行政院國家科學委員會補助專題研究計畫成果報告

我國學生電腦網路沈迷現象之整合研究--子計畫一

網路沈迷現象的心理病理之初探(2/2):
臺灣大學生網路沈迷傾向的性別差異

Assessing Psychopathology of Internet Addiction Disorder (2/2): Gender Differences of Internet Addiction in Taiwan

主持人： 陳淑惠　國立台灣大學 心理學系

計畫類別：□個別型計畫　■整合型計畫

計畫編號：NSC　89-2511-S-002-010-N

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中文摘要

「網路成癮症」乃是諸多新興的網路行為問題之一。到底，網路成癮症在網路族中佔多少比例？具有何種行為特徵？其行為背後隱含何種心理病理因子？國內以心理病理模式來探討其可能之機制的研究正待開發，而篩選工具也仍付之闕如。因此，為探討上述問題，本研究計畫擬定了一個為期二年的初探性研究。第一年的計畫完成了「網路成癮量表」之編製與測驗工具特性的研究。本報告為第二年的研究成果，除了進一步修訂該量表外，也進而檢定沈迷或成癮行為與寂寞、害羞等心理因素之間的關係。本年度的研究發現，在探討網路沈迷或成癮症之心理病理模式時，性別是一不可輕忽的重要因素。研究的結果也試從性別、文化特性討論在治療、輔導等實務應用上所需考量的角度。

關鍵詞：網路成癮傾向、性別差異、寂寞、害羞、網路成癮量表修訂版

ABSTRACT

The present paper examines gender differences of Internet addiction tendency and its predictive factors among college students in Taiwan. The Chinese Internet Addiction Scale-revised (CIAS_R), UCLA Loneliness Scale, and Shyness Scale were administered in a paper and pencil manner to a random sample of students of National Taiwan University (N=1932). Results show that: 1) The CIAS_R is a better test with satisfactory factor structure and internal consistency. 2) Hierarchical regression analyses yield different patterns of predictors for each gender. 3) Different from findings in western research, loneliness conveys little predictive strength for neither male nor female college students in Taiwan. Future research concerning possible cultural and gender differences in Internet addiction is discussed accordingly.

Keywords: gender differences; Internet addiction tendency; loneliness; shyness; CIAS_R

INTRODUCTION

The Internet invention and development have not only brought forth a revolution in communication and commerce, but also changed life styles, interpersonal behaviors, and even the manifestations of psychopathology. Extant case reports and on-line surveys at least suggest of the existence of a group of users who more a matter present a set of behavioral problems of self-indulgence and lack of self-control (e.g., Goldberg, 1996; Young, 1997 & 1998). A heated debate is coiling around the issue of what it should be called. Internet Addiction Disorder (IAD), for instance, may be the most sensational and anecdotal term that was created to describe a set of Internet behaviors with self-indulgence and compulsive use. It also remains to be answered by extensive research on the constellation of symptoms that constitutes this type of addiction, an "Internet Addiction Disorder" or any similarly proposed diagnosis, and on affiliated etiological paths and correlated variables that decipher the causes and maintaining factors of such a problem.

Gender Differences in IAD

The present paper, as part of a series of studies designed to investigate the psychopathological issues about internet addiction, examines gender differences of internet addiction tendency and its predictive factors among college students in Taiwan. The speculations of gender differences of Internet addiction emerged from the followings. First, Chen (1999) in a preliminary campus-based study in Taiwan (N=1421) found that normal male college students stay longer in-net and exhibit more interpersonal, health, and time management problems. However, such gender difference pattern does not hold for high-risk group. More specifically, in comparison to high-risk males, high-risk females presented slightly more addiction symptoms and appeared slightly more interpersonal and health problems.

Secondly, as consistently reported across various countries, males outnumber females in many traditional addiction disorders such like pathological gambling and substance addiction (e.g., APA, 1994; Murray, 1993). Computer in general, and the Internet in particular, has been evaluated as relatively more male-friendly in terms of its technological design. As a result, there are more male users than females and males account for more of on-line time (Morahan-Martin, 1998). Wallace (1999) pointed out that, concerning the interaction styles and language, the Cyberspace has been so far comprised of more hostile environments for women than men, and may thus make women more uncomfortable. Consequently, on one hand, women may be more vulnerable if they stay in-net; on the other hand, they may account for less of the on-line time because they move away from such an uncomfortable cyberspace.

