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Internet addiction and social satisfaction

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ABSTRACT

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INTERNET ADDICTION AND SOCIAL SATISFACTION
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The purpose of this study was to determine the effects of Internet addiction on a

participant's level of satisfaction with their social life. Participants were gathered from

both Rowan University and the Internet at large (n = 122) and asked to complete an

online survey. The survey contained criteria questions for Internet addiction and social

satisfaction as well as numerous questions that determined the effects of the participant's

Internet usage on various aspects of their life (social, academic, job performance, etc).

Results show that knowing a participant's level of Internet addiction allows researchers to

weakly predict their level of satisfaction with their social life. Participants who qualified

as Internet addicted were found to have a lower level of social satisfaction when

compared to those who were not addicted. This study also found that males generally

take more risks and have more detrimental consequences from Internet addiction than

females. This study has found that Internet addiction can have significant negative

impacts in many aspects of life and that more research in needed on the topic.

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CHAPTER I

Literature Review

The Internet was originally developed to assist scientists in the sharing of research

information. Since its inception in the 1960's it has transformed into a worldwide

network used by the majority of today's generation for a myriad of purposes. Many

people use the Internet in ways that benefit both society and themselves. (Nalwa &

Anand, 2003 ; Chou, Condron, & Belland, 2005) Unfortunately, the simple and

unrestricted nature of this medium has led some users to develop an unhealthy

dependence on the Internet. This dependence can lead to problems functioning in all

aspects of the users' life. One key area that seems to be most affected is that of the users'

social life.

Ever increasing amounts of information is transmitted through the Internet every

day. Internet use has skyrocketed since communication can be accomplished faster and at

less cost than traditional means. Today, a user can simply write an email to someone

across the world with instantaneous, free delivery rather than writing a letter, paying

postage and waiting days or weeks for it to arrive. A user can talk to others using voice

chat programs to dial standard landlines or other computers for either low rates or no fee;

the alternative is to pay high costs to use standard phone lines (Chou, et al., 2005). The

interpersonal uses of the Internet continue to grow at a tremendous rate serving functions

such as relationship creation and maintenance as well as social and entertainment

purposes (Leung, 2007).

A handful of new developments have increased the depth and availability of the Internet's contents. Internet advertising as well as real time credit card charging were developed by experts in the Internet pornography field (Griffiths, 2000). Many sites can therefore afford to operate large sites with high bandwidth by either charging the user's credit card remotely or by subjecting the user to constant advertisements. These changes have led to the ability for users to spend countless hours 'virtual window-shopping' on the web. Another recent change in the Internet is the fact that Internet service providers have shifted to flat rate fees. Formerly, users had to pay depending on the amount of net usage, quite possibly curtailing many users from spending countless hours online. Now, by paying a modest monthly rate, users can be connected 24 hours a day, seven days a week (Young, 1996a). This once a month charge has removed the expensive pay as you go barrier holding back overuse.

There are multitudes of ways for someone to spend their time interacting with others online. These include social networking sites such as Myspace and Facebook, Multi-User Dungeons (MUDS) such as Everquest and World of Warcraft, and real time chat utilities such as AIM and Yahoo. Unfortunately, these multi-user social applications also appear to be possibly addictive in nature (Ng & Wiemer-Hastings, 2005). In fact, some studies have shown that up to 80% of respondents use the Internet solely for socializing, stating that the ease of communication as well as the multitude of communication methods make it the preferred way when compared to face to face communication (Goby, 2003).

When the Internet was first brought to the masses, one of the first social activities

that took place existed in the realm of online games. These game systems were text based in nature and required a great deal of socialization and cooperation among players to succeed and gain power in the game world. These fantasy characters that players were able to create led to one of the many risk factors associated with Internet use, the use of alternate personas. Developing these alternate personas enables a user to experiment with different personality traits and allows them to express emotions and thoughts they would otherwise feel were inappropriate (Chou, et al., 2005). The lack of inhibition that results from such exploration is commonplace not only in games, but every form of online communication. As a consequence, many users tend to alter the truth by slipping in to alternate personas.

These multi-user applications allow users to escape from reality and enter a world free from personal attacks and other stressors of face to face communication (Ng & Wiemer-Hastings, 2005). Some have argued that this anonymity is the main attraction of the Internet (Beard, 2005). The intense use of personas and alter egos online may in fact begin to blur a user's ability to discern between what is true of their real-life social identity, and that of their online alter-egos (Beard, 2005). Surveys of Internet addict's usage show that multiplayer games and social networking sites and email rank as the most used programs (Young, 1997).

