

Ming Hong¹, Jianhong Zheng², Dmitry G. Dyakov³¹Department of Psychology of Lingnan Normal University & key Laboratory of Psychological Assessment and Rehabilitation for Exceptional Children, Zhanjiang, Guangdong, China²Guangdong Provincial Key Laboratory of Development and Education for Special Needs Children Zhanjiang, Guangdong, China³Institute of Psychology, Belarusian State Pedagogical University, Minsk, Belarus

THE MEDIATING ROLE OF SOCIAL SUPPORT AND LONELINESS ON THE RELATIONSHIP BETWEEN SELF-IDENTITY AND INTERNET ADDICTION

Introduction. Internet Addiction Disorder refers to the impairment of an individual's psychological and social functioning due to excessive or inappropriate use of the Internet (Young, 1998). Self-identity, loneliness and social support as important internal and external factors influencing Internet addiction have been the hotspots of research [1; 2].

The results of many empirical studies reveal that self-identity, social support and Internet addiction are closely related [3—5]. Self-identity, loneliness and Internet addiction are closely related. Studies have confirmed that self-identity is considerably associated with loneliness [6] and significantly predicts loneliness [7], and loneliness mediates the relationship between self-identity and Internet addiction [8]. Social support, loneliness and Internet addiction are closely related [1] and loneliness mediates or moderates the relationship between social support and Internet addiction [8].

However, existing studies have not examined the relationships and psychological mechanisms among these four variables of self-identity, social support, loneliness, and Internet addiction within a systematic framework. The

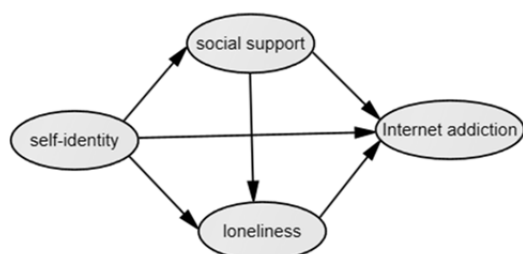


Figure 1 — Hypothesized mediation model

cognitive-behavioural model of Q. Davis [9] states that non-adaptive cognitions play the most prominent role in Internet addiction. According to existing research results and cognitive-behavioural model, it is reasonable to speculate that social support and loneliness may simultaneously mediate the effects of self-identity on Internet addiction. Is this mediating role parallel or sequential, or is it a combination of both? The results of the studies that have been conducted do not allow a definitive answer. Therefore, in order to clarify this question, the researchers conceived a theoretical model (figure 1) that includes both parallel and serial mediators, and tested it with Chinese college students as participants.

Main parts. Methods of research. A total of 364 college participants were conveniently sampled in Guangdong Province, China. The age of the participants ranged from 17 to 24 years old ($M = 20.21$, $SD = 1.51$). There were 122 male students and 242 female students, with 95 freshmen, 58 sophomores, 126 juniors, and 85 seniors.

The four scales of Self-identity Status Scale (Kato, 1983), Social Support Scale (Xiao, 1994), UCLA Loneliness Scale (Russell, 1996) and Internet Addiction Test (Young, 1998) were used in this study. SPSS 22.0, AMOS 22.0 and MPLUS 6.12 were used for statistical analysis.

Results. 3.1. Descriptive Statistics and Correlation Analysis. As shown in Table 1, there is a significant correlation between both self-identity, social support, loneliness, and Internet addiction.

Table 1 — Descriptive statistics and correlation analysis of variables such as self-identity

?	Self-identity	Social support	Loneliness	Internet addiction
Social support	0.27*	?	?	?
Loneliness	-0.41*	-0.53*	?	?
Internet addiction	-0.41*	-0.24*	0.44*	?
<i>M</i>	50.85	41.53	43.18	47.38
<i>SD</i>	6.98	6.13	8.61	12.58

Note. * $P < 0.01$.

3.2. Mediating Effect Examination (SEM). The parallel-mediated and serially mediated models were tested separately using the great likelihood method of the structural equation modelling. Judging from several criteria for a good model fit proposed by Wen et al. (2004), the serially mediated model (XLZJ) fits well and the parallel-mediated model (PXZJ) fits poorly. See Table 2 for details.

Table 2 — Fitting results of two multiple mediation models

Models	χ^2	df	χ^2/df	CFI	NNFI	GFI	RMSEA
PXZJ	136.02	30	4.53	0.83	0.80	0.93	0.10
XLZJ	83.57	31	2.70	0.96	0.95	0.96	0.06

The results of the multiple mediation effect test for each of these two models using the bootstrap method in MPLUS 6.12 software are shown in Tables 3 and 4.

Bootstrap resets the sampling number to 2,000 and calculates a 95 % bias-corrected CI, indicating a significant mediating effect if the 95 % confidence interval does not include 0. The results in Table 3 show that the mediating effect for path ① is not significant while that for path ② is significant. The overall mediating effect is 0.24, accounting for 21.20 % of the total effect (2.20). The results of the comparative mediating effect test for path ①—path ② showed that the difference in the mediating effect between the two paths was significant ($B = 0.59$, $p = 0.01$). The results in Table 4 indicate a significant serial mediating effect. The mediating effect was 0.11, accounting for 4.70 % of the total effect (2.34).

Table 3 — Bootstrap test for mediating effects of parallel mediation models

Path	Indirect effects of standardization	Average indirect effect	Bootstrapping BC 95% CI	
			lower limit	upper limit
Self-identity → Social support → Internet addiction ①	0.061	0.067	-0.065	0.187
Self-identity → Sense of loneliness → Internet addiction ②	-0.187	-0.183	-0.291	-0.083

Note. BC = Bias Correction, CI = Confidence Interval.

Table 4 — Bootstrap test for mediating effects of sequential mediation models

Path	Indirect effects of standardization	Average indirect effect	Bootstrapping BC 95% CI	
			lower limit	upper limit
Self-identity → social support → loneliness → Internet addiction	-0.111	-0.103	-0.218	-0.004

Note. BC = Bias Correction, CI = Confidence Interval.

Discussion. Social support and loneliness can sequentially mediate the relationship between self-identity and Internet addiction among college students. Some studies have confirmed that social support is negatively correlated with identity diffusion and positively correlated with identity acquisition [10]. Individuals with better developed self-identity are more able to understand and evaluate things objectively, likely to be passionate and grateful for life, and to feel supported by society and others [11]. The higher the level of social support, the lower the loneliness level [12], and the lower the risk of Internet addiction. Social support provides individuals with effective problem solving, safe environment, and a source of positive emotional experiences [13] from which they can obtain emotions, information, tools, evaluations, and companionship [14], thereby reducing their sense of loneliness. According to the Theory of Psychological Dissonance, individuals are prone to loneliness when they have dissonant interpersonal relationships, i.e., when the relationships they expect do not match the relationships they actually have [15]. The more lonely an individual is, the more likely he or she is to use the Internet as the main or even the only way to make friends and get psychosocial support, and the more likely he or she is to become addicted to the Internet. The converse is also true. Therefore, self-identity can influence college students' Internet addiction by affecting social support and loneliness.

Conclusion. Self-identity can indirectly influence Internet addiction through the mediating role of social support or/and loneliness. There are two paths of influence, which are: self-identity → loneliness → Internet addiction; and self-identity → social support → loneliness → Internet addiction. It can be seen that social support and loneliness are sequential mediators rather than parallel mediators of the effect of self-identity on Internet addiction.

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