

## Research Report

### Positive Effects of Internet Use by College Freshmen

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There is currently an increased interest in the effect of Internet use in the college student population, a group that may be particularly susceptible to problems related to online use because of the accessibility afforded them on campuses and due to their developmental stage of identity formation. The current study examined the relationship between quantity of Internet use and the common concerns of college students. An online student survey of behavior and concerns was administered to 182 college freshmen. The survey included demographic variables, ratings of satisfaction with various campus experiences, and ratings of level of concerns for 78 problems or issues that are often faced by college students. Freshman students who use the Internet for less than 10 hours per week were at least twice as likely as those who do not to report concern over feeling sad or depressed, not knowing how to study effectively, feeling lonely, juggling too many roles, and not living up to people's expectations. Results showed that male students who were online more than 10 hours per week expressed significantly less concern about their emerging role definitions and autonomy. Female students who used the Internet for more than 10 hours per week reported significantly less concern about being sad or depressed. These results support the hypothesis that Internet use in college freshmen may represent a successful coping mechanism. This finding is discussed in relation to recent research reports on both detriments and benefits of online use by college students.

**Keywords:** psychological benefits of Internet use, coping styles, social skills, social development

In a 2003 US Census Bureau survey, 97.3% of those enrolled in college reported using a computer (Day, Janus, & Davis, 2003). Internet use in college is prevalent. Time spent using e-mail and surfing online by undergraduates had increased significantly between 1996 and 2001 (Hendel & Harrold, 2004). Various types of Internet use have been linked to positive and negative effects on undergraduates. Dysphoric symptoms have been linked to some types of Internet use such as shopping, playing games, or doing research; conversely, increased time involving use of e-mail, chat room discussions, and instant messaging have been linked to a decrease in depressive symptoms (Morgan & Cotton, 2003). Wellman and Gulia (1999) suggest that online relationships may help to broaden and strengthen direct personal relationships. Meanwhile, LaRose, Eastin, and Gregg (2001) found decreased depression in college students who used the Internet to obtain social support.

Today's college students have grown up with intrinsic technological innovations that are integrated into modes of communication, education, and socialization—none of which are inevitably negative. Research on college students has shown that online proficiencies can have a positive effect on their college experience, including relation-

ships with their classmates and professors (Oblinger, 2003). However, a previous study that measured pathological Internet use by the level of disturbance in one's life as a result of use reported an association of disinhibition while online (Morahan-Martin & Schumacher, 2000). Disinhibition may play a positive role in identity formation. Pathological Internet use in the context of other adolescent behaviors may be thought of as a form of stress response experimentation.

Due to the anonymity or personal poetic license that online contact avails, the Internet has been shown to invite disinhibition (Niemi, Griffiths, & Banyard, 2005). In many situations, disinhibition is viewed negatively as a "gateway" behavior that will increase risks that young people might take. However, in terms of the development of self and its related insecurity that is part of the first year of college, this disinhibition may provide the opportunity for exploration of identity. The computer screen may offer a social arena with a safety net of space, which may be particularly helpful for adolescent males. In a study evaluating changes in coping styles during the first semester of college, college men showed an increase in the use of emotion-focused coping styles (Pritchard & Wilson, 2006) indicative of emerging self awareness.

Addiction to the Internet has frequently appeared in the literature with various measures for overuse, including one measure of 38 hours per week for nonacademic or non-employment purposes (Young & Rodgers, 1998). Excessive use of the Internet has spawned a proposal for an addiction classification (with similar criteria as for substance abuse)

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based on interruption of everyday tasks and responsibilities. While pathological Internet use has been shown to have negative academic, social, and interpersonal impacts, results also show that there is no apparent relationship between pathological online addiction and psychological problems (Oblinger, 2003). Differing from other addictions in this way, a clearer understanding of the unique characteristics of online use is warranted. Further, the study of pathological use of the Internet has excluded consideration of use at lesser levels.

College can be socially and academically challenging for students and may lead to sexual promiscuity, drug experimentation, excessive use of alcohol, and other self-destructive behaviors. Two studies have reported that people coping with changes in self-concept have been aided by information and social support available on the Internet.

Related adaptation and empowerment were shown to increase coping skills (Weinert, Cudney, & Winters, 2005; Reeves, 2000). As a means to deal with stressful situations, the Pew Charitable Trusts report that 45% of Internet users say online resources helped them to make difficult decisions or deal with major life episodes (“Society and the Internet,” 2006).

