-cultural research could elucidate the ethnic differences found in our sample. Malays scored higher for competition, while Indians and those of Others ethnicity scored higher in escapism than Chinese participants. As our results and previous studies have shown escapism to be related to psychological distress, social phobia and problematic use, one must be cognisant of the higher scores in certain ethnic groups. To our knowledge, no other studies have explored ethnic differences in motivations of play and it is difficult to explain these differences. Future research is required to investigate ethnic differences in motivations and their relationship to problematic game-playing to clarify if higher escapism in different ethnic groups is a cause for concern.

Significant correlations found between motivations and age, education level and employment status are interesting but difficult to explain. These differences may simply be different MMORPG playing lifestyles as described by Whang and Chang,[1] with different groups playing for different reasons.

As both the teamwork and socialising subcomponents fall under the overarching social motivation, it is interesting to note that social phobia was negatively correlated with teamwork but positively correlated with socialising. Those with higher SPIN scores being motivated to play for socialising reasons appears congruent with Kardefelt-Winther's[5] theory of compensatory internet use. While socialising online despite fear of social interactions may seem counter-intuitive, researchers have acknowledged the ostensible safety of anonymity that online communication grants which allows individuals to practise social interactions in a safe environment.[14] With regard to the discrepancy

Table 2. Sample Characteristics (n = 737)

|  | n | % |
|---|---|---|
| **Gender** |  |  |
| Male | 447 | 60.7 |
| Female | 290 | 39.3 |
| **Age group** |  |  |
| 13 – 20 years | 252 | 34.2 |
| 21 – 25 years | 286 | 38.8 |
| 26 – 30 years | 122 | 16.6 |
| 31 – 40 years | 77 | 10.4 |
| **Education level** |  |  |
| Primary | 27 | 3.7 |
| Secondary | 17 | 2.3 |
| O/N levels | 135 | 18.3 |
| A levels | 103 | 14 |
| Vocational | 23 | 3.1 |
| Diploma | 206 | 28 |
| University | 225 | 30.5 |
| **Employment status** |  |  |
| Student | 395 | 53.6 |
| Employed | 293 | 39.8 |
| Unemployed | 24 | 3.3 |
| Homemaker | 2 | 0.3 |
| Conscription | 23 | 3.1 |
| **Ethnicity** |  |  |
| Chinese | 695 | 94.3 |
| Malay | 22 | 3 |
| Indian | 13 | 1.8 |
| Others | 7 | 0.9 |

between socialising and teamwork subcomponents, this may be explained by the versatility of MMORPGs. The teamwork motivation is related to interacting during game-play to achieve a common goal, whereas socialising involves interacting with other players simply for the sake of interaction. MMORPGs are often versatile enough that in-game goals may be completed alone, and that interaction with other players need not be related to in-game goals. Perhaps this describes a different playing style of MMORPG players who endorse social anxiety symptoms.

Playing for customisation of the player's character was associated with higher social phobia scores and psychological distress scores. Previous research suggests the use of game characters as means of achieving an ideal self. Discrepancies between one's actual self and ideal self may cause distress and customisable game characters are used to reduce this discrepancy, particularly in those with lower psychological well-being.[15] Thus, the process of customising and playing as an ideal character can reduce distress and enhance the sense of escaping problems during game-play. This may explain why MMORPGs are popular among gamers as well as researchers investigating the basis of problematic game use. Similarly, the anonymity provided by online interactions and the ability to present a more ideal, "customised" self through game characters may facilitate socialising online since those with higher SPIN scores are motivated by both customisation and social subcomponents.

Finally, in line with the extant literature,[2,4] escapism was positively associated with social phobia and psychological distress in our study. While the different motivations are not direct signs of psychosocial problems in gamers, unusually high levels of motivation to play, particularly for escapism, may be an indicator of the unmet needs in gamers with internet gaming addiction or other psychological distress. Although there was no specific motivation associated with social phobia or psychological distress, it appears that those with higher levels of social phobia and distress are generally more motivated to play online games than those without. The DSM-5 proposes excessive play and using games to escape or relieve negative mood as part of the criteria for internet gaming disorder. However, our findings are in line with a recent longitudinal study on online game-play which suggested that psychosocial problems may be the cause rather than the consequence of excessive use.[7]

Playing for what some may consider long hours or to escape problems is not sufficient for a diagnosis but may indicate compensatory internet use. This has implications for the treatment of those with problematic gaming as reducing social phobia and distress may also reduce motivation for game-playing and by extension, the time spent playing games. This may also improve the individual's overall mental well-being and support treatment for internet gaming

addiction. Thus, the holistic treatment and differential diagnosis of internet gaming disorder should consider whether other psychosocial problems are a confounding factor and treat them accordingly.

### REFERENCES

1. Whang LS, Chang G. Lifestyles of virtual world residents: living in the online game "lineage". Cyberpsychol Behav 2004;7:592-600.
2. Yee N. Motivations for play in online games. Cyberpsychol Behav 2007;9:772-5.
3. Zanetta Dauriat F, Zermatten A, Billieux J, Thorens G, Bondolfi G, Zullino D, et al. Motivations to play specifically predict excessive involvement in massively multiplayer online role-playing games: evidence from an online survey. Eur Addict Res 2011;17:185-9.
4. Kardefelt-Winther D. Problematizing excessive online gaming and its psychological predictors. Comput Human Behav 2014;31:118-22.
5. Király O, Urbán R, Griffiths M, Ágoston C, Nagygyörgy K, Kökönyei G, et al. The mediating effect of gaming motivation between psychiatric symptoms and problematic online gaming: an online survey. J Med Internet Res 2015;17:e88.
6. Kowert R, Vogelgesang J, Festl R, Quandt T. Psychosocial causes and consequences of online video game play. Comput Human Behavior 2015;45:51-8.
7. Lo SK, Wang CC, Fang W. Physical interpersonal relationships and social anxiety among online game players. CyberPsychol Behav 2005;8:15-20.
8. Koronczai B, Kökönyei G, Urbán R, Kun B, Pápay O, Nagygyörgy K, et al. The mediating effect of self-esteem, depression and anxiety between satisfaction with body appearance and problematic internet use. Am J Drug Alcohol Abuse 2013; 39:259-65.
9. Subramaniam M, Chua BY, Abdin E, Pang S, Satghare P, Vaingankar JA, et al. Prevalence and correlates of internet gaming disorder: results from an internet survey. Ann Acad Med Singapore 2016;45:174-83.
10. Connor KM, Davidson JR, Churchill LE, Sherwood A, Foa E, Weisler RH. Psychometric properties of the Social Phobia Inventory (SPIN). New self-rating scale. Br J Psychiatry 2000;176:379-86.
11. Goldberg D, Williams P. A user's guide to the General Health Questionnaire. Windsor, Berks: NFER-Nelson; 1988.
12. Chou C, Tsai MJ. Gender differences in Taiwan high school students' computer game playing. Comput Human Behav 2007;23:812-24.
13. Ko CH, Yen JY, Chen CC, Chen SH, Yen CF. Gender differences and related factors affecting online gaming addiction among Taiwanese adolescents. J Nerv Ment Dis 2005;193:273-7.
14. Wonica P. Exploring the Idealized Self: Avatars as a Vessel for Adolescent Identity Exploration and Growth. In: Dawn Stobbart ME, editor. Engaging with Videogames: Play, Theory and Practice. Oxford, England, Inter-Disciplinary Press; 2014.
15. Bessière K, Seay AF, Kiesler S. The ideal elf: identity exploration in World of Warcraft. CyberPsychol Behav 2007;10:530-5.

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