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Computer game playing and social skills: a pilot study

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Abstract

Computer game playing is a popular leisure activity. However, there is little known about the longer-term effects that regular computer game playing could have on social development. A questionnaire study was conducted with 144 undergraduate students examining frequency of computer game playing behaviour against scores on the Social Situations Questionnaire designed to identify social inadequacy. Results showed that high frequency computer game players exhibited more social anxiety than low frequency game players. Possible explanations for this relationship are linked to high frequency computer game playing compromising the attainment of social skills during childhood and adolescence.

Key words: computer games, social development, Social Situation Questionnaire

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Introduction

Computer game playing has been fairly widespread since the early 1980s and has been one of the most popular leisure activities for adolescents and young adults. Furthermore, the advancement of technology has led to the production of increasingly more realistic and interactive games. There has been much concern as to the potential negative effects that computer games could have on youth such as 'video game addiction' (e.g., Griffiths & Meredith, 2009) and increased aggressiveness (Anderson, Shibuya, Ihori, et al, 2010). There are, of course, many studies showing the acknowledged positive effects including therapeutic and medical benefits (Griffiths, 2005) and educational benefits (Griffiths, 2002; de Freitas & Griffiths, 2008). Despite the continuing debates over the positives and negatives of computer game playing, there is still little empirically known about the long-term consequences of this modern-day phenomenon (e.g., the effect of excessive computer game playing on social development).

Almost all of the literature surrounding computer game play has examined the short-term consequences of computer game playing only - although long-term concerns such as computer games preventing the development of social skills have been voiced over a 30-year period (e.g., Zimbardo, 1982; Miller, 1993). However, empirical research addressing this matter is limited and inconclusive. Recent research into online gaming has emphasized the positive socializing elements involved in playing games like Everquest and World of Warcraft (Griffiths, Davies & Chappell, 2003; 2004; Cole & Griffiths, 2007; Hussain & Griffiths, 2008; Yee, 2006).

The following study primarily attempted to examine whether there is any relationship between social inadequacy/social skills and the frequency of computer game playing in university undergraduates. The measure of sociability used was Bryant and Trower's (1974) Social Situations Questionnaire (SSQ) (see Methods section for more details). Other relationships were also examined (frequency of computer game use and dependency; SSQ scores and dependency; gender differences). The study's main hypothesis was that high frequency computer game players would score higher on the SSQ than low frequency players.

Method

Participants: The participants were 144 undergraduate students of the Nottingham Trent University. All of the participants completed a

questionnaire examining various aspects of their computer game playing and their reported difficulty in a range of hypothetical social situations on the SSQ. Of these participants 60% were males (n=87) and 40% were females (n=57). The sample was aged 18- to- 22-years of age. The types of computer game played by participants was not assessed.

Measures: The first part of the questionnaire comprised questions about frequency of computer game playing, and questions relating to computer game "dependence" (based on a questionnaire designed by Griffiths [1997] using DSM criteria). This consisted of questions asking whether: (i) they played computer games for long periods of time, (ii) they found it difficult to stop playing computer games, (iii) computer game playing ever conflicted with sleep, work, eating or social life, (iv) they would rather play computer games than socialize, (v) they ever got moody and irritable if they were unable to play, (vi) they ever got verbally or physically aggressive whilst playing, and (vii) they ever lied to those around them as to how much time they spent playing on computer games. These were all answered using a five-point Likert scale ('never', 'rarely', 'sometimes', 'often' and 'always'. These were then scored on a one to five point system for the purposes of analysis (i.e., an answer of 'never' scored '1' and 'always' scored '5'). Anyone who responded "often", "always" or "sometimes" on all seven questions were operationally defined for the purpose of analysis as a "dependent" player.

The second part of the questionnaire comprised Bryant and Trower's (1974) Social Situations Questionnaire (SSQ) that asks about the degree of difficulty felt in 30 specified hypothetical situations. There appears to have been little research on its reliability and validity of the SSQ but it has been used widely in both normal populations (e.g., Maag, 1992; Zsolnai, 2002), and specific populations such as those with physical disabilities (e.g., Thomas, Bax & Smyth, 1988), speech language impairments (Snowling, Bishop, Stothard, et al., 2006), social phobias (e.g., Stravynski & Greenberg, 1989; Orsillo & Hammond, 2002), anorexia nervosa (Pillay & Crisp, 1981), general psychiatric problems (Brady, 1984), and schizophrenia (e.g., Halford & Hayes, 1995; Hayes, 1996; Tsang, 2001).

