

國中生網路線上遊戲成癮傾向、攻擊行為及相關因素之研究

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摘要

本研究目的在瞭解不同背景變項之國中生網路線上遊戲涉入經驗、成癮傾向與攻擊行為差異情形；探討網路線上遊戲涉入經驗、父母變項、網路線上遊戲成癮傾向與攻擊行為之相關；分析背景變項、父母變項、網路線上遊戲涉入經驗對網路線上遊戲成癮傾向的預測作用，及分析背景變項、父母變項、網路線上遊戲涉入經驗與成癮傾向對攻擊行為的預測作用。本研究採問卷調查法，以台灣北、中、南三區的公立國中611位學生為研究對象，本研究有下列主要發現：

1. 不同性別國中生與是否參與遊戲、遊戲類型、每週遊戲時數、每月遊戲花費及遊戲同伴有顯著差異；不同年級國中生與每週遊戲時數有顯著差異；不同學業成績國中生與是否參與遊戲、玩家資歷、每週遊戲時數、每月遊戲花費及遊戲同伴有顯著差異。
2. 國中生每週遊戲時數、每月遊戲花費、遊戲同伴、性別、年級、學業成績、父母對遊戲的看法與玩家資歷對遊戲成癮傾向有顯著預測力；國中生之強迫性遊戲行為、性別、遊戲地點及每月遊戲花費對攻擊行為具有顯著預測力。