Lastly, as of April of 2000, the population of Internet users in Taiwan, the so-called Computer Technological Island, has been approaching 4.1 millions[1] which is about one sixth of its total population. Along with the advancement of Internet systems, the population of Internet users grows rapidly and there are much more male than female users. The numbers of addicts may be fast increasing as well. It is thus reasonable to assume that there may be more males than females at risk for Internet Addiction Disorder. Inasmuch as a newly evidenced phenomena, the available literature on gender differences in IAD is scarce. Empirical data and cases reports in the western samples simply describe the differences in statistics of the addicts, but not explain how gender differences may be hatched. Hence, further questions ask about to what extent such gender differences reveal, and are accounted.

Development and Validation of the Chinese Internet Addiction Scale

These questions have led to a series of research projects. In addressing the importance of early intervention for Internet addiction, it is necessary to design a reliable and valid screening tool to identify those who may be at higher risk for such a newly proposed psychological problem. Development of a psychometrically sound and easy-to-administer measure will be the fundamental step in the exploration of the plausible constellation of symptoms. There are several measures or Index developed mainly for English-speaking subjects and used in Internet (e.g., Egger, 1996; Brenner, 1997; Young, 1997). However, the application and validation may be questionable if those English were directly translated into Chinese. More importantly, the methodological concerns over the unnecessary variance from redundancy of anonymous subjects, especially at the stage when a conclusion of existence of a disease entity is yet to be reached, should be arisen because that many of the scales were posted in Internet to collect data from anonymous Internet users. With these caveats in mind, the first Chinese measure for Internet addiction in Taiwan, the *Chinese Internet Addiction Scale (CIAS),* was developed (Chen, 1998) and reported elsewhere (Chen & Chou, 1999).

It was hypothesized that the scale designed to measure the Internet addiction tendency should consist of items assessing the following symptom manifestations: 1) tolerance of internet addiction, 2) compulsive internet use, 3) withdrawal reactions from internet addiction, and 4) internet addiction related problems such as deprivation of family and social lives, impairment of job or academic functioning, somatic symptoms. Items of the CIAS were thus generated accordingly.

According to Chen(1999), the CIAS is an appealing and reliable test with 24 items. It has satisfactory test-retest reliability with two-week intervals (r = .83). Iterative Principal Axis Common Factor

[1] Statistics from the Institute for Information Industry, Executive Yuan, Taiwan.

Analyses yield that the CIAS composes of two subscales: Subscales of Internet Addiction-Core Symptoms (IA-Sym) and Internet Addiction-Related Problems (IA-RP). Through further factor analyses, the Subscale of IA-Sym yields two factors, i.e., tolerance symptoms and compulsive & withdrawal symptoms. The Subscale of IA-RP also yields two factors, i.e., interpersonal and health problems and time management problems.

In order to increase its validity, the author further revised CIAS with another large sample. The factor structure of the *Chinese Internet Addiction Scale-revised* (hereinafter abbreviated as CIAS_R), examination of gender differences in attitudes toward Internet use and Internet experiences among college students in Taiwan, and gender-specific predictors of Internet use such as shyness and loneliness will be addressed in more detail below.

METHOD

Subjects:

Study participants were 1946 currently enrolled students from National Taiwan University. They were volunteered for the study and data were collected through two ways: group assessment collected at a class basis in lieu of regular classes and individual assessment randomly collected data from those who walked in the Computer Center on campus. The individual assessment was scheduled day and night during a period of 5 weekdays last Fall. Once the unusable subjects were eliminated because their surveys were largely incomplete, 1853 participants (95% the original sample; about 5% of the population of the full student body on campus) made up the final sample of this study, consisting of 52% females (N=964) and 48% males (N=889).