Late adolescence can present challenges of psychosocial roles and is often a transitional period for autonomy. Moving into a college environment, young adults may find that the inherent support and comfort of the routine of life to this point are left behind. An emerging identity is being built. Stress is a necessary part of this adjustment and invites experimentation with available coping techniques by young adults.

Higher concerns reported by males at different Internet use levels

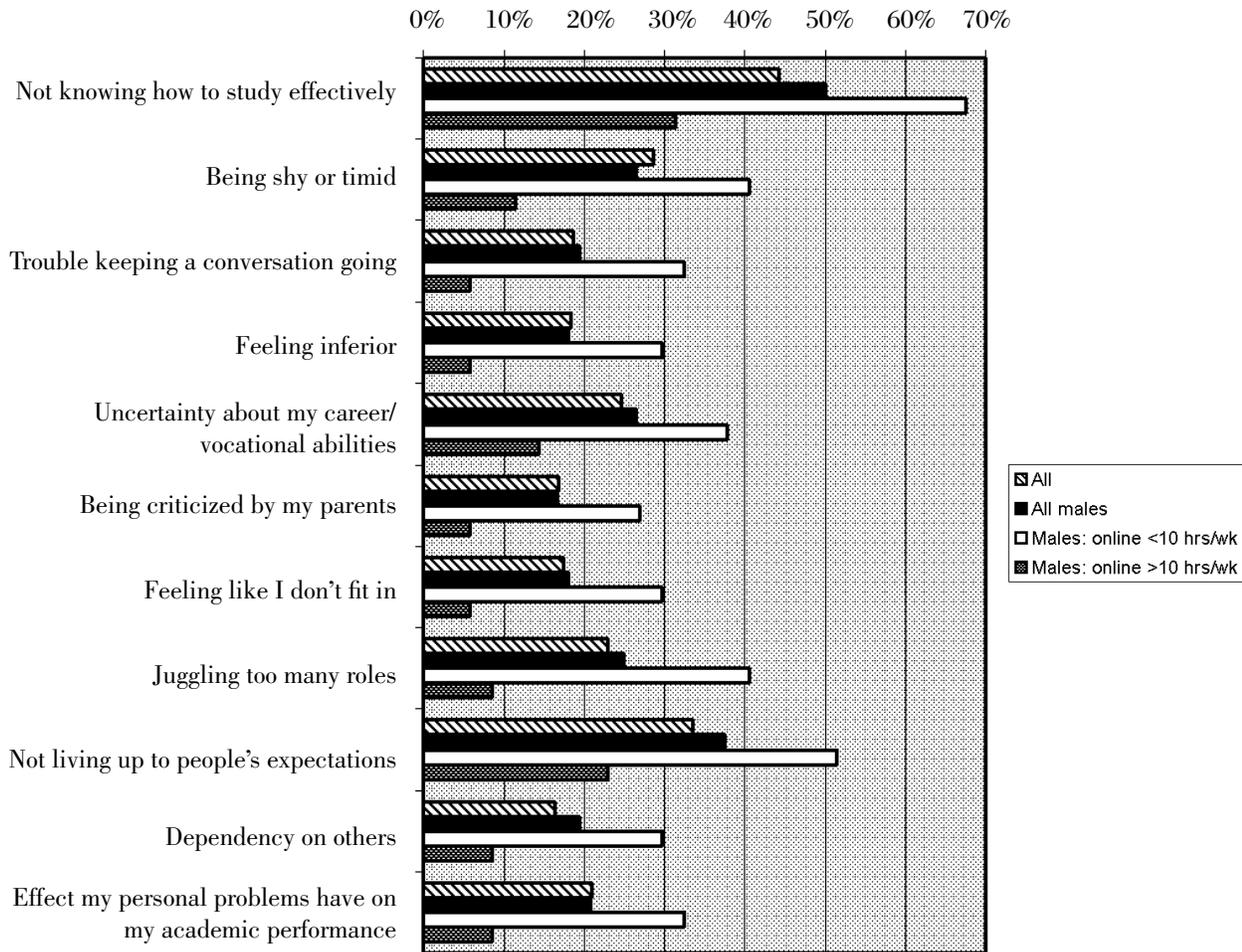


Figure 1. Significant Higher Concerns for Male Internet Users.