關鍵詞：國中生、網路線上遊戲、網路線上遊戲成癮傾向、攻擊行為

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參考文獻

- 一、中文部分Rollings, A., & Adams, E. (2003), 大師談遊戲設計, 上奇出版。?世投顧(2000), 一同打造你我的虛擬世界-線上遊戲[線上資料], 來源: <http://tw.pwcm.com.tw/reports.htm> [2000, May 14]。中信證券(2008), 線上遊戲產業趨於成熟 - 智冠擁有完整的遊戲佈局, 爆發力拭目以待[線上資料], 來源: <http://tw.myblog.yahoo.com/jw!0bSL9S2YGh6mVmU8B6gm2IZ8/article?mid=112&prev=113&next=102> [2008, March 18]。中廣新聞網(2006), 32%孩子網路成癮, 六成瘋線上遊戲[線上資料], 來源: http://tw.myblog.yahoo.com/jw!_z5h5b6RSUc30cehrYGoDQ--/article?mid=476 [2006, November 3]。巴哈姆特電玩資訊站[線上資料], 來源: <http://www.gamer.com.tw/> [2009, January 14]。王建楠(2004), 每天上網超過四小時小心網路成癮症, 大紀元[線上資料], 來源: <http://www.epochtimes.com/b5/4/5/4/n529203.htm> [2004, May 4]。王盈惠(2002), 國中生電子遊戲經驗與學習參與、人際關係、偏差行為之關係研究, 國立高雄師範大學教育系之碩士論文。朱奕修(2007), 線上遊戲玩家的熱愛、成癮與攻擊行為, 國立臺北大學資訊管理研究所之碩士論文。池青玫(2006), 國中生涉入線上遊戲相關因素之研究-以高雄市為?, 國?台南大學社會科教育研究所社會科教學之碩士論文。吳明隆、涂金堂(2006), SPSS與統計應用分析(二版四刷), 台北市:五南書局。卓美玲(2001), 中小學網路學習之使用與滿足, 2001網路與社會研討會論文報告(pp.12-15), 新竹:國立清華大學。林子凱(2002), 線上遊戲「天堂」之使用者參與動機與滿意度研究, 國立成功大學企業管理研究所之碩士論文。林育賢(2001), 電玩暴力對學童攻擊行為之效果研究, 世新大學傳播研究所之碩士論文。林周宏(2002), 青少年使用電動玩具對心理與社會反應之影響, 國立高雄醫學大學行為科學研究所之碩士論文。孫定業(2003), 線上遊戲族群之消費者決策型態與忠誠??為研究, 實踐大學企業管?研究所之碩士?文。張意珮(2002), 線上遊戲使用者轉換因素之研究, 元智大學資訊管?學系研究所之碩士?文。郭明裕(2005), 宜蘭地區青少年線上遊戲經驗及其相關變項之研究, 佛光人文社會學院教育資訊學研究所之碩士論文。陳怡安(2002), 線上遊戲的魅力。資訊社會研究, 3, 183-214。陳淑惠(2003), 中文網路成癮量表之編製與心理計量特性之研究, 中華心理學刊, 45(3), 279-294。游森期(2002), 大學生網路使用行為網路成癮及相關因素之研究, 國立彰化師範大學教育研究所之碩士論文。馮嘉玉(2003), 國中學生電玩遊戲使用經驗、成癮傾向及其自覺健康狀況之研究, 國立臺灣師範大學衛生教育研究所之碩士論文。黃啟豪(2003), 線上遊戲使用者滿意?與忠誠?-之研究, 淡江大學企業管?學系研究所之碩士?文。董家豪(2001), 網路使用者參與網路遊戲行為之研究, 南華大學資訊管理研究所之碩士論文。資策會MIC(2005), 台灣網?線上娛??為調查[線上資料], 來源: <http://mic.iii.org.tw/home/pressroom2.asp?1=c&f=9&menu=92>[2005, April 12]。維基百科[線上資料], 來源: <http://zh.wikipedia.org/w/index.php?title=%E7%B7%9A%E4%B8%8A%E9%81%8A%E6%88%B2&variant=zh-tw> [2008, October 14]。翟本瑞(2001), 逃到網中:網路認同形成的心理機制研究, 第四屆資訊科技與社會轉型研討會(pp.20-31)。鄭石岩(2003), 青少年網路成癮與輔導, 學生輔導, 86, 6-11。鄭景仁(2002), 大台?地區青少?線上遊戲購買涉入之研究, 輔仁大學應用統計學研究所之碩士?文。賴光庭(2003), 台灣線上遊戲消費者?為之探討, 淡江大學管?科學研究所之碩士?文。薛世杰(2002), 國中男、?生的網?遊戲使用時間與使用動機、自我效能、人格特質、學業成就、人際關係之相關研究, 國?屏東師範學院教育科技研究所之碩士?文。謝旭洲(1997), 暴力卡通影片與國小兒童侵略行為的研究, 廣播與電視, 3(1), 71-94。簡惠瑩(2003), 攻擊動作類型網路遊戲對青少年價值觀形成與影響之研究, 國立彰化師範大學輔導與諮商學研究所之碩士論文。蘇芬媛(1996), 網路虛擬社區的形成:MUD之初探性研究, 第一屆網路虛擬社區研討會(pp.23-34)。二、英文部分Aboujaoude, E., Koran, L. M., Gamel, N., Large, M. D., Serpe, R. T. (2006). Potential markers for problematic Internet use: A telephone survey of 2,513 adults. *CNS Specter*, 11(10), 750-755.Allison, S. E., von Wahlde, L., Shockley, T., & Gabbard, G. O. (2006). The development of the self in the era of the Internet and role-playing fantasy games. *American Journal Psychiatry*, 163(3), 381-385.Anderson, C. A. (2004). An update on the effects of playing violent video games. *Journal of Adolescence*, 27, 113-122.Anderson, C. A., Gentile, D. A., & Buckley, K. E. (2007). *Violent video game effects on children and adolescents. Theory, research, and public policy*. New York: Oxford University Press.Bandura, A. (1986). *Social foundations of thought and action: A social cognition theory*. Englewood Cliffs, New Jersey: Prentice Hall.Bandura, A. (2001). *Social cognitive theory of mass communication*. *Media Psychology*, 3, 265-299.Baron, R. A., & Richardson, D. R. (1994). *Human Aggression*. New York: Plenum Press.Baumeister, R. F. (2003). Ego depletion and self-regulation failure: A resource model of self-control. *Alcoholic Clinic Expect Respect*, 27, 281-284.Berkowitz, L. (1989). Frustration-aggression hypothesis: Examination and reformulation. *Psychological Bulletin*, 14, 59 – 73.Berkowitz, L. (1993). *Aggression-Its causes, consequences, and control*. Philadelphia: Temple University Press.Browne, K. D., & Hamilton-Giachritsis, C. (2005). The influence of violent media on children and adolescents: A public-health approach. *Lancet*, 365, 702-710.Bryce, J., & Rutter, J. (2001). In the game – in the flow: Presence in public computer gaming. [Online]. Available: http://les1.man.ac.uk/cric/Jason_Rutter/presence.htm.