As shown in Figure 1, of the 1853 participants retained for the study, thirty six percent were freshmen, 24% sophomore, 17% junior, 19% senior, and 4% graduate students. Figure 2 indicates that, of 1853 subjects, sixteen percent were from literature school, 18% school of Law and Social Science, 13% MBA, 14% Sciences school, 17% Engineer school, 7% Medical school, and 15% Agriculture school. All assessments were conducted in one month in the Fall of 1999.

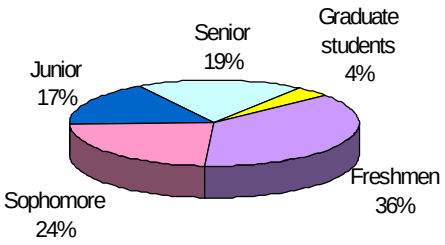


Fig. 1. The distribution of grades

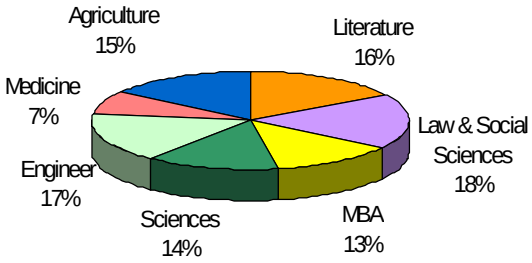


Fig. 2. The distribution of majors

Measures:

Chinese Internet Addiction Scale-revised (CIAS_R). The CIAS_R, revised from the CIAS, is a 26-item, self-report, & 4-point Likert scale (1=strongly disagree to 4=strongly agree). As mentioned earlier, the conceptual definitions of addictive symptoms borrowed from other addiction and compulsion disorders guided item generation for the original CIAS. Focus interview with a small group of college students helped to add 6 more items to the CIAS, leaving 30 items at the outset of the revision. Through Iterative Principal Axis Common Factor Analyses, four items were eliminated due to insignificant factor loading (<.30) and redundancy or vagueness in wording, and finally resulted in a better factor structure. As shown in the factor structure diagramed below, psychometric examinations indicate of satisfactory results.

UCLA Loneliness Scale. A pilot study was conducted to translate the UCLA Loneliness Scale (Russell, 1990) into Chinese and to examine its psychometric properties. The UCLA Loneliness Scale is a 20-item, self-report, and 5-point Likert scale (0=never to 4=always). The UCLA Loneliness Scale-Chinese version appeals to be a reliable measure with satisfactory internal consistency (cronbach's α =.91).

Shyness Scale. A pilot study was conducted to translate the Shyness Scale (Cheek & Buss, 1981) into Chinese and to examine its psychometric properties. The Shyness Scale is a 6-item, self-report, and 5-point Likert scale (0=strongly disagree to 4=strongly agree). Through Factor analysis, one item was removed due to insignificant factor loading (<.30) and vagueness in wording, leaving 5 item in the Chinese version used for the study. The Shyness Scale-Chinese version appeals to be a reliable measure with satisfactory internal consistency (cronbach's α =.86).

Background Information & Internet Usage Questionnaire.

The questionnaire was designed to assess: 1) basic demographics such as sex, grade, & college; 2) experiences of Internet use; and 3) attitudes toward Internet use as well as Internet addiction.

RESULTS:

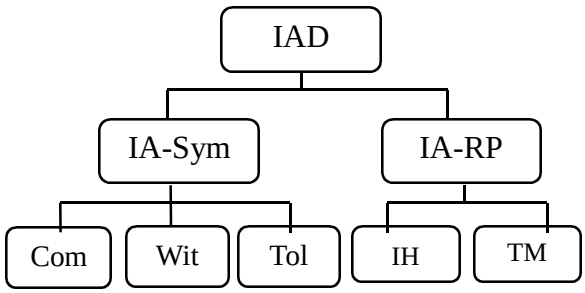
Factor analysis, correlation analysis, t-test, and stepwise regression analysis were utilized to analyze data. The results are shown as follows.