Studies have shown that the primary use of the Internet for both Internet addicts and non addicts alike tends to be social in nature. That is, the majority of Internet users spend their time either talking in chat rooms, Instant Messages or in online games (Goby, 2003). With the rapid advancement of computer technology these game worlds have advanced to the level of near photorealism. With massive environments, and detailed

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character, users can create entire alter-egos in which they essentially become their fantasy character and leave their true self behind. Massively Multiplayer Online Role Playing Games (MMORPGS) are made up of enormous environments containing thousands of unique players. Players must interact with each other to complete tasks and reach high status among their gaming peers (Young, 2007b). Today, games such as Everquest and World of Warcraft have gained such popularity that they have nearly become household names. The nature of these games requires players to spend increasingly longer periods of time playing in cooperation with other users, and marathon sessions of 10-20 hours are not uncommon among the highest ranked players. These gaming environments are so realistic, addictive and completely immersive that users have nicknamed them "Evercrack" and "World of Warcrack". While these names may seem almost funny to some people, those affected by the addictive nature of these games have lost jobs, failed out of school and lost marriages as a result of their play habits (Ng & Wiemer-Hastings, 2005). The signs of such an addict are all too apparent. Habits include needing to play everyday, playing for long periods of time and becoming angry and irritated if they are restricted in their game time (Young, 2007b). As gaming does not appeal to everyone, the Internet offers many other opportunities for users to socialize on the net. These activities however, can be just as addicting.

Social networking sites exploded in to the mainstream in the late 90's. Since that time, the number of users has grown exponentially. In fact, Facebook, one of the main social networking sites, has over 43 million active users, with an additional 200,000 signing up each day. Users of Facebook visit the site on average two times a day and spend an average of 20 minutes per visit on the site. (Facebook.com) Other social

networking sites show similar statistics for users as well. It is clear that these sites

generate an enormous amount of interest in the online community. They can be used for

everything from keeping in touch with classmates and colleagues to finding potential new

partners.

Studies have shown that using these sites may actually increase a person's level of

social capital both online and offline. Social capital is defined as the size of a network of

relationships and acquaintances a person possesses. Results showed that the social capital

gained from using these sites increased participants' self-esteem and satisfaction with

their social lives both offline and online. With these benefits also came some possible

negatives. The intensity of which they used sites such as Facebook and Myspace

increased drastically as well (Ellison, Steinfield, & Lampe, 2007). This leads to the

potential that users will spend increasingly more time in front of a computer maintaining

these relationships. The possibility of the user becoming addicted to the Internet increases

tremendously due to the rewards given by accessing these sites. Socializing and dating on

the net has become more popular recently, however certain sexual outlets have been

available since the net's conception.

One of the Internet's most notorious realms is that of the pornography industry.

No matter where most users go, there are email messages, pop-up weblinks and other

types of advertisements linking directly to adult-only sites. There are quite a few ways a

user can engage in the net for sexual purposes. The first is to seek our sex material for

learning such as information about STDS or self-help guides on other sexual matters.

Other uses lay in using the net to buy sex objects for use offline or browsing sex objects

in virtual sex stores. Perhaps the two most potentially problematic uses are accessing

pornographic material for self pleasure, and engaging in erotic chat room escapades (Griffiths, 2000).

The anonymity of these online programs helps to make even the most introverted individual feel a sense of freedom (Koch & Pratarelli, 2004). The convenience of these online applications coupled with the ease of use provide easy access to others looking to engage in erotic chat. These escapades serve as a drug of sorts, giving the user a feeling of euphoria and freedom they would not otherwise experience in their offline relationships. In the case of online pornography and cyber affairs, couples who are already experiencing trouble in their relationship are most at risk for developing an addiction to the Internet (Young, Cooper, Griffiths-Shelly, O'Mara, & Buchanan, 2000a).

The results of previous studies have shown that many users do in fact form new relationships online. The nature and seriousness of these relationships can vary and be completely different in content from those formed in real life (Song, LaRose, Eastin, & Lin, 2004). The anonymity of the Internet allows users to create an alternate persona that can represent the person they would like to be in a perfect world. A user with low self esteem and low income can become a smooth talking executive from an upper class neighborhood. A user with feelings of inadequacy can act out sexual fantasies as a "ladies man" in a chat room. The ability to create a new life online is extremely tempting to those who are not confident in their offline social presentation. This is a strong motivation to over indulge in the Internet possibly leading to Internet addiction (Young, 1997).

Communication over the Internet keeps its users safe from physical harm until the relationship is taken offline. This lends support to the idea that online communication may be the simplest, least restraining and most easily accessed method of meeting new

people and potential mates. Since users can simply log off if they become uncomfortable, the Internet can be considered to be much safer than meeting people offline where escape may be much more difficult (Griffiths, 2000).

