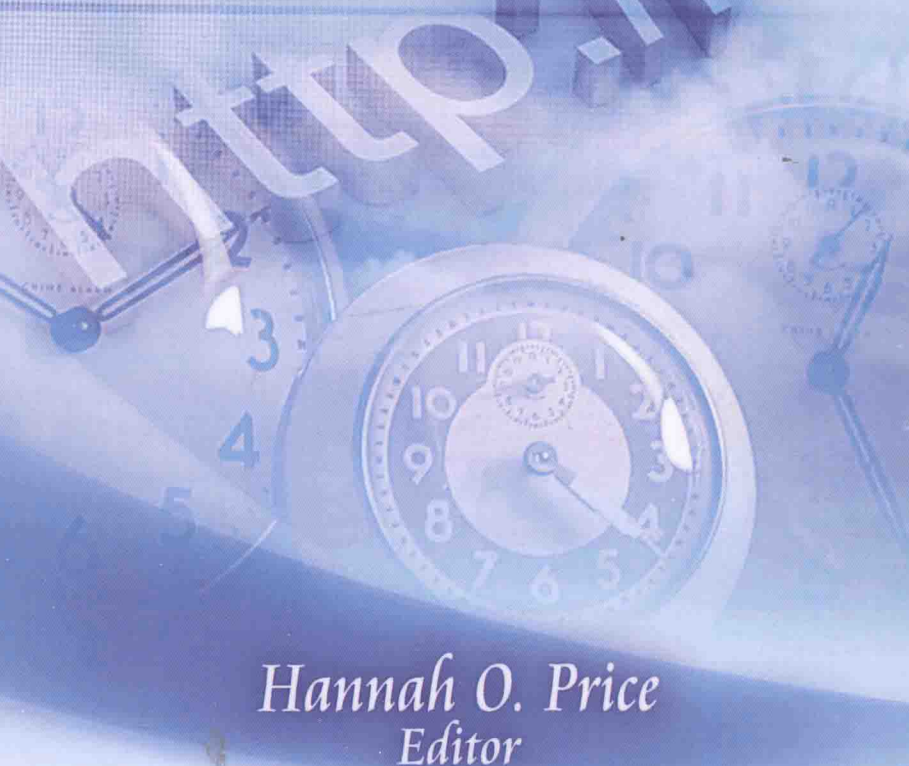


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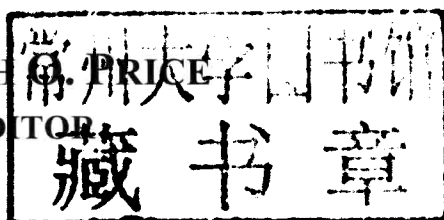
INTERNET ADDICTION

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PSYCHOLOGY OF EMOTIONS, MOTIVATIONS AND ACTIONS

INTERNET ADDICTION

HANNAH G. PRICE
EDITOR



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INTERNET ADDICTION

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PREFACE

Since the Internet's early widespread use in the mid-1990s, Internet addiction has been identified as a legitimate psychological disorder with significant implications for an individual's cognitive, emotional, and social development. This book presents current research from across the globe in the study of Internet Addiction, including Internet Addiction in adolescence and emerging adulthood; on-line pathological gambling; the Internet and its negative impact on adolescents' sexuality; and the mal-treatment of internet addicts in China.

Chapter 1 - Since the Internet's early widespread use in the mid-1990s, Internet addiction has been identified as a legitimate psychological disorder with significant implications for an individual's cognitive, emotional, and social development (Beard and Wolf, 2001; Greenfield, 1999; Modayil, Thompson, Varnhagen, and Wilson, 2003; Suller, 1999; Young, 2004 and 2006). Extensive literature has accumulated on Internet addition in adolescence and emerging adulthood in the United States and in China (e.g., Chou and Hsiao, 2000; Fortson, Scotti, Chen, Malone, and Del Ben, 2007; Hall and Parsons, 2001; Kandell, 1998; Kubey, Lavin and Barrows, 2001; Li, Wang and Wang, 2009; Lin, Ko and Wu, 2008; Niemz, Griffiths and Banyard, 2005; Wang, 2001; Yang and Zhou, 2005; Zhang, Amos, and McDowell, 2008). Thus, it is important to review these studies and compare Internet addiction among adolescents and college students between the United States and China in an effort to understand the patterns of Internet use in both countries.