Bryant and Trower defined a "difficult" situation as one that "makes you feel anxious or uncomfortable because you don't know what to do, or because it makes you feel frightened, embarrassed or self-conscious" (p. 15). These situations ranged from general everyday situations such as speaking to people while walking down the street, to more intimate situations such as getting to know someone in depth. As with the first

part of the questionnaire, each situation was scored on a five-point Likert scale ('no difficulty', 'slight difficulty', 'moderate difficulty', 'great difficulty' and 'avoidance if possible'). These were also scored on a one to five point system for the purposes of analysis (i.e., an answer of 'no difficulty' scored '1' and 'avoidance if possible' scored '5'). Mean scores on the SSQ were out of a possible 150. The higher the score, the more socially inadequate and/or socially anxious the person is deemed to be. It should also be noted that Bryant and Trower regarded anyone who responded to six or more social situations with "great difficulty" or "avoid if possible" as suffering fairly serious "psycho-social" problems.

Procedure: After initial piloting, a questionnaire was administered to students attending I.T.-based courses. It was believed that this group of students were more likely to yield a higher number of regular computer game players than if an opportunity sample were employed. The participants were administered questionnaires at the end of one of their lectures. Participants were assigned into one of two groups (high and low frequency players) based on Rutkowska and Carlton's (1994) classification. Those who reported playing for less than an hour per day were assigned as low frequency computer game players (i.e., less than seven hours per week), and those who reported playing for one or more hours per day were assigned as high frequency computer game players (i.e., seven or more hours per week). The low frequency group consisted of 104 participants (55 males and 49 females) and the high frequency group consisted of 40 participants (32 males and 8 females). Another post-hoc group of "heavy computer game players" was created on the basis of those who self-reportedly played two or more hours a day (i.e., fourteen or more hours per week). The heavy playing group contained 12 participants (all male).

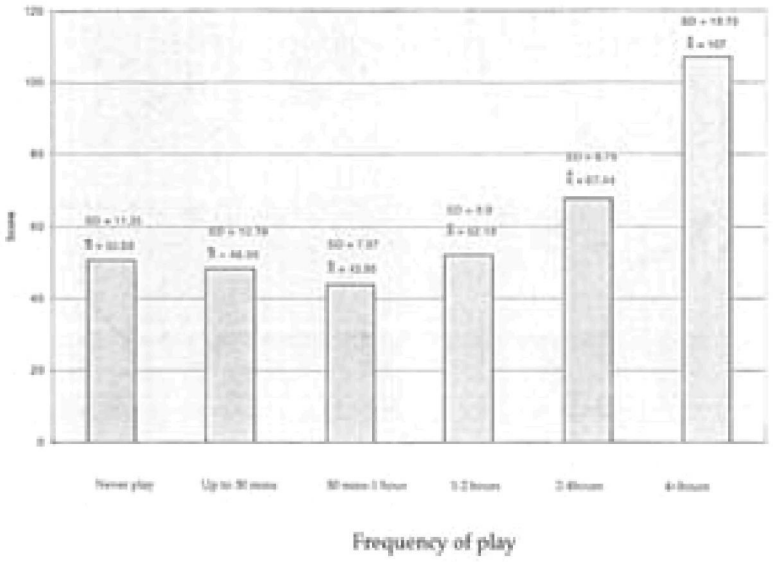
Results

Time spent playing computer games: The results showed that 88% of the sample played computer games. Non-players and very light players tended to be women (21% of females had never played a computer game and a further 44% played for less than half an hour a day). There were no females who reported playing for more than two hours per day. Male participants were fairly evenly spread between frequency categories although only 8% reported playing for more than two hours per day. (These were subsequently classed as the "heavy players").

Analysis of the Social Situations Questionnaire (SSQ): The mean score for females on the SSQ was higher than that of the males (females

= 53.1; males = 48.9; the higher the score the greater difficulty with the social situation). However, this was not statistically significant. High frequency players (mean SSQ score = 59.7) scored significantly higher than low frequency players (mean SSQ Score = 47.1) on the SSQ ($t = 5.43$, $p<0.001$). Overall scores on the SSQ by frequency are outlined in Figure 1. Further analysis showed that high frequency male players (mean SSQ score = 61.2) scored significantly higher than low frequency male players (mean SSQ score = 41.8) on the SSQ ($t = 6.66$, $p<0.001$). No significant differences were found between high and low frequency female players. "Heavy players" - those that played for more than two hours a day (mean SSQ score = 77.3) scored significantly higher than non-heavy players (mean SSQ score = 48.2) on the SSQ ($t = 8.7$, $p<0.001$). It was also noted that 5.5% of the total sample (eight participants) suffered fairly serious "psycho-social" problems (answering six or more questions as "great difficulty" or "avoid if possible"). All three males who reported playing computer games for more than four hours per day fulfilled the criteria for social inadequacy.