As one of the main sexual outlets online, cybersex can be viewed as the safest way to engage in sexual behavior. Internet sex is free from physical violence as well as sexually transmitted diseases (Goby, 2003). It is anonymous and disinhibiting and allows users to express even the most socially taboo ideas and fantasies (Young, 1997). These characteristics of Internet communication can be overwhelmingly attractive to users. It also appears that Internet dating is becoming more socially acceptable each year (Griffiths, 2000). This can be encouraging users to separate from offline relationships and spend the majority of their time in these online chat rooms.

Some of the symptoms associated with Internet addiction relate very closely with a gambling addiction. There are many similar characteristics that lead one to believe Internet addiction is similar to a lack of impulse control. For example, hiding or lying about the amount of time spent online, anxiety while offline, and major impairment to offline functioning bear close resemblance to problems facing those addicted to gambling (Young, Pistner, O'Mara, & Buchanan, 2000b ;Young & Rodgers, 1998b). Studies have shown that users of the Internet were becoming addicted in nearly the same way as some people become addicted to drugs or gambling. In fact, the resemblance of gambling addiction to that of Internet addiction is so similar, many of the criteria for gambling dependence were only slightly altered in an attempt to create a comprehensive set of criteria to define Internet addiction (Young, 1996a).

Young developed a set of eight criteria as an instrument to assess Internet

addiction. The first criterion is that users feel preoccupied with the Internet. Second, a user feels the need to spend longer periods of time on the Internet. Third, an addict will have made attempts to cut back on their Internet use unsuccessfully. Fourth, addicts become irritated when Internet use is limited. Fifth, addicts find themselves spending much more time connected to the Internet than they had planned. Sixth, they experience significant strain at home work or school. Seven, they have lied to others about the amount of their time online. And finally, they use the Internet as a way to avoid or escape real life problems. To be deemed addicted to the Internet a user must satisfy five of the eight criteria (Young, 1996a).

There are claims that Internet addiction does not exist, or is simply a manifestation of an underlying mental health disorder such as anxiety or depression. On the contrary, those who spend a lot of time alone may be more at risk for developing Internet addiction (Young & Rodgers, 1998b). For this reason users with depression, should be screened for Internet addiction as some users who are depressed may become addicted to the Internet as a method for engaging in pleasure seeking behaviors (Chou, et al., 2005; Young & Rodgers, 1998a). It has also been found that users who are lonely may look to the Internet as a way to more easily express their real selves without the fear of rejection (Caplan, 2007).

These claims state that is nearly impossible to determine if the addiction is to the Internet itself or to the contents found there such as pornography or gambling sites. (Kaltiala-Heino, Lintonen, & Rimepela, 2004) Many studies argue that Internet addiction is in fact a real disorder and that underlying issues such as anxiety or depression as well as social problems may simply exacerbate the extent to which the person abuses the

Internet (Young, 2007b). Introverts tend to respond as feeling the best when connected to the Internet, also preferring online communication to face to face as it is less threatening (Koch & Pratarelli, 2004). However, these claims against Internet addiction have been repeatedly quashed as the results of testing show that Internet addiction does seem to be a separate and distinct disorder.

One study found reasonable evidence that Internet users with addictive personality traits were much more likely to also abuse the Internet than those users who lacked addictive personalities (Pratarelli & Browne, 2002). For example a gambling addict, or a person addicted to pornography would be more likely to use the Internet to facilitate these addictions than someone who lacked a comorbid addiction.

In fact, activities online can be almost directly related to gambling. For example, variable ratio reinforcement such as that used in slot machines, has been shown to be one of the most addictive reinforcement schedules. A user checking their email constantly is rewarded on this type of schedule each time they get a new message. Some times it may only take one or two tries to find that new message, other times it may take 10 or 15. Although this is breaking down Internet activity to its most basic level, the addictive nature of online applications does become apparent (Beard, 2005). While certain personality types may be more at risk in overusing the Internet, it is clear that Internet addiction is a disorder in itself.

Internet addiction has been said to affect up to 30% of users. However due to the varying nature of criteria for Internet addiction the total number of addicts may be substantially lower. The majority of studies report prevalence rates as low as approximately 5% of the population (Kaltiala-Heino, et al., 2004 ; Nichols & Nicki,

2004). Studies have shown that Internet addiction may not be as widespread as originally thought, but it does appear that for some users the Internet provides a source of addiction that can have tremendous negative effects on the social, occupational and educational aspects of their lives (Chou, et al., 2005). For example there are an estimated 200 million Internet users in the United States. If 5% of the population was affected, there would be over 10 million people in the U.S. suffering from Internet addiction.

In today's technology dependent society, the Internet is present in almost every environment. School, work and leisure all can, and do, take place online. This means that problematic Internet use can affect users in all three environments (Song, et al., 2004 ; Young, 1996a). Adolescents are said to be most at risk for developing a dependence on the Internet. As they are in the process of maturing cognitively and developing their personality they are more at risk from the influence of addictive means such as excessive use of the Internet (Kaltiala-Heino, et al., 2004).

Studies have shown that many users who become addicted have only recently begun to use the Internet (Beard, 2005). As millions of new users enter the online domain every year with little or no warning as to the possibly addictive nature of the Internet, this becomes a major concern.

Those who meet the criteria for Internet addiction spend an average of 40 hours a week or more online. This is almost triple the amount of time that non-addicts spend connected to the Internet. This staggering amount of time alone can lead to significant problems in the user's life, as they are using the Internet for the same amount of time as the average work week (Chou, et al., 2005 ; Young, 1997).

Reports have shown that Internet addiction can affect families on many levels. It

is not uncommon to hear reports on the news of divorce due to online cheating or neglect due to obsessive use of the Internet. There have even been cases where husbands and wives have engaged in online flirtation unknowingly with their own spouse only realizing when the relationship was taken offline. Over 50% of Internet addicts have reported some form of marital discord as a result of their net use, most of which resulted from cyber affairs and online flirting being revealed to the spouse (Young, et al., 2000a). Internet addicts are reported to shirk their household duties, stop engaging in meaningful communication with spouses and children and quit attending family events such as reunions or weekly events (Young, 1996b).

Additional risk factors for college students include the inherently large amount of free time as well as the newly experienced freedom from parents. Their online actions tend to be unmonitored and students are usually encouraged by professors to do research and assignments online. All of these are added to some students' desire to escape the stressors of such a new environment. Use of the Internet in moderation can be a tool for success but with more and more overuse it can increase to escapism and eventually a path to failure (Young, 2007).

Studies have shown that academic problems can be the direct result of student's addiction to the Internet. One study found that students at public universities are at increased risk of Internet addiction, with some students spending upwards of 25 hours per week online in non-academic work (Davis, Smith, Rodrigue, & Pulvers, 2004). Many students, including those not classified as addicted have reported the Internet being the cause of decreased grades and lack of sleep, among other problems. The temptations of the Internet are a real threat to many college students and strategies to help treat Internet

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addiction are sorely needed on college campuses (Nalwa & Anand, 2003).

Another factor affecting students is that many may be getting unlimited Internet access for the first time in their lives. Studies have shown that new users of the Internet may be most at risk for developing Internet addiction (Young, 1996a ; Young, 2007). Many students refuse to admit they are addicted and do not seek treatment until major negative events take place. The majority of students will only seek help after failing out of school or having serious complications in their relationships (Young, 2007b). This lends support to the notion that early screening and detection is critical on college campuses.

Despite the potential risk factors that come with providing access to the Internet to college students the benefits of computers on campus is clear. Computers in the classrooms are shown to increase the level of communication and interaction when working in groups. Also, due to the globalization of information, access to the Internet is essentially required in order to obtain the highest level of education. Studies have also shown that the earlier computers are introduced in to the classroom, the greater the students will benefit from their use. This also increases the need for teachers and counselors to be aware of, and monitor, the potential for students to become addicted to the Internet at an early age (Bergin, Ford, & Hess, 1993).

Surveys of the top companies in the United States found that over half of executives believe that Internet use by workers is decreasing company productivity by a substantial amount. In many cases, employers lack understanding of the Internet's addictive nature which results in suspension or termination of the offending party rather than a referral to counseling (Young, 1999).

According to some theories, users who lack social skills or suffer from low self esteem are most likely to create a virtual persona online and use the Internet as a replacement for real life socialization (Ng & Wiemer-Hastings, 2005). One idea which has been mentioned in previous studies is that users may very well be getting their social fulfillment from their online relationships and these relationships may fill their real life social needs (Young, 1996a). It is even likely that the inherently interactive and multi-user nature of many Internet applications may prevent a user from experiencing the same level of loneliness that those spending a lot of time alone at home may experience.

Social networking sites offer users methods to communicate without fear of physical harm, as well as a decreased risk of rejection and emotional strain. As studies have shown, users do gain social satisfaction from the use of these sites. (Ellison, Steinfield, et al., 2007). It may be possible that users obtain enough social satisfaction from the Internet that they find no need to socialize offline. One study found that up to one quarter of respondents found the Internet to be more effective at maintaining friendships than offline communication. Similarly approximately 30% of respondents found the Internet to be better for disclosing personal information (Valkenburg & Peter, 2007).

Users shown to be addicted to the Internet use the Internet mainly to meet, socialize, and exchange ideas with new people through applications that are highly interactive such as social networking sites and MMORPGS. When users engage in these activities they come to recognize and befriend other users who are online at the same times. Users form relationships and social groups that provide a sense of belonging. Groups form intricate methods of communication, requirements for membership and sets

of standards and codes of conduct for their members, much the same way as offline communities (Chou, et al., 2005). These are only a few of the intricate methods available for intense socialization on the Internet.

It is clear that the Internet holds an abundance of programs designed for the socialization of its users. However, the reasons people use these services rather than engage in face to face communication remains up to debate. Does the Internet simply provide these services leading some users to become addicted to them? Or do some users have predispositions that lead them to look to the Internet for symptom relief? Despite the ambiguous conclusions of previous research, key findings have come to light recently.

It appears as though users with low levels of self esteem in regards to their social skills will turn to the Internet for social satisfaction since Internet communication is inherently less threatening due to increased anonymity. As a result these users tend to be at higher risk for developing an addiction to the Internet as it becomes the only medium in which they can fill their need to social interaction (Caplan, 2003). On the opposite end of the spectrum, it appears as though users who meet criteria for Internet addiction will tend to spend the majority of their time engaging in socially interactive online forums (Caplan, 2005). Computer mediated communication allows users to edit what they are typing, gives time to think about responses and, allows users to be dishonest all without ever having to worry about being caught. These disinhibiting factors can be extremely luring to people who do not believe their social skills will lead to a fulfilling experience in face to face communication (Caplan, 2003).

This preference for social interaction on the computer is a direct result of the user's lack of confidence in their ability to communicate in face to face interactions. This

low level of perceived self-worth in a social environment creates an inherent amount of stress in an individual. Previous studies have shown that increased levels of stress have led people to seek out social support and manage their mood through methods available on the Internet. This research shows that the abundance of information on the Internet can be used to distract a person from the stress and lack of social interaction they are experiencing in their offline lives (Leung, 2007).

Studies have struggled to ascertain whether addictive Internet use degrades a person's social skills to the point that Internet communication is the only viable source, or if the social skills were already lacking and therefore users turned to the net for an easier less threatening experience. Regardless, users who showed a preference for socialization on the Internet were significantly more likely to become addicted (Caplan, 2005). Similarly, those users who were less satisfied with their social life would be most likely to engage in problematic use of the Internet (Caplan, 2007).

These ideas lead to the main hypothesis of this study. There is clear evidence that the Internet is a powerful and ingrained part of our culture today. However, when users do not limit their time on the Internet, the results can have dramatic effects on their lives. Even with the social networks available online, the hypothesis of this study is that Internet users who meet the criteria for Internet addiction will have significantly lower levels of social satisfaction than users who are not classified as addicted.

There is also another view of this pathological Internet use. The fact that these Internet communities exist through the definition of membership as well as codes of conduct is intriguing. These members want, and will fight for, their part in the group dynamic. Users will take pride in their membership and gain a sense of belonging from

it. The possibility that some users may gain a total sense of social satisfaction online should be considered. It could be argued that this online interaction should be considered as a viable and true form of socialization and those who are classified as Internet addicted can still be socially satisfied in the truest sense of the term.

The criteria for Internet addiction and social satisfaction do not necessarily have to be a paradox. This study will examine whether or not participants who meet criteria for Internet addiction can also satisfy the criteria for social satisfaction.

CHAPTER II

Method

<u>Participants</u>

Participants were recruited by two different methods. Participants were primarily recruited through online advertisements placed on a variety of websites linking to the survey. The survey was posted publicly on the social networking site Facebook and was available for completion over the course of two months. In addition, students from Rowan University's Introduction to Psychology classes were able to participate for course credit. These students were able to sign up through a computer program located online at http://rowan.sona-systems.com. The demographics of the participants were 62 Males 60 Females, with ages from 18 to 42. The mode of the participant's age was 19. Average education level was the completion of some college. Over 60% of participants reported using the Internet for more than 10 hours per week. 84.4% of participants had been using the Internet for 5+ years at the time of survey completion.

<u>Procedure</u>

Participants were recruited by being asked to fill out a survey studying the online habits of the population. Participants from the World Wide Web received no reimbursement for their participation, Rowan students received 30 minutes of course credit towards the Introduction to Psychology requirement.

The survey was available for completion over 2 months. The survey took approximately 10-15 minutes to complete. The survey was made up of 89 questions,

primarily answered on a 7 point Likert scale. No informed consent form was used, however users were required to check a box certifying they were at least 18 years old. See Appendix for full survey.

<u>Measures</u>

     <u>Satisfaction with Social Life Scale</u>. Among the 89 questions in the survey were 13 questions that measured the dependent variables for this experiment. 5 of the questions were modified from the Satisfaction With Life Scale (SWLS), developed by Diener, Emmons, Larsen and Griffin in 1985. Follow up studies have shown that the SWLS is a reliable and valid measure of a person's overall satisfaction with life. (Pavot, Diener, Colvin, & Sandvik, 1991). All 5 questions were rated on a 7 point Likert scale. The questions for this survey were only slightly modified to make them directly applicable to the variables of interest to this study. Most questions simply had the word "social" added to make the response apply to the participant's social life rather than life in general.