Chapter 2 - A plethora of measurement instruments for problematic Internet use (PIU) has been developed. The authors examine their varying factor structures, the factor analytic techniques used to develop these

measures, and their implications for factorial validity. They also discuss issues related to how the PIU construct is defined, particularly the lack of definitional independence between the phenomenon and its consequences. The chapter concludes with a summary of the factorial analytic and definitional issues discussed.

Chapter 3 - On-line pathological gambling corresponds to the addictive use of money games on the Internet. It represents a new form of Internet addiction. There is no consensual definition for on-line pathological gambling but pathological gambling in "real life" has one. American Psychiatric Association considers pathological gambling disorder as an Impulse control disorder (American Psychiatric Association, 1994). This behavior is a compulsive and uncontrolled behavior that aims to meet a desire and produces pleasure. The behavior is continued despite the fact that leads to difficulties, and it penetrates deeply into the social life of the patient. On-line pathological gambling thus represents a modern and frequent form of pathological gambling. Online pathological gambling is a new form of addiction. The past decade has witnessed an increased expansion in the types of available gambling activities and their accessibility. Participation in Internet gambling is growing to. For many gamblers, Internet gambling may be an attractive new activity.

Chapter 4 - Aim: to bring to light potential interactions between the use of the Internet, in particular for sexual purposes, and sexual issues during adolescence, whether these be general (psychosomatic, personality, communicational) or specific (sexual orientation, sexual identity, couple). Method: confronting our clinical experience with information found in MEDLINE, PSYCARTICLE, PSYCINFO literature. Results: if numerous studies have been conducted on the Internet's impact on certain aspects of young people's sexuality (misogyny, traumatism, transsexualities,...) none have systemised their approach in function of the psychosexual developmental issues. By rereading and reclassifying these studies concerning their area of impact, if we fear possible consequences on various issues, nothing can allow us today to establish that these are inevitably negative. The most obvious example is when we compare young people's sexuality between those that are looking for sexual partners via the Internet and those that do not, the only differences found are virtual. On the other hand, with regards to young people with an already pre-existing developmental problem, the Internet seems to act as a catalyst aggravating the specific problem. In conclusion: at this moment in time, and considering the small number of studies that have actually been conducted with extremely varying methodologies, nothing allows for the

generalisation that the Internet has a negative impact on adolescents' and young adults' sexuality.

Chapter 5 - Although psychology and psychiatry experts around the world continue to debate the nature and definition of internet addiction (IA), there have been widespread efforts to treat youths exhibiting pathological cyber use in China. It is estimated that more than 300 treatment centres have been established throughout China and that they have accumulated a gross income in excess of US\$100 million since the mid-2000s. Non-evidence-based therapies, using unscientific and inhumane approaches are, however, pervasive such as the misuse of psychotropic medication, solitary confinement, excessive physical punishment, and involuntary electroconvulsive therapy. The rapid and uncontrolled expansion of IA treatment industry in China is attributable to the country's unique political and socio-economic environment, giving rise to the urgent need to standardize the definition of internet addiction for contemporary public health workers and to develop evidence-based treatments.

Chapter 6 - Internet is one of the major inventions of 20th century. For most users, Internet is at the same time a way of communication, a convivial and powerful workspace and a recreational activity. Internet therefore became essential to the daily lives of more than one billion people [1]. In 1982, the word Internet made its appearance and the web became accessible to the public in the 90's. Its almost unlimited possibilities, in the field of the communication and the diffusion of knowledge, make it a very popular tool. Internet quickly rapidly became essential in the professional sphere as a powerful tool of transferring and sharing data and in the privacy of homes as an essential need to open up to the world and knowledge. A majority of specialists estimates that between 6% and 8% of Internet users would be dependent. Nevertheless, as the phenomenon is still too recent, the national and world prevalence of cyber addiction still seems difficult to quantify [2].