The revision and validation of the CIAS_R

In order to examine components of Internet addiction, an Iterative Principal Axis Common Factor Analysis with promax rotation was conducted on the CIAS_R. As shown in Figure 3, Iterative Principal Axis Common Factor Analyses yield two subscales for the CIAS_R: Subscales of Internet Addiction-Symptoms (IA-Sym) and Internet Addiction-Related Problems (IA-RP). Through further factor analyses, the CIAS_R resulted in a better factor structure,

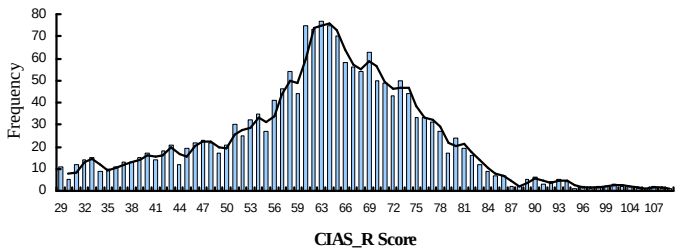
in that the Subscale of IA-Sym consists of three factors, i.e., factors of compulsive Internet use, withdrawal symptoms, and tolerance symptoms; the Subscale of IA-RP consists of two factors, i.e., factors of interpersonal and health problems and time management problems. The CIAS_R has satisfactory internal consistency Cronbach coefficients for total scale (α = .94) and each subscale (α = .78~.90). In addition, as shown in Figure 4, univariate examination indicates that total scale scores of CIAS_R as well as subscale scores of IA-Sym and IA-RP display normal distributions (W:Normal = .978, W:Normal = .976, W:Normal = .975, respectively, all *ps* < .001).

Fig. 3. The factor structure of Internet



IAD: Internet Addition Tendency
IA-Sym: Internet Addition Core Symptoms
IA-RP: Internet Addition Related Problems
Com: Compulsive symptoms
Wit: Withdrawal symptoms
Tol: Tolerance Symptoms
IH: Interpersonal & Health Problems
TM: Time Management Problems

Figure 4. Frequency Distribution of CIAS_R Scores (Internet Addiction Tendency)



Gender Difference in Internet Addiction

Gender Difference in Internet Experience and Weekly Use

Findings on correlation analyses of Internet experience and weekly use show gender differences, and indicate that, for males, the more experiences in Internet, the longer they may stay in net weekly (r = .11, p < .001); for females, no significant association was found. College students in Taiwan have 26.01 (±17.38) months of Internet experiences in average and stay 8.88 (±8.14) hours per week in net. Gender differences emerged on most of the measures administered in the study. Specifically, male college students generally have more experiences of Internet use, with 27.20 (±17.84) and 25.07(±16.90) months of experiences for males and females respectively [t(1843) = 2.67, p < .01], and stay longer on-net weekly, with average 10.79 (±9.64) and 7.21 (±6.09) hours for males and females respectively [t(1849) = 9.68, p < .001]. (see Table 1&2)

Gender Differences in Symptom Manifestation

Concerning Internet addiction symptoms, results of t-tests also resembled the findings generally reported in our previous study and others' studies. The results suggest of gender differences in total scale scores and each aspects of internet addiction symptoms. Overall, males score significantly higher on the total scale CIAS_R [t(1886) = 5.63, p < .001] and subscales of core symptoms [t(1892) = 4.18, p < .001] and related problems [t(1853) = 6.56, p < .001]. More specifically, males

display significantly stronger tendency of compulsive Internet use [$t(1844) = 4.06$, $p < .001$], withdrawal symptoms [$t(1903) = 2.97$, $p < .01$], and tolerance symptoms [$t(1891) = 4.04$, $p < .001$), as well as time management problems [$t(1838) = 7.20$, $p < .001$], and interpersonal and health problems [$t(1860) = 4.62$, $p < .001$).