[2006, April 3]. Buckley, K. E., & Anderson, C. A. (2006). A theoretical model of the effects and consequences of playing video games. In P. Vorderer, & J. Bryant (Eds.), *Playing video games* (pp. 363-378). Mahwah, New Jersey: Erlbaum.

Burks, V. S., Laird, R. D., Dodge, K. A., Pettit, G. S., & Bates, J. E. (1999). Knowledge structures, social information processing, and children's aggressive behavior. *Social Development*, 8(2), 220-236.

Bushman, B. J., & Anderson, C. A. (2002). Violent video games and hostile expectations: A test of the General Aggression Model. *Personality and Social Psychology Bulletin*, 28, 1679 – 1686.

Buss, A. H. (1961). *The Psychology of aggression*. New York: Wiley.

Buss, A. H., & Perry, M. (1992). The aggression questionnaire. *Journal of Personality and Social Psychology*, 63, 452 – 459.

Bystrom, K. E., Barfield, W., & Hendrix, C. (1999). A conceptual model of the sense of presence in virtual environments. *Presence: Teleoperators and Virtual Environments*, 8, 241-244.

Cao, F., Su, L., Liu, T., & Gao, X. (2007). The relationship between impulsivity and Internet addiction in a sample of Chinese adolescents. *European Psychiatry*, 22, 466-471.

Cesarone, B. (1998). Video games: Research, ratings, recommendations. ERIC DIGEST.EDO-PS-98-11.

Chak K., & Leung L. (2004). Shyness and locus of control as predictors of Internet addiction and Internet use. *Cyberpsychology Behavior*, 7, 559-570.

Chen, E., Langer, D. A., Raphaelson, Y. E., & Matthews, K. A. (2004). Socioeconomic status and health in adolescents: The role of stress interpretations. *Child Development*, 75(4), 1039-1052.

Colwell, J. (2007). Needs met through computer game play among adolescents. *Personality and Individual Differences*, 43, 2072-2082.

Colwell, J., & Payne, J. (2000). Negative correlates of computer game play in adolescents. *British Journal of Psychology*, 91(3), 295-311.

Csikszentmihalyi, M. (1975). *Beyond boredom and anxiety: Experiencing flow in work and play*. San Francisco: Jossey-Bass.

Csikszentmihalyi, M. (1988). The flow experience and its significance for human psychology. In M. Csikszentmihalyi & I. Csikszentmihalyi (Eds.), *Optimal experience: Psychological studies of flow in consciousness* (pp. 15-35). Cambridge: Cambridge University Press.

Dominick, J. R. (1984). Video games, television violence, and aggression in teenagers. *Journal of Communication*, 34, 136-147.

Draper, J. V., Kaber, D. B., & Usher, J. M. (1998). Telepresence. *Human Factors*, 40(3), 354-375.

Engeser, S., Rheinberg, F., Vollmeyer, R., & Bischoff, J. (2005). Motivation, Flow-Erleben und Lernleistung im universitären Lernsettings [Motivation, experiences of flow, and learning performances within a university learning setting]. *Zeitschrift für Pädagogische Psychologie*, 19, 159-172.

Feshbach, S., & Singer, R. D. (1971). Television and aggression: An experimental field study. San Francisco, Communication Association: Jossey-Bass.

Fontaine, G. (1993). The experience of a sense of presence in intercultural and international encounters. *Presence: Teleoperators and Virtual Environments*, 1(4), 1-9.

Freeman, C. B. (2008). Internet gaming addiction. *The Journal for Nurse Practitioners*, 10, 42-47.