Means and standard deviation scores on the *Social Situations Questionnaire* for each of the six different frequency levels of computer game play



Frequency of play

Discussion

The results from the questionnaires support the hypothesis that high frequency computer game players would score higher on the SSQ than low frequency players in a student population (i.e., high frequency computer game players were more socially inadequate as measured by the SSQ). The heavy playing group also scored significantly higher on the SSQ than those who played less than two hours per day. This is particularly interesting as this group constituted those who scored the highest on the "dependence" criteria questions.

Those in the high frequency group were also found to be significantly more likely to prefer computer game playing to socializing. This was also true for the heavy playing group (who again represent the group who scored the highest on the "dependence" questions). These results support the findings of Griffiths (1997) who claimed that those who were dependent were more likely to favour computer games over friends. High frequency players were found to be significantly more likely to report that their computer game playing conflicted with their social life. This also seems to be consistent with related research examining excessive play (Colwell et al, 1995; Rutkowska & Carlton, 1994; Griffiths & Hunt, 1998; Grüsser, Thalemann & Griffiths, 2007; Hussain & Griffiths, 2009). Interestingly, those in the sample who fulfilled Bryant and Trower's (1974) criteria for exhibiting what they described as fairly serious "psychosocial" problems, five (of the eight) participants were in the high frequency group. This further suggests a link between social problems and frequency of computer game use especially as three of those five participants where found in the small group of heavy players. One possible explanation for this relationship between social inadequacy and high frequency video game play may be because high frequency computer game playing may compromise and interfere in the attainment of social skills during childhood and adolescence. Alternatively it might be that those children and adolescents who play high levels of computer games do so because they suffer from social anxiety and can avoid social interaction as they are able to receive social rewards through the medium of a computer console.

In conclusion, it would appear that a low level regular use of computer games does not impair the social development of young people. What these findings indicate is perhaps a need to place greater attention on the effects that high amounts of time spent playing computer games can have on players. However, as Griffiths (2010) case study evidence

shows, excessive game use is not the same as addictive game use, and that some very excessive gamers do not appear to show any negative detrimental effects and that gaming addiction depends on the context in which the gaming occurs.

REFERENCES

Anderson, C.A., Shibuya, A., Ihori, N., Swing, E.L., Bushman, B.J., Sakamoto, A., & Saleem, M. (2010). Violent video game effects on aggression, empathy, and prosocial behavior in Eastern and Western countries. Psychological Bulletin, 136, 151-173.

Brady, J.P. (1984). Social skills training for psychiatric patients (I): Concepts, methods, and clinical results. American Journal of Psychiatry, 141, 333-340.

Bryant, B. & Trower, P.E. (1974). Social difficulty in a student sample, British Journal of Educational Psychology, 44, 13-21.

Cole, H. & Griffiths, M.D. (2007). Social interactions in Massively Multiplayer Online Role-Playing gamers. CyberPsychology and Behavior, 10, 575-583.

Colwell, J., Grady, C. & Rhaiti, S. (1995). Computer games, self-esteem and gratification of needs in adolescents, Journal of Community and Applied Social Psychology, 5, 195-206.

De Freitas, S. & Griffiths, M.D. (2008). The convergence of gaming practices with other media forms: what potential for learning? A review of the literature. Learning, Media and Technology, 33, 11-20.

Griffiths, M. D. (1997). Computer game playing in early adolescence. Youth and Society, 29, 223-237.

Griffiths, M.D. (2002). The educational benefits of videogames Education and Health, 20, 47-51.

Griffiths, M.D. (2005). The therapeutic value of videogames. In J. Goldstein & J. Raessens (Eds.), Handbook of Computer Game Studies. pp. 161-171. Boston: MIT Press.

Griffiths, M.D. (2010). The role of context in online gaming excess and addiction: Some case study evidence. International Journal of Mental Health and Addiction, 8, 119-125.

Griffiths, M.D., Davies, M.N.O. & Chappell, D. (2003). Breaking the stereotype: The case of online gaming. CyberPsychology and Behavior, 6, 81-91.

Griffiths, M.D., Davies, M.N.O. & Chappell, D. (2004). Demographic factors and playing variables in online computer gaming. CyberPsychology and Behavior, 7, 479-487.