Table 1. Means, standard deviations, and Correlations of Total and subscale scores of CIAS_R, weekly Internet Use, Internet experience, Shyness and Loneliness

		CIAS_R	IA-Sym	IA-RP	Exp	Weekly	Shy	Loney
Whole Sample (N=1874)	M							36.82
	S.D.	11.59	7.06	5.43	17.38	8.14	3.82	9.64
	CIAS	—						
	IA-Sym	.94***	—					
	IA-RP	.90***	.72***	—				
	Exp	-.03	-.06**	.01	—			
	Weekly	.49***	.46***	.46***	.07**	—		
	Shy	.16***	.17***	.12***	-.06**	.00		
	Lonely	.18***	.17***	.16***	-.02	.07**	.39***	—
Male Students (N=888)	M							
	S.D.	11.39	6.92	5.48	17.84	9.64	3.82	9.78
	CIAS	—						
	IA-Sym	.94***	—					
	IA-RP	.90***	.68***	—				
	Exp	-.03	-.06	-.02	—			
	Weekly	.49***	.46***	.44***	.11***	—		
	Shy	.25***	.27***	.17***	-.13***	.07*	—	
	Lonely	.25***	.25***	.20**	-.06	.07*	.40***	—
Female Students (N=986)	M							
	S.D.	11.59	7.14	5.28	16.90	6.09	3.81	9.38
	CIAS	—						
	IA-Sym	.95***	—					
	IA-RP	.91***	.74***	—				
	Exp	-.05	-.07*	-.02	—			
	Weekly	.50***	.47***	.46***	-.01	—		
	Shy	.08*	.08**	.06	.00	-.11***	—	
	Lonely	.10**	.09**	.10**	-.01	.01	.38***	—

Note. *** $p < .001$ ** $p < .01$ * $p < .05$
CIAS_R = Chinese Internet Addiction Scale-revised
IA-Sym = Symptoms of Internet Addiction Subscale
IA-RP = Related Problems of Internet Addiction Subscale
Shy = Shyness Scale;Lonely = UCLA Loneliness Scale

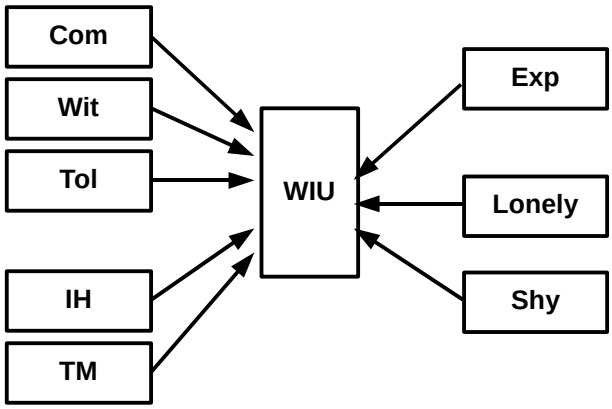
Table 2 Means and SD of Internet experience, weekly Internet use, CIAS_R, and subscale scores and t-test between males and females

Var	Male (N=888) Mean	Male (N=888) S.D.	Female (N=1038) Mean	Female (N=1038) S.D.	*t*-test
Exp	27.20	17.84	25.07	16.90	$p < .01$
Weekly	1.79	9.64	7.21	6.09	$p < .001$
CIAS-R	58.12	11.39	55.24	11.59	$p < .001$
IA-Sym	31.80	6.92	3.46	7.14	$p < .001$
Sym-C	1.20	2.83	9.69	2.69	$p < .001$
Sym-W	12.19	2.76	11.80	2.93	$p < .01$
Sym-T	9.41	2.35	8.97	2.42	$p < .001$
IA-RP	26.40	5.48	24.78	5.28	$p < .001$
RP-TM	1.75	3.12	9.75	2.94	$p < .001$
RP-IH	15.64	2.95	15.03	2.87	$p < .001$
Shyness	11.14	3.82	1.91	3.81	*n.s.*
Lonely	37.95	9.78	35.87	9.38	$p < .001$

Gender Differences in Predictor Pattern of Internet Addiction

It was hypothesized that the length of weekly Internet use would be predicted by Internet addiction symptoms, Internet experiences, and the consequences of interpersonal experiences as illustrated in Figure 5. More specifically, core symptoms and related problems of Internet addiction as well as Internet experiences, loneliness and shyness would be predictors of the lengths one stay in net weekly. To test whether these variables contributed independently to weekly in-net hours, hierarchical regression analyses were employed to examine the order and the strengths of each potential predictor separately for each gender.