Gackenbach, J. (1998). *Psychology and Internet*. San Diego: Academic Press.

Gentile, D. A., & Stone, W. (2005). Violent video game effects on children and adolescents. A review of the literature. *Minerva Pediatrics*, 57, 337-358.

Gentile, D. A., Lynch, P. J., Linder, J. R., & Walsh, D. A. (2004). The effects of violent video game habits on adolescent hostility, aggressive behaviors, and school performance. *Journal of Adolescence*, 27, 5-22.

Ghani, J. A., & Deshpande, S. P. (1994). Task characteristics and the experience of optimal flow in human computer interaction. *Journal of Psychology: Interdisciplinary and Applied*, 128(4), 381-391.

Griffiths, M. (1998). Internet addiction: Does it really exist? In J. Gackenbach (Ed.), *Psychology and the Internet: Interpersonal, interpersonal and transpersonal implications*. New York: Academic Press.

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

Griffiths, M. D. (2000). Video game violence and aggression: Comments on 'Video game playing and its relations with aggressive and prosocial behavior'. *Behavior Journal Social Psychology*, 39, 147-149.

Griffiths, M. D., Davies, M. N., & Chappell, D. (2003). Online computer gaming: A comparison of adolescent and adult gamers. *Journal of Adolescence*, 27, 87-96.

Griffiths, M., & Hunt, N. (1995). Computer game playing in adolescence. Prevalence and demographic indicators. *Journal of Community and Applied Social Psychology*, 5, 189-193.

Guadagno, R. E., Blascovich, J., Bailenson, J. N., & McCall, C. (2007). Virtual humans and persuasion: The effects of agency and behavioral realism. *Media Psychology*, 10, 1-22.

Heeter, C. (1992). Being there: The subjective experience of presence. *Presence: Teleoperators and Virtual Environments*, 1, 262-271.

Hoeksma, J. B., Oosterlam, J., & Schipper, E. M. (2004). Emotion regulation and the dynamics of feelings: A conceptual and methodological framework. *Child Development*, 75(2), 354-360.

Hoffman, D. L., & Novak, T. P. (1996). Marketing in hypermedia computer-mediated environments: Conceptual foundations. *Journal of Marketing*, 60, 50-68.

Ijsselstein, W. A., Freeman, J., & de Ridder, H. (2001). Presence: Where are we? *Cyberpsychology and Behavior*, 4(2), 179-182.

Keiko Nakano (2001). *Behavior Research and Therapy*, 39, 853 – 858.

Kestenbaum, G. I., & Weinstein, L. (1985). Personality, psychopathology, and developmental issues in male adolescent game use. *Journal of the American Academy of Child Psychiatry*, 24(3), 329-337.

Kim, Namkoong, Ku, & Kim (2008). The relationship between online game addiction and aggression, self-control and narcissistic personality traits. *European Psychiatry*, 23, 212-218.

Kim, T., & Biocca, F. (1997). Telepresence via television: Two dimensions of telepresence may have different connections to memory and persuasion. *Journal of Computer Mediated-Communication*, 3(2). Retrieved May 5, 2006, from: <http://jcmc.indiana.edu/vol3/issue2/kim.html>.

Kirsch, S. J. (2003). The effects of violent video games on adolescents. The overlooked influence of development. *Aggression and Violent Behavior*, 8, 377-389.

Kleber, H., & Galanter, M. (2001). Substance related disorders. In: Gabbard GO, (Eds.), *Treatment of Psychiatric Disorders*. Washington, DC: American Psychiatric Press, Inc.

Klimmt, C. (2001). Computer-Spiel: Interaktive Unterhaltungsangebote- als Synthese aus Medium und Spielzeug [Computer game: Interactive entertainment offerings as a synthesis of media and plaything]. *Zeitschrift für Medienpsychologie*, 13(1), 22-32.

Ko, C. H., Yen, J. Y., Yen, C. F., Lin, H. C., & Yang, M. J. (2007). Factors predictive for incidence and remission of Internet addiction in young adolescents: A prospective study. *Cyberpsychology Behavior*, 10, 545-551.