## Materials and Methods

Freshmen at a mid-size private, northeastern university were surveyed using an online instrument. As part of the required freshman seminar, all freshmen were invited to complete the survey. Surveys were collected for approximately 1 month from the first week of October to the first week of November, 2005. One hundred and eighty-two surveys (59.3% female) were submitted, a response which

## Analytical procedures

Descriptive statistics were generated to describe the characteristics of the total sample. Chi-square analyses were performed to detect group differences in the population. The more conservative  $\chi^2$  continuity correction was used to address low cell counts. Comparisons were made across demographic groups as well as between students who spent graduated amounts of time working, studying,

Table 1

*Significant Higher Concerns Shown for Internet Users at Less Than 10 Hours Per Week Compared with Internet Users at More Than 10 Hours Per Week*

Concern	$\chi^2$ <sup>(a)</sup>	<i>p</i> value	<i>OR</i>	LCL-UCL (95%)
Feeling sad or depressed	8.71	0.003	2.74	1.44-5.21
Not knowing how to study effectively	5.83	0.016	2.19	1.20-4.00
Feeling Lonely	3.98	0.046	2.08	1.06-4.05
Juggling too many roles	4.73	0.030	2.36	1.14-4.89
Not living up to people's expectations	7.53	0.004	2.56	1.35-4.88

<sup>a</sup> $\chi^2$  values figured with Continuity Correction.

represented 27.9% of the freshman class. Respondents completed the survey anonymously and the results were analyzed in the aggregate.

The questionnaire developed by the researchers consisted of 107 questions in 4 sections: (1) demographics; (2) value of certain people to the student; (3) satisfaction with services provided by and experience of the school; and (4) concerns that college students may face. The list of concerns was compiled from checklists of concerns administered by university counseling centers and suggestions made by Student Affairs staff members at the university. The concerns included psychosocial, adjustment, emotional, and behavioral issues; the students' responses were recorded on 5-point Likert scales.

and being online. The levels of concern were collapsed into two groups: a lower level of concern for responses that were "Not at all" or "Slightly" and a higher level of concern for the responses of "Moderately," "Very," or "Extremely."

## Results

The study sample ( $N = 182$ ) was 41% male. The only significant difference between genders found using  $\chi^2$  with a significance level of 0.05 was that males were over two and a half times more likely to express higher concern about problems with roommates than were females ( $\chi^2 = 4.83$ ,  $p = 0.028$ ,  $OR = 2.70$ ).

Study results from a 2002 Harris Interactive poll found that the average college student spends close to 10 hours per week online ("Beyond Spring Break," 2002). In this study, 49.7% of students were online for less than 10 hours

Table 2

*Significant Higher Concerns for Female Internet Users*

Concerns	All females	Online <10 hrs/wk	Online >10 hrs/wk	<i>p</i> value <sup>(a)</sup>
Feeling sad or depressed much of the time	35.5	47.1	23.6	0.020
Significant weight loss or weight gain	15.9	7.7	23.6	0.047

<sup>a</sup>Based on  $\chi^2$  with Continuity Correction.

per week. There was a nonsignificant gender difference in Internet use with 51.4% of males and 48.6% of females being online for less than 10 hours per week.

Students who reported online use of less than 10 hours per week were over two times more likely to report higher concerns about knowing how to study effectively, juggling too many roles, and living up to other people's expectations. The psychosocial transition to the freshman year inherently invites some level of stress about how to interact in new roles; however, the higher concerns for feelings of loneliness and sadness or depression was significantly greater in those who used the Internet for less than 10 hours per week (Table 1).

In examining the 2 levels of Internet use groups by gender, females who reported using the Internet more than 10 hours per week were significantly different from those who stated less weekly Internet use in regard to only two concerns (Table 2). On the other hand, the reports of males who used the Internet for more than 10 hours per week were significantly different from those who used the Internet less than 10 hours per week on 11 concerns (Figure 1 and Table 3). Males are more likely to endorse differences in level of concern based on amount of Internet use. In comparing these results to the overall differences between the over 10 hours online per week group and the under 10 hours online per week group, it is evident that there is a gender effect for females being concerned about feeling sad or depressed and for males having greater concern for not knowing how to study effectively, juggling too many roles, and not liv-

ing up to people's expectations. Only concern about feeling lonely contained no gender effect.

#### Discussion

Male freshmen using the Internet for more than 10 hours per week show an easing of concerns often associated with college adjustment. In agreement with a previous study that reported that seeking support online is correlated with adolescent males' psychosocial health (Piko, 2001), these results show that Internet use is associated with a reduction in concerns reported by male college freshmen. Similarly, other research has found that additional time spent on e-mail produces a greater decrease in depressive symptoms for male college freshmen (Morgan & Cotton, 2003). This suggests that the Internet may be utilized as a helpful tool as college freshmen establish independence and work on social role definition.