Chapter 7 - The creation of the Internet has had several positive and negative results on the world. Additionally, certain aspects of the Internet make it a unique medium of communication with its own set of norms, standards, language, etc. These various factors have influenced children and adolescents. Problematic Internet use, which has become known as Internet addiction, is not limited by demographic elements. However, there may be certain factors about this medium that could make children and adolescents vulnerable to using the Internet in a dysfunctional way. These factors are examined.

Additionally, special considerations and treatment options are reviewed for mental health professionals who treat children and adolescents for their problematic Internet use. Future research on particular aspects of problematic Internet use with children and adolescents is suggested.

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Chapter 1

**INTERNET ADDICTION IN ADOLESCENCE
AND EMERGING ADULthood:
A COMPARISON BETWEEN THE UNITED
STATES AND CHINA**

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INTRODUCTION

Since the Internet's early widespread use in the mid-1990s, Internet addiction has been identified as a legitimate psychological disorder with significant implications for an individual's cognitive, emotional, and social development (Beard and Wolf, 2001; Greenfield, 1999; Modayil, Thompson, Varnhagen, and Wilson, 2003; Suller, 1999; Young, 2004 and 2006). Extensive literature has accumulated on Internet addition in adolescence and emerging adulthood in the United States and in China (e.g., Chou and Hsiao, 2000; Fortson, Scotti, Chen, Malone, and Del Ben, 2007; Hall and Parsons, 2001; Kandell, 1998; Kubey, Lavin and Barrows, 2001; Li, Wang and Wang, 2009; Lin, Ko and Wu, 2008; Niemz, Griffiths and Banyard, 2005; Wang, 2001; Yang and Zhou, 2005; Zhang, Amos, and McDowell, 2008). Thus, it is important to review these studies and compare Internet addiction among

adolescents and college students between the United States and China in an effort to understand the patterns of Internet use in both countries.

Theoretical and practical significance exists in reviewing the literature on Internet addiction in adolescence and emerging adulthood in the United States and in China. The United States was among the earliest populations to use the Internet, and has encountered Internet addiction since the 1990s (Grohol, 1999; Young, 1998). China has the largest population to use the Internet, and has encountered Internet addiction since the 2000s (Cao and Su, 2006; Chou, 2001; Ko, Yen and Chen, 2009; Li and Chung, 2006). Internet addiction studies in China encompass the mainland, Hong Kong, and Taiwan. Comparing similarities and differences in the prevalence, severity, and social-cultural context of Internet addiction between the two countries provides some unique insights into the investigation and potential treatment of Internet addiction across cultures. It also suggests the need to compare the impact on educational achievement that such addiction has on learners in both countries. In addition, both adolescence and emerging adulthood between the late teens and early twenties (Arnett, 2000) are characterized by a high degree of dynamic life changes. It therefore becomes important to understand the impact and implications of Internet addiction both on adolescents and on those leaving adolescence but not yet fully integrated into adulthood.

This chapter reviews major existing studies of Internet addiction among students in adolescence and emerging adulthood in the United States and in China. It begins by outlining the significance of such a literature review. The main body of the chapter (1) compares the various definitions of Internet addiction among adolescents and emerging adults in both countries; (2) compares the similarities and differences between the prevalence of Internet addiction in both countries; and (3) compares specific addictive behaviors and connects them to the Internet in a socio-cultural context of understanding such addictions. It concludes with a call to further study the effects that Internet addiction has on academic achievement in both countries as a logical and necessary expansion of the current literature.

INTERNET ADDICTION IN THE UNITED STATES AND CHINA

Internet addiction does not have an exact or precise definition between both countries, and is explained and categorized in various ways, along with multiple measures for its diagnosis and treatment. These definitions and measures result from the many new paths that the Internet has forged

specifically for social and professional interaction, and generally for human development. In addition to a large variation in defining Internet addiction, research in China also focuses on its treatment. Research in both the United States and China specifically address computer games as a major component of Internet addiction, and focus their attention on addictive behavior resulting from online gaming.

The Internet is simultaneously seen as “a new social environment....a cultural tool kit....a new object of cognition...a gigantic virtual complex network of networks....[and] a new research environment that requires the development of new methodologies” (Greenfield and Yan, 2006, pp. 392-93). As such, the root and spread of Internet addiction takes hold in many different forms and contains many different factors. Unsurprisingly, many terms are used to define or describe the collective phenomenon of Internet addiction. These terms include compulsive Internet use (Caplan, 2005); problematic (Caplan, 2002, 2003 and 2005) or pathological (Lei and Wu, 2007) Internet use, both abbreviated as PIU; pathological computer use (Young, 2009a); Internet behavior dependence (Hall and Parsons, 2001); and, most commonly and generally, Internet addiction (the term used in many of the studies cited in this chapter). Nearly all researchers agree that Internet addiction exists, even if the terms they use to define this addiction differ. One recent push (Block, 2008) is to ensure that Internet addiction is recognized in the forthcoming Diagnostic and Statistical Manual, DSM-V.

An early definition of Internet addiction appeared in the (appropriately named) Internet Addiction Test (Young, 1996). This test was developed to address six potential factors of addiction: salience, excessive use, neglecting work, feelings of heightened anticipation, diminished self-control, and neglecting one's social life. These factors were subsequently correlated to three uses of the Internet (general, personal, and professional) to determine the test's psychometric properties (Widyanto and McMurran, 2004). The proposed criteria for Internet addiction were expanded to include at least one of the following symptoms: risking personal loss, lying to others, or using the Internet for escapism (Beard and Wolf, 2001). Although further test validation was recommended, Young's Internet Addiction Test appeared to list reliable and accepted addiction factors.

Other studies or tests of Internet addiction have been conducted to define Internet addiction in countries outside of the United States and China, such as in the United Kingdom and Canada. In a cognitive-behavioral model of problematic Internet use, “the symptoms are obsessive thoughts about the Internet, diminished impulse control, inability to cease Internet usage, and

importantly, feeling that the Internet is an individual's only friend" (Davis, 2001, p. 193; see also Caplan, 2002). Davis described that such individuals, while likely "prone to maladaptive cognitions" from the start (p. 192), would likely have not seen such addictive tendencies play out if not for the existence of the Internet. The author distinguished between both specific and generalized addictions, describing how the cognitive-behavioral model separated pathological use for specific purposes, such as online gaming, compared to more general behaviors such as sending excessive e-mail communications.

On the other hand, many potential signs related to Internet addiction may have developed long before participants' serious use of the Internet (Modayil, Thompson, Varnhagen and Wilson, 2003). In other words, certain addictive tendencies were already present, and manifested themselves in excessive Internet use once the Internet became widely popular as a tool in daily life. One concern of these studies was the self-selected nature of participants: such participants did not likely represent the general population, but were heavy Internet users from the beginning (Modayil, Thompson, Varnhagen and Wilson, 2003; Widyanto and McMurren, 2004). Nevertheless, such heavy Internet users likely already had recognized disorders that manifested themselves in other areas (e.g., alcohol or drug abuse, sexual compulsion, or gambling), so their Internet addiction was one aspect of a larger problem with impulse control (Young, 1996).

The Internet was also theorized to provide some benefits for those with addictive tendencies, as it potentially created more positive social interactions in a new space. Early in the Internet addiction research, Grohol (1999) cautioned that the overuse of technologies like the Internet would, in time, be no different from overuse of other man-made tools such as televisions. "We may be simply observing a temporal-based phenomenon that is due to the unfamiliarity and newness of the technology" (p. 397). From such a perspective, Internet addiction may not be an addiction at all, but merely a symptom of normal human behavior with a new type of technology. It could be taken in perspective with other leisure activities whose overuse leads to general worry and speculation. Grohol further cautioned that the early literature consisted "mainly of exploratory surveys and case studies, which cannot establish relationships between specific behaviors and their causes" (p. 397).