Lavin, M. J., Yuen, C. N., Weinman, M., & Kozak, K. (2004). Internet dependence in the collegiate population: The role of shyness. *Cyberpsychology Behavior*, 7, 379-383.

Lenhart, A., Madden, M., & Hitlin, P. (2005). Teens and technology: You are leading the transition to a fully wired and mobile nation. Pew Internet and American Life Project [Online]. Available: http://www.pewInternet.org/pdfs/PIP_Teens_Tech_Judy2005web.pdf [2006, August 8].

Lombard, M., & Ditton, T. (1997). At the heart of it all:

The concept of presence. *Journal of Computer-Mediated Communication*, 3(2) [Online]. Available: <http://jcmc.indiana.edu/vol3/issue2/lombard.html> [2006, February 22].

Lucas, K., & Sherry, J. L. (2004). Sex differences in video game play: A communication-based explanation. *Communication Research*, 31(5), 499-523.

Mandryk, R. L., Inkpen, K. M., & Calvert, T. W. (2006). Using psychophysiological techniques to measure user experience with entertainment technologies. *Behavior and Information Technology*, 25(2), 141-158.

McClure, R. (1985). Age and computer game playing. *Perceptual and Motor Skills*, 61(1), 285-286.

McKenna, K. Y., & Bargh, J. A. (1999). Causes and consequences of social interaction on the Internet: A conceptual framework. *Media Psychology*, 1(3), 249-269.

Minsky, M. (1980). Telepresence. *Omnibus*, 2(9), 45-51.

Mitchell, P. (2000). Internet addiction: Genuine diagnosis or not? *Lancet*, 355(9204), 632.

Mulligan, J. & Patrovsky, B. (2003). Developing online games: An insider's guide. *New Riders*.

Ng, B., & Wiemer-Hastings, P. (2005). Addiction to the Internet and online gaming. *CyberPsychology and Behavior*, 8(2), 110 – 113.

Nicovich, S. G., Boller, G. W., & Cornwell, T. B. (2005). Experienced presence within computer-mediated communications: Initial explorations on the effects of gender with respect to empathy and immersion. *Journal of Computer-Mediated Communication*, 10(2)[Online]. Available: <http://jcmc.indiana.edu/vol10/issue2/nicovich.html> [2006, August 2].

Novak, T. P., Hoffman, D. L., & Yung, Y. -F. (2000). Measuring the customer experience in online environments: A structural modeling approach. *Marketing Science*, 19(1), 22-42.

Oh, W. O. (2003). Factors influencing Internet addiction tendency among middle school students in Gyeong-buk area. *Taehan Kanho Hakhoe Chi*, 33, 1135-1144.

Olson, C. K., Kutner, L. A., Warner, D. E., Almerigi, J. B., Baer, L. Nicholi, A. M., & Beresin, E. V. (2007). Factors correlated with violent video game use by adolescent boys and girls. *Journal of Adolescent Health*, 41, 77-83.

Peets, K., & Kikas, E. (2006). Aggressive strategies and victimization during adolescence: Grade and gender differences, and cross-informant agreement. *Aggressive Behavior*, 32, 68-79.

Proctor, L. J. (2006). Children growing up in a violent community: The role of the family. *Aggression and Violent Behavior*, 11, 558-576.

Ravaja, N., Saari, T., Turpeinen, M., Laarni, J., Salminen, M., & Kivikangas, M. (2006). Spatial presence and emotions during video game playing: Does it matter with whom you play? *Presence: Teleoperators and Virtual Environments*, 15(4), 381-392.

Reynolds, M., & Andreu, J. M. (1999). From aggression to nuclear war. *Aggressive Behavior*, 25, 309 – 310.

Rheinberg, F., & Vollmeyer, R. (2003). Flow-Erleben in einem Computerspiel unter experimentell variierten Bedingungen [Flow experience in a computer game under experimentally manipulated conditions]. *Zeitschrift für Psychologie*, 211(4), 161-170.

Rutter, M., Giller, H., & Hagell, A. (1998). *Antisocial behavior by young people*. Cambridge: Cambridge University Press.