Griffiths, M.D. & Hunt, N. (1998). Dependence on computer games by adolescents. Psychological Reports, 82, 475-480.

Griffiths, M.D. & Meredith, A. (2009). Videogame addiction and treatment. Journal of Contemporary Psychotherapy, 39(4), 47-53.

Grüsser, S.M., Thalemann, R. & Griffiths, M.D. (2007). Excessive computer game playing: Evidence for addiction and aggression? Cyberpsychology and Behavior, 10, 290-292.

Halford, W.K. & Hayes, R.L. (1995). Social skills in schizophrenia: Assessing the relationship between social skills, psychopathology and community functioning. Social Psychiatry and Psychiatric Epidemiology, 30, 14-19.

Hayes, R.L. (1996). Time use of unemployed and employed single male schizophrenia subjects. Schizophrenia Bulletin, 22, 659-669.

Hussain, Z. & Griffiths, M.D. (2008). Gender swapping and socialising in cyberspace: An exploratory study. CyberPsychology and Behavior, 11, 47-53.

Hussain, Z. & Griffiths, M.D. (2009). Excessive use of Massively Multi-Player Online Role-Playing Games: A pilot study. International Journal of Mental Health and Addiction, 7, 563-571.

Maag, J.W. (1992). Integrating consultation into Social Skills Training: Implications for practice. Journal of Educational and Psychological Consultation, 3, 233-258.

Miller, J. (1993). Computer games (Information Sheet). London: The Professional Association of Teachers.

Orsillo, S. & Hammond, C. (2002). Social phobia: A brief overview and guide to assessment. AABT Clinical Assessment Series, 2, 159-164.

Pillay, M. & Crisp, A.H. (1981). The impact of social skills training within an established in-patient treatment programme for anorexia nervosa. British Journal of Psychiatry, 139, 533-539.

Rutkowska, J.C. & Carlton, T. (1994, April). Computer games in 12-13 year olds' activities and social networks. Paper presented at the British Psychological Society Annual Conference, Sussex.

Snowling M.J., Bishop, D.V.M., Stothard, S.E., Chipchase, B. & Kaplan, C. (2006) Psychosocial outcomes at 15 years of children with a preschool history of speech-language impairment. Journal of Child Psychology and Psychiatry, 47, 759-765.

Stravynski, A. & Greenberg, A. (1989). Behavioural psychotherapy for social phobia and dysfunction. International Review of Psychiatry, 1, 207-217.

Thomas, A.P., Bax, M.C.O. & Smyth, D.P.L. (1988). The social skill difficulties of young adults with physical disabilities. Child: Care, Health and Development, 14, 255-264.

Tsang, H.W. (2001). Applying Social Skills Training in the context of vocational rehabilitation for people with schizophrenia. Journal of Nervous & Mental Disease, 189, 90-98

Yee, N. (2006). Motivations of play in online games. CyberPsychology and Behavior, 9, 772–775.

Zimbardo, P. (1982). Understanding psychological man: A state of the science report. Psychology Today, 16, 15.

Zsolnai, A. (2002). Relationship between children's social competence, learning motivation and school achievement. Educational Psychology, 22, 317-329.

Resumen

Los juegos de ordenador son una actividad de ocio muy popular. Sin embargo, se sabe poco sobre los efectos a largo plazo que jugar regularmente puede tener sobre el desarrollo social. A 144 estudiantes universitarios se pasó un cuestionario para averiguar con qué frecuencia se dedicaban a los juegos por ordenador y un cuestionario sobre su grado de desadaptación a situaciones sociales (Social Situations Questionnaire). Los resultados mostraron que los jugadores con una alta frecuencia de juego experimentan más ansiedad social que los jugadores con baja frecuencia. Una posible explicación para esta relación puede ser que la alta frecuencia de juego obstaculiza la adquisición de habilidades sociales durante la infancia y adolescencia.

Resum

Els jocs d'ordinador són una activitat d'oci molt popular. No obstant això, se sap poc dels efectes, a llarg termini, que el fet de jugar amb regularitat pot tenir sobre el desenvolupament social. A 144 jugadors hom els va aplicar un qüestionari sobre la freqüència amb què es dedicaven a jocs per ordinador i un altre sobre el grau de desadaptació en situacions socials (Social Situations Questionnaire). Els resultats mostren que els jugadors amb alta freqüència de joc experimenten més ansietat social que els de baixa freqüència. Una possible explicació d'aquesta relació pot ser que l'alta freqüència de joc obstaculitza l'assoliment d'habilitats socials durant la infància i l'adolescència.