Fig. 5. Proposed predictors for Weekly Internet Use (WIU)



As evidently in Table 3-4, the hierarchical regression analyses resulted in different patterns of predictors for each gender. Specifically, as can be seen in Table 3 for males, the amount of weekly Internet hours was predicted stepwise by time management problems ($\Delta R^2 = .204$, $F =$

220.44, $p < .001$), compulsive Internet use ($\Delta R^2 = .041$, $F = 46.64$, $p < .001$), Internet experiences ($\Delta R^2 = .010$, $F = 11.10$, $p < .001$), and tolerance symptoms ($\Delta R^2 = .008$, $F = 9.34$, $p < .01$). For females, however, it was accounted for stepwise by time management problems ($\Delta R^2 = .235$, $F = 301.88$, $p < .001$), compulsive Internet use ($\Delta R^2 = .028$, $F = 37.04$, $p < .001$), shyness ($\Delta R^2 = .017$, $F = 23.11$, $p < .001$), and withdrawal symptoms ($\Delta R^2 = .005$, $F = 6.82$, $p < .01$) as shown in Table 4. The total variance accounted for by the predictive models are significant for both males and females, with $R^2 = 0.262$, $F(4, 858) = 76.333$, $p < .001$ and $R^2 = 0.285$, $F(4, 980) = 97.514$, $p < .001$ for males and females, respectively.

As noted above, time management problem and compulsion symptom are the two prominent and significant predictors for weekly Internet use common to both genders. After the effects of these two variables entered the equation, Internet experiences and tolerance symptom contributed significantly to weekly use only for males, whereas shyness and withdrawal symptom contributed significantly to weekly use only for females.

Table 5. Hierarchical Regression Analyses Predicting Weekly Internet Use for Males

entry order	aR^2	ġR^2	F for a R^2	B		t
1. TM	.204	.204	220.44***	0.80	0.26	6.81***
2. Com	.041	.245	46.64***	0.70	0.21	5.09***
3. Exp.	010	.254	11.10***	0.06	0.11	3.77***
4. Tol	.008	.262	9.34**	0.49	0.12	3.06**

Table 6. Hierarchical Regression Analyses Predicting Weekly Internet Use for Females

order of entry	aR^2	ġR^2	F for a R^2	B		t
1. TM	.235	.235	301.88***	0.61	0.30	7.74***
2. Com	.028	.263	37.04***	0.41	0.18	4.18***
3. Shy	017	.280	23.11***	-0.21	-0.13	-4.85***
4. Wit	.005	.285	6.82**	0.22	0.11	2.61**

*p< .05 **p< .01 ***p< .001

Gender Differences in Attitudes toward Internet Use and Addiction

In terms of attitudes toward Internet use, sixty percent of college students considered Internet as a means for need satisfaction, 62% use Internet to forget unhapiness, and 60.4% to gether information. About forty eight percent do not consider making boy/girl friends in net as a wrong doing, and 42.8% has ever dated at least once with someone from Internet. In terms of attitudes toward Internet addiction, about fifty six percent of college students believed Internet as addictive. Fifty three considered it would be Ok to stay long in net, 90.4% unwise to give up ither activities for Internet, and 56.7 abnormal if consume too much time in net.

To further examine the gender differences in their attitudes toward Internet use and addiction, chi-square analyses were coducted. With regards to attitude toward Intrnet use, results of these analyses reveal that males outnumber females in thinking Internet as a means for need satisfaction ($¡^2 = 27.58$, $p < .001$), considering no wrong to make boy/girl friends in net ($¡^2 = 70.39$, $p < .001$), and having ever dated at least once with someone from Internet ($¡^2 = 13.06$, $p < .001$). There is no significant discrepancy between males and females in considering Internet serves the functions to forget unhapiness and to gether information. With regards to the attitude toward Intrnet addiction, results of chi-square analyses reveal that males outnumber females in believing Internet as addictive ($¡^2 = 20.37$, $p < .001$) and as abnormal if consume too

much time in net (χ^2 = 12.07, p < .001). No gender differences were found in considering that it is Ok to stay long in net and unwise to give up ither activities for Internet.