Sadock, B., & Sadock, V. (2002). *Kaplan & Sadock ' s Synopsis of Psychiatry: Behavioral Sciences/Clinical Psychiatry*. (9th ed.), New York: Lippincott, Williams & Wilkins.

Sadowski, W., & Stanney, K. M. (2002). Presence in virtual environments. In K. M. Stanney (Ed.), *Handbook of virtual environments – Design, implementation, and applications* (pp. 791 – 806). Mahwah: Erlbaum.

Schneider, E. F., Lang, A., Shin, M., & Bradley, S. D. (2004). Death with a story. How story impacts emotional, motivational, and physiological responses to first-person shooter video games. *Human Communication Research*, 27, 409-431.

Selnow, G. W. (1984). Playing computer games: The electronic friend. *Journal of Communication*, 34, 148-156.

Sheridan, T. B. (1992). Musing on telepresence and virtual presence. *Presence*, 1, 120-126.

Sherry, J. (2001). The effect of violent video games on aggression: A meta-analysis. *Human Communication Research*, 27, 409-431.

Sherry, J. L. (2004). Flow and media enjoyment. *Communication Theory*, 14(4), 328-347.

Sherry, J. L., Lucas, K., Greenberg, B. S., & Lachlan, K. (2006). Video game uses and gratifications as predictors of use and game preference. In P. Vorderer & J. Bryant (Eds.), *Playing computer games: Motives, responses, and consequences* (pp. 213-224). Mahwah: Erlbaum.

Silvern, S. B., & Williamson, P. A. (1987). The effects of video game play on young children ' s aggression, fantasy, and prosocial behavior. *Journal of Applied Developmental Psychology*, 8, 453-462.

Slater, M., & Wilbur, S. (1997). A framework for immersive virtual environments (FIVE): Speculations on the role of presence in virtual environments. *Teleoperators and Virtual Environments*, 6, 603-616.

Smetana, J. G., Campione-Barr, N., & Metzger, A. (2006). Adolescent development in interpersonal and societal contexts. *Annual Review of Psychology*, 57, 255-284.

Smith, S. L., Lachlan, K., & Tamborini, R. (2003). Popular video games: Quantifying the presentation of violence and its context. *Journal of Broadcasting & Electronic Media*, 47, 58-76.

Song, I., LaRose, R., Eastin, M. S., & Lin, C. (2004). Internet gratification and Internet addiction: On the uses and abuses of new media. *Cyber Psychology & Behavior*, 7, 385-395.

Steinberg, L., & Morris, A. S. (2001). Adolescent development. *Annual Review of Psychology*, 52, 83-110.

Steuer, J. (1992). Defining virtual reality: Dimensions determining telepresence. *Journal of Communication*, 42, 72-92.

Tamborini, R. (2000). The experience of telepresence in violent games. Paper presented at the annual conference of the National Communication Association, Seattle, WA.

Tamborini, R., & Skalski, P. (2006). The role of presence in the experience of electronic games. In P. Vorderer & J. Bryant (Eds.), *Playing computer games: Motives, responses, and consequences* (pp. 225-240). Mahwah: Erlbaum.

Van Dam, A., Forsberg, A. S., Laidlaw, D. H., LaViola, J. J., & Simpson, R. M. (2000). Immersive VR for scientific visualization: A progress report. *Computer Graphics and Applications*, 20, 26 – 52.

Vandewater, E. A., Lee, H. J., & Shim, M. S. (2005). Family conflict and violent electronic media use in school-aged children. *Media Psychology*, 7, 73-86.

Vastag, B. (2004). Does video game violence show aggression? Studies probe effects of virtual violence on children. *JAMA*, 291, 1822-1824.

Villani, S. (1999). Violence in the media. *J Am Acad Child Adolesc Psychiatry*, 38, 1208.

Virtual environments – Design, implementation, and applications (pp. 791-806). Mahwah: Erlbaum.

Voiskounsky, A. E., Mitina, O. V., & Avetisova, A. A. (2004). Playing online games: Flow experience. *Psychology Journal*, 2(3), 259-281.