In the United States, Internet addiction has been broadly defined. Suler (1999) initially proposed eight factors that clarified the degree of healthy qualities in Internet activities: "the number and types of needs being addressed by the activity....the underlying degree of deprivation....the type of Internet

activity....the effect of Internet activity on in-person level of functioning....subjective feelings of distress....conscious awareness of needs....experience and the phase of involvement....[and] the balance and integration of in-person and cyberspace living” (pp. 386-87). Suler suggested that several needs—including the need for achievement and belonging—contributed to healthy versus unhealthy qualities. The last quality identified was dubbed the “integration principle,” in which “Internet use becomes pathological when it is disassociated from in-person life. It becomes healthy when it is integrated with in-person living” – or, reality (p. 393). The degree of Internet addiction was also influenced by a person’s age and education. “Changes in the availability and nature of Internet services appear to have eliminated gender and racial gaps [among college students]. Students and homemakers, however, remain particularly susceptible to this disorder” (Hall and Parsons, 2001, p. 315). Ybarra, Alexander and Mitchell (2005) similarly concluded that “youth with major depressive symptomatology are much more likely to talk with strangers online....[and engage in] personal disclosure” (p. 17)—although gender differences reflected “magnitude of associations with depressive symptoms rather than actual types of Internet use” (p. 17). Addiction can be determined by one’s use and the content accessed online, and treated with cognitive behavior therapy (Hall and Parsons, 2001).

In addition to defining Internet addiction as a broad research area, several types of Internet addiction have also been identified. Major issues that have been researched to describe aspects of Internet addiction include Internet use and time; identifiable problems related to Internet addiction; gender differences; other psychosocial variables; and attitudes toward computers (Chou, Condon and Belland, 2005). These research areas have differing results. Overall, “only one negative impact [of heavy Internet use] can be identified: time-disruption, leading to interference with academic work, professional performance, daily routines, and so on....impacts of heavy Internet use on addicts’ social relationships are inconclusive to positive” (p. 370). Men and women use the Internet in different ways, although men more likely display addictive tendencies. Yet results on psychosocial variables and attitudes toward computers are still inconclusive.

Further research into types of Internet addiction was conducted by Young (2009a), who proposed that pathological computer use consisted of any one of three behavior types: excessive gaming, online sexual preoccupations, and e-mailing or texting. Griffiths (2000) based Internet addiction on the five core components of any addiction: “salience, mood modification, tolerance, withdrawal, conflict and relapse” (p. 211). Based on these competencies, only

two of five studied people were considered to have Internet addiction, and these were male teenagers. Others displayed symptoms akin to Internet addiction, but it was hypothesized that excessive Internet use in these individuals addressed deficiencies in other areas, such as lack of friendships. In adolescents, one of the significant predictors of Internet addiction was attention deficit hyperactivity disorder (ADHD), which should be detected early for maximum prevention (Ko, Yen, Chen, 2009). Song, LaRose, Eastin and Lin (2004) dubbed Internet addiction as a new type of gratification, with several factors (such as seeking information, maintaining relationships, and forming a virtual community) being among the gratifications addressed through such addiction by United States college students. In another study, LaRose and Eastin (2004) surveyed general adults in the United States and determined “that media exposure may be predicted from media gratifications....[and that] among newer Internet users...the correlation between expected outcomes and usage were higher than among those with more experience” (pp. 371-372).

In China, definitions of Internet addiction were followed by a focus on treatment, leading to a description of several coping strategies (Zeng, Tan and Zhang, 2006). Based on a study of Taiwanese adolescents, Ko, Yen, Yen, Lin and Yang (2007) recommended that prevention and treatment strategies focus on “high exploratory excitability and low reward dependence...low self-esteem, low family function, and online gaming” as significant risk factors for Internet addiction (p. 550). Middle level students displayed addiction tendencies associated with the family’s level of achievement, control, and organization (Li, 2007). In short, structured family environments with high and tightly controlled expectations were seen as possible causes for addiction. On the other hand, Internet addiction was easily curtailed with proper parental monitoring of Internet activities and supervision of children’s daily activities, including the frequent encouragement of participation in non-Internet related activities (Lin, Lin and Wu, 2009). When adolescents displayed strong addictive qualities, treatment was possible. The first study of an Internet addiction treatment program for Chinese adolescents suggested that the program was likely effective. The treatment model itself focused on, among many aspects, healthy and safe Internet use, and both individual and family counseling (Shek, Tang and Lo, 2009). Treatment itself was possible since the level of Internet addiction could be significantly predicted by several cognitive factors, including “positive and negative outcome expectancy...[and] refusal self-efficacy of Internet use” (Lin, Ko and Wu, 2008, p. 453). In fact, the authors recommended a specific strategy for emerging adults: “emphasize