These findings also concur with a recent study of Internet use in Pakistani undergraduates. Suhail and Bargees (2006) assessed a predominantly male (90.5%) sample of students regarding both problems and positive effects concomitant with time spent using the Internet. Eighty-four percent of students in this sample reported at least one positive effect of Internet use. The positive effects measured included worldwide communication, higher grades, and improved study skills. Further comparative examination of students in other years of college may verify Internet use as a progressive educational tool. Accounting for a change over time in college stressors from initial adjustment may

Table 3  
*Significant Higher Concerns for Male Internet Users*

Concerns	All males	Online <10 hrs/wk	Online >10 hrs/wk	<i>p</i> value <sup>(a)</sup>
Not knowing how to study effectively	50.0	67.6	31.4	0.005
Being shy or timid	27.0	40.5	11.4	0.011
Trouble keeping a conversation going	18.9	32.4	5.7	0.010
Feeling inferior	18.1	29.7	5.7	0.019
Uncertainty about my career/vocational abilities	26.4	37.9	14.3	0.046
Being criticized by my parents	16.7	27.0	5.7	0.035
Feeling like I don't fit in	18.1	29.7	5.7	0.019
Juggling too many roles	25.0	40.5	8.6	0.004
Not living up to people's expectations	37.5	51.4	22.9	0.024
Dependency on others	19.4	29.7	8.6	0.049
Effect personal problems have on my academic performance	20.8	32.4	8.6	0.028

<sup>a</sup>Based on  $\chi^2$  with Continuity Correction.

reveal what aspects of coping are met by Internet use versus other behaviors.

Coping in college students may be enhanced by the social impact of Internet use. Social network communities, like Facebook, are growing exponentially in the college population. Facebook is a website created to provide an electronic and interactive replacement for university-based paper facebookes that had often been provided to campus stakeholders. In addition to the photographs, Facebook also offers a forum to express oneself, to keep in touch with one's friends, to be a part of networks, and to communicate with other members. Facebook was started in February 2004 on the Harvard University campus. By the summer of 2005, most universities and colleges, including the institution where this study was conducted, had established a Facebook network. The December 2005 estimated number of users was 11 million, and increasing (Lupsa, 2006). As of September 2005, 85% of the students attending colleges that supported Facebook had a profile on that website (Arrington, 2005). According to comScore, Facebook is the sixth most used site on the web in terms of unique visitors (comScore Networks, 2006). Facebook is a major social resource and engagement system for college students. The number of students using this service is noteworthy and may be related to the increasing number of findings that the Internet has a positive psychological effect on college students.

The finding that, out of students online for more than 10 hours per week, male freshmen showed a greater reduction in concerns than female college freshmen needs to be explored in terms of type of online usage by gender. According to the annual survey of college freshmen nationwide conducted at UCLA, twice as many males rate their computer skills as above average, which is indicative of a wider range of perceived abilities (Postsecondary Education OPPORTUNITY, 2003). This may evidence and reinforce a comfort with being online, promoting a coping mechanism. Males may be better communicators online or the type of support could better suit this particular stage of male identity development. Alternatively, the notion of anonymity or escapism resulting from time spent on the Internet may offer avoidance of normal developmental concerns. In this case, the coping offered is passive and defers direct effect.

Limitations of this study include the potential for self-selection bias present with the volunteer response rate of 27.9% and the lack of delineation between social Internet use and other types of Internet use. Also, the survey was introduced as part of a class and the more academically conscientious may have chosen to participate. Further research exploring the nature and magnitude of particular online uses would elucidate whether the positive coping by males with more time on the Internet can be linked with passive or active psychosocial mediators. It would be relevant also to

determine if Internet use for college freshmen represents a change from previous use. If there is no disparity from past use in the safe confines of home and high school, the stress of the college adjustment might not be related to quantity but could be connected to quality or type of online use.

The differences of higher concern regarding academic, social, and interpersonal roles for male freshmen between the two levels of Internet use suggest that those staying online for more than 10 hours per week may be utilizing their time to cope with stressors of college life and emerging self-definition. These students may find that time spent online helps them to develop communication skills. Internet use should not be viewed only from the perspective of psychological health risk but also from the perspective of positive communication and coping skills.

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