Vorderer, P., Hartmann, T., & Klimmt, C. (2006). Explaining the enjoyment of playing video games: The role of competition. In D. Marinelli (Ed.), *ICEC conference proceedings 2003: Essays on the future of interactive entertainment* (pp. 107-120). Pittsburgh: Carnegie Mellon University Press.

Wallenius, M., & Punam?ki, R. -L. (2008). Digital game violence and direct aggression in adolescence: A longitudinal study of the roles of sex, age, and parent – child communication. *Journal of Applied Developmental Psychology*, 29(4), 286-294.

Wallenius, M., Punam?ki, R. L., & Rimpel?, A. (2007). Digital game playing and direct and indirect aggression in early adolescence: The

roles of age, social intelligence, and parent – child communication. *Journal of Youth and Adolescence*, 36(3), 325-336. Wallenius, M., Rimpel, A., Punamaki, R. L., & Lintonen, T. (in press). Digital game playing motives among adolescents. Relations to school performance, family communication, sleeping patterns, and perceived health. *Journal of Applied Developmental Psychology*. Wan, C. S., & Chiou, W. B. (2006). Why are adolescents addicted to online gaming? An interview study in Taiwan. *Cyberpsychology Behavior*, 9, 762-766. Weber, R., Ritterfeld, U., & Mathiak, K. (2006). Does playing violent video games induce aggression? Empirical evidence of a functional magnetic resonance imaging study. *Media Psychology*, 8(1), 39-60. Webster, J., Trevino, L. K., & Ryan, L. (2003). The dimensionality and correlates of flow in human – computer interaction. *Computers in Human Behavior*, 9, 411-426. Weibel, D., Wissmath, B., Habegger, S., Steiner Y., & Groner, R. (2007). Playing online games against computer- vs. human- controlled opponents: Effects on presence, flow, and enjoyment. *Computers in Human Behavior*, 9, 112-123. Whang, L. S., & Chang, G. (2004). Lifestyles of virtual world residents: Living in the on-line game ‘ ‘ lineage ’ ’ . *Cyberpsychology Behavior*, 7, 592-600. Whang, L. S., Lee, S., & Chang, G. (2003). Internet over-users ’ psychological profiles: A behavior sampling analysis on Internet addiction. *Cyberpsychology Behavior*, 6, 143-150. Wieland, D. M. (2005). Computer addiction: implications for nursing psychotherapy practice. *Perspect Psychiatry Care*, 41(3), 153-161. Wikipedia, (2007). The free encyclopedia. Wikimedia Foundation [Online]. Available: http://en.wikipedia.org/wiki/Talk:Massively_multiplayer_online_roleplaying_game/Archive_4. [2007, August 9]. Witmer, B. G., & Singer, M. J. (1998). Measuring presence in virtual environments: A presence questionnaire. *Presence: Teleoperators and Virtual Environments*, 7, 225-240. Wood, R. T. A., Gupta, R., Derevensky, J. L., & Griffiths, M. (2004). Video game playing and gambling in adolescents: Common risk factors. *Journal of Child and Adolescent Abuse*, 14(1), 77-100. Yee, N. (2002). Ariadne: understanding MMORPG addiction. [Online]. Available: <http://www.nickyee.com/hub/addiction/home.html> [2007, March 30]. Yee, N. (2006). The demographics, motivations and derived experiences of users of massively-multiuser online graphical environments. *Presence: Teleoperators and Virtual Environments*, 15, 309-329. Young, K. (1998). Internet addiction: the emergence of a new clinical disorder. *Cyberpsychology & Behavior*, 1(3), 237-244. Young, K. (1999). *Caught in the Net: How to recognize the sign of Internet Addiction and a winning strategy for recovery*. NY: John Wiley & Sons, Inc. Young, K. S. (2004). Internet addiction: A new clinical phenomenon and its consequences. *American Behavior Society*, 48(4), 402-415. Zillman, D. (1988). Mood management through communication choices. *American Behavioral Scientist*, 31, 327-340.