CONCLUSION:

Research in this area is just now turning to look at the psychopathological factors that might predispose high-risk people to Internet addiction disorder. A better screening tool would be an important contributor for sound research findings of this newly proposed disorder. Gender has been proposed as one of the powerful predictors. Hence, this paper is an attempt not only to better revise a Chinese screening tool to assess the Internet addiction tendency among college students in Taiwan, but also scrutinize gender differences in the predicting models based upon a more applicable and valid measure.

The CIAS_R is a better revised and reliable screening tool

Results of this study indicate that the CIAS_R is an appealing and reliable test, consisting of core symptoms (i.e., compulsive use, withdrawal symptoms, and tolerance symptoms) and related problems (i.e., time management problem and interpersonal & health problems). The constellation of symptoms of Internet addiction appears similar to those of other traditional addiction and/or compulsion disorders. It is thus worthwhile to ponder whether Internet may be a truly new disease generated in *e*-Age, or a merely new stage for those who are more vulnerable to project their psychopathology. Our findings seem more supportive for the latter. More empirical research and clinical case study based on the findings of this study and/or CIAS_R will be in need to further our understanding of the full constellation of Internet addiction.

Gender-specific predictors for time sink in Internet

Similar to the pattern of gender differences in many traditional addiction disorders, the present study found that males outnumber females in the amount of time staying on-net, core symptoms such as compulsive use, tolerance, and withdrawal and related problems such as time management, interpersonal, and health problems among college students. However, it seems intriguing to note that, time management problems and compulsive Internet use appear to be stronger predictors for the amount of on-line time for both males and females, whereas loneliness was not predictive for neither males nor females. Moreover, shyness and withdrawal symptoms appear to be predictive only for females, whereas experiences of Internet use and tolerance symptoms seem to be more predictive only for males. It arises a question as to whether males may need more information stimulation from the Internet, thus take longer to become addictive. As a result, his experiences and tolerance symptoms can be predictive for his weekly Internet use. Those shy females may lack ways to hang out, thus stay longer in-net.

While trying to deal with the discomforts caused by excessive Internet use, she may in turn stay in-net. As thus so, her shyness and tolerance symptoms can be predictive for her weekly Internet use.

Culture-specific predictor for Internet addiction: shyness in the Far East, loneliness in the West?

Different from previous findings in western samples (e.g., Kraut, Patterson, Lundmark, et al., 1998), loneliness was not predictive for neither males nor females in Taiwan. It seems intriguing to take into consideration that individualism and collectivism may be related to loneliness in Western societies and shyness in Chinese societies, respectively. Leading theorists of indigenous social and personality psychology in Taiwan, Yang (1972 & 1995) has stated that people in Taiwan have been influenced greatly by familistic collectivism and Huang (1988 & 1995) state that traditional familial, rather than individual, goals have been the measures of social success in Taiwan. Thus, Chen (1998) pointed out that, in Chinese society, "social-oriented cultural features in Taiwanese may be very likely seen as both a potential cause, as well as a buffer, of psychopathology." Such social-oriented or collectivistic attributes may be manifested in the symptoms of psychopathology.

Loneliness is defined as a state of being without company and feeling of sadness about such desolation. It implies that loneliness is a consequence, a negative rather than a positive one, of interpersonal interaction. Different from loneliness, shyness is defined as a style deposed to avoid a person or thing and hesitant in committing oneself. It implies a timid reserve to contact with others. In the individual-oriented societies, people tend to see world from self-to-world angle, they are thus more assertive to explore external world. As a result, they may be also more vulnerable to self-blame if being left alone. Differently, in the social-oriented societies, people tend to see self from world-to-self angle, they are more sensitive to the imagined social evaluation. As a result, they may be more reserve to go outwards due to the concern of social judgement. Thus and so, loneliness and shyness manifest various predictive power for Internet addiction of people from different cultures, for instance, West and East, respectively.

In conclusion, these findings suggest a possible cultural and gender differences in Internet addiction. More research in this line should be in order and the findings based on this study and future studies may shed light in our exploration of possible cultural and gender differences in Internet addiction.

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