1) In most ways my social life is close to my ideal.

2) The conditions of my social life are excellent.

3) I am satisfied with my social life.

4) So far I have gotten the important things I want from my social life.

5) If I could start my social life over, I would change almost nothing.

     Both studies show that the average scores for participants fell between 23 and 25 total points with a standard deviation of approximately 6. For the purposes of this study a user will be considered satisfied with their social life if they score above 25 total points on the five questions.

Internet Addiction Criteria. 8 questions were based on the criteria developed by Young to classify Internet addiction (1996). In her article 8 criteria were laid out in question format. For this survey these criteria were changed so that the participant could answer the question from the first person perspective on a 7 point Likert scale. According to Young, meeting 5 or more criteria would signify the participant was addicted to the Internet. The questions for the Internet addiction scale are as follows:

1) I feel preoccupied with the Internet (Think about previous online activity or anticipate next online session).

2) I feel the need to spend more and more time online to be satisfied.

3) I have made repeated unsuccessful attempts to cut back on my online time.

4) I feel restless, moody, depressed, or irritable when attempting to cut down or stop Internet use.

5) I sometimes stay online longer than intended.

6) I have jeopardized or risked the loss of a significant relationship, job, educational or career opportunity because of the Internet.

7) I have lied to others about the extent of my Internet use.

8) I use the Internet as a way of escaping from problems or relieving a bad mood such as feeling helpless, guilty anxious or depressed.

For the purposes of this study answering a 4 or higher would denote if the participant agrees with the question. If a participant rated 5 or more of the 8 Internet addiction questions as a 4 (a total score of 20) or higher on the Likert scale they would be considered as Internet addicted.

Demographic questionnaire. Basic demographic information was collected to judge the participant's gender and education.

Internet use. Primary uses of the Internet, breakdown of activity while online, and impact of net use while online were assessed in the remaining questions.

There are a multitude of other questions included in the survey. These questions serve two purposes. First is as distracter questions to prevent participants from discovering the true intent of the survey. The second function is that many of the included questions also serve as comparison points on different aspects of the users feelings towards and actions on the Internet. For example one question "I have more fun with people I only know on the net than with people I know in person" will allow comparison between addicts and normal users level of enjoyment while connected to the net. Another question "Only my net friends truly know who I really am." may allow conclusions to be made about the difference in levels of honesty and intimacy between online and offline communication.

CHAPTER III

Results

<u>Main Hypothesis</u>

A bivariate correlation was conducted to compare the participant's total score on the eight Internet addiction criteria to their total score on the five social satisfaction criteria. Results show that there is a significant, yet weak, negative correlation between the two scores. As shown in Figure 2, as net user's addiction score rises, their level of overall satisfaction will generally drop. A linear regression showed that knowing a user's Internet addiction score will enable a researcher to weakly predict a user's level of satisfaction with their social life ($r = -.291$, $p = .001$).

An independent samples t-test was used to measure the effect of multiplayer gaming on a participant's social satisfaction level. Participants who played mutltiplayer games for more than 15 hours a week were considered in this analysis. No significant impact on social satisfaction was found $t(120) = -.314$, $p>.05$. Although no difference was found between those who engage in heavy use of multiplayer gaming and those who do not, the small number ($n= 11$) of participants in this category may have had a significant impact on the results.

<u>Net Addiction</u>

The independent-samples T-test also showed that Internet addicted participants did not differ significantly on two of the eight of the net addiction criteria questions from non addicted participants. However on six of the eight questions Internet addicted

participants do vary significantly from non addicted participants (See Table 1). All eight criteria were scored on a 7 point Likert scale with 1 being strongly disagree and 7 being strongly agree. Participants who had a total score of 20 or higher were considered addicted to the Internet. Fifty seven of 122 participants qualified as Internet addicted. Mean scores are reported as follows X_a = Addicted mean, X_{na} = Not addicted mean. The first question was "I feel preoccupied with the Internet (Think about previous online activity or anticipate next online session)". The results did not differ significantly $t(120)$ = 8.879, $p > .05$, X_a = 4.55, X_{na} = 2.15. Although not significant the results were in the expected direction. The second question "I feel the need to spend more and more time online to be satisfied" did differ significantly $t(120)$ = 8.966, $p < .05$, X_a = 3.55, X_{na} = 1.28. Third, "I have made repeated unsuccessful attempts to cut back on my online time" differed significantly $t(120)$ = 2.679, $p < .05$, X_a = 3.47, X_{na} = 1.38. Fourth, "I feel restless, moody, depressed, or irritable when attempting to cut down or stop Internet use." differed significantly $t(120)$ = 8.553, $p < .05$, X_a = 3.03, X_{na} = 1.03. The fifth question "I sometimes stay online longer than intended" did not differ significantly $t(120)$ = 2.433, $p > .05$, X_a = 5.60, X_{na} = 4.80. This may be explained by the general lack of limit setting when it comes to regulating time spent online. The sixth question "I have jeopardized or risked the loss of a significant relationship, job, educational or career opportunity because of the Internet" differed significantly $t(120)$ = 6.084, $p < .05$, X_a = 2.47, X_{na} = 1.03. This clearly shows that Internet overuse can have significant impact on an addict's daily life. The seventh question "I have lied to others about the extent of my Internet use" also differs significantly at $t(120)$ = 6.934, $p < .05$, X_a = 2.94, X_{na} = 1.17. Finally the eighth criteria " I use the Internet as a way of escaping from problems or relieving a bad mood such as

feeling helpless, guilty, anxious or depressed" differed significantly t(120) = 8.248, p<.05, Xa =4.15, Xna =1.90. It should be noted that for certain criteria questions, both addicted and non addicted participants disagreed with the question. The level of disagreement for these questions differed significantly in some cases.

Social Satisfaction

An independent-samples T-test with the participant's total score for satisfaction with their social life as the grouping variable was also conducted. Criteria to be considered socially satisfied were 25 or higher total score on the 5 SWSL questions, as a result 25 was the cut point for the T-test. Multiple questions had significantly different responses between the satisfied and not satisfied groups (See Table 2). All questions were answered on a 7 point Likert scale with 1 being strongly disagree and 7 being strongly agree. Participants who had a total score of 25 or higher were considered to be satisfied with their social life. Sixty one of 122 participants qualified as socially satisfied. Mean scores are reported as follows Xs = Socially satisfied mean, Xns = Not socially satisfied mean.

The independent-samples T-test showed at all but one of the SWSL criteria differed significantly between satisfied and unsatisfied participants. Participants did not differ significantly on the first question "In most ways my social life is close to my ideal" t(120) = 11.152, p>.05, Xs =5.43, Xns =3.20. While the results were not significant the direction of the difference was in the expected direction. Socially satisfied participants differed significantly when answering "The conditions of my social life are excellent" t(120) = 10.244, p<.05, Xs = 5.86, Xns =3.72. The third question "I am satisfied with my social life" showed significant differences as well t(120 = 10.069, p<.05, Xs = 6.06, Xns

= 3.90. Satisfied participants also appear to have more fulfilling social lives as judged from the significant difference when answering " So far I have gotten the important things I want from my social life." t(120) = 9.622, p<.05, Xs =5.89, Xns =3.56. And finally the fifth question "If I could start my social life over, I would change almost nothing" showed significant differences between socially satisfied and socially unsatisfied participants t(120) = 8.764, p<.05, Xs =5.78, Xns =3.56.

<u>Sex Differences</u>

As it was assumed there would be significant gender differences relating to Internet usage and the effects of net addiction, a one way analysis of variance was conducted. This comparison of gender differences led to many variables differing significantly between males and females. Overall it appears as though, while addiction was split almost evenly across males and females, the effect it has on males are more damaging on average.

Females tend to spend significantly more time socializing offline than males do, $F(1, 120) = 6.100, p < .05$. Females also tend to utilize online social networking sites more than males do, $F(1, 120) = 10.510, p < .05$. Females report having more friends online than offline, $F(1, 120) = 4.850, p < .05$. This could be explained by the use of social networking sites to maintain a multitude of friendships over what would be manageable in face to face interactions. Females also report that having social relationships is an important aspect of their lives, $F(1, 120) = 6.079, p < .05$. This may also explain why males are less likely to spend time socializing online. Females were more likely to complain about their male partner's Internet use, $F(1, 120) = 4.496, p <$

.05. Females report much less of a desire to meet friends they only know from the Internet, $F(1, 120) = 7.945$, $p < .05$.

Males spend more time browsing the world wide web, $F(1, 120) = 5.573$, $p < .05$. Multiplayer gaming is apparently dominated by male users, $F(1, 120) = 17.112$, $p < .05$. More males report having missed a meal due to being involved in online activity, $F(1, 120) = 5.373$, $p < .05$. Males report more significant decreases in grades due to Internet use, $F(1, 120) = 6.541$, $p < .05$. Males also report having more fun when online as opposed to offline, $F(1, 120) = 10.938$, $p < .05$. Males are more likely to be told they spend too much time online $F(1, 120) = 4.968$, $p < .05$, rearrange plans to spend more time online, $F(1, 120) = 5.210$, $p < .05$, and have missed at least three appointments due to being online, $F(1, 120) = 5.265$, $p < .05$. Males are also more likely to hide the amount of time they spend online from friends or relatives, $F(1, 120) = 7.645$, $p < .05$. Males access adult material $F(1, 120) = 27.683$., $p < .05$ more often than females. Associated with this result, males are more likely to become aroused while online $F(1, 120) = 20.058$, $p < .05$. Males also tend to download and store sexually related material at a significantly higher rate than females, $F(1, 120) = 32.644$, $p < .05$.

Males also report worrying about government control over the Internet, $F(1, 120) = 6.453$, $p < .05$. This may be associated with worry over restriction or elimination of the online pornography industry. It is much more likely for a male to dream about being online than it is for a female, $F(1, 120) = 4.420$, $p < .05$. This could be explained by male's likelihood of playing online games which may leave more intense memories than simply browsing a social networking site. Similarly males also report losing more sleep

over Internet use than females, $F(1, 120) = 7.467, p < .05$. Males are also more likely to utilize online gambling sites, $F(1, 120) = 7.518, p < .05$.

Also noted were differences between groups on the addiction and social satisfaction criteria questions. Criterion B for net addiction seemingly applies more to males than females, $F(1, 120) = 3.908, p < .05$. This shows that males seem to be less successful at cutting back their Internet use. Criterion D for net addiction affects females more than males, $F(1, 120) = 5.621 \ p < .05$. Females report staying online longer than they originally planned. More males than females report risking the loss of a significant job or relationships due to their use of the Internet, $F(1, 120) = 6.052, p < .05$. By default more females report that their social life is close to their ideal, $F(1, 120) = 5.145, p < .05$.

Factor Analyses

A factor analysis was also conducted in order to gain a better understanding of how the survey questions were grouped together. This should be of help to future researchers wishing to use the same or similar questions. Results of the of the survey data showed that there were fourteen factors with an Eigenvalue of 1.0 of greater. These fourteen factors accounted for 73.215 percent of the variance. Only three of the fourteen factors appeared on the steep slope of a Scree Plot. Since the typical construct for interpretation of a Scree Plot incorporates factors on the steep slope only three factors were looked at in detail for this analysis. See Figure 1 for a graph of the Scree Plot. Factor 1 explained 29.963 percent of the total variance and was by far the strongest factor with an Eigenvalue of 17.079. Factor 2 had an Eigenvalue of 5.61 and accounted for 9.406 percent of variance. Factor 3 had an Eigenvalue of 2.903 and accounted for 5.093 of the variance. These three factors accounted for 44.462 percent of the variance. The

additional 11 factors with Eigenvalues greater than 1.0 accounted for an additional

24.592 of the variance with no individual factor accounting for more than four percent.

Upon looking at the first three factors in detail it is clear that 3 varied yet inter-

related labels can be applied to the variables in each factor (See Table 3). Factor 1

includes variables pertaining to preferring online contact, obsessive thoughts about the

Internet and engaging in heavy social interaction online. According to Oblim with Kaiser

Normalization, Factor 1 had by far, the strongest distribution of variables lending itself to

a powerful factor analysis. For example, preferring online contact has a value of .964,

having more fun online equaled .899 and experiencing a change in personality had a

value of .764. This seems to support the idea that factor 1 focuses on obsessive and

possibly detrimental Internet use. Factor 2 had less powerful overall values but a theme

could still be pulled from the values given. Variables ranging from "Getting less than 4

hours of sleep due to Internet use" = .670, to "Thinking about being online when offline"

= .566 and "Missed a meal due to Internet use" equaled -.586. Attempting to group these

variables together also appeared to lead to grouping them as obsessive and detrimental.

However, upon further examination a clear difference can be gleamed from the data. The

variables in Factor 1 appear to have more of a social orientation to them whereas factor 2

seemingly focuses on variables that are detrimental to the participant's emotional or

physical state. Factor 3 is clearly related to the participant's level of introversion versus

extroversion. The four main variables in this factor were "I am extroverted" with a value

of .917, "I am more introverted than extroverted" -.852, "People say I am shy" -.767 and

finally, "It's easier to talk face to face" .520. As factor 4 was not on the steep slope an in

depth analysis was not conducted.

CHAPTER IV

Discussion

In today's society the Internet has become fully integrated into most people's daily lives. Currently it seems as though most users have become dependent on their access to the Internet. Recent media coverage has only highlighted the severity of dependence for some users. Articles appear often when service is interrupted for hours or days, with many having an overtone of panic. The Internet has a multitude of uses, many of which are positive and beneficial. The results of this study however show that when overused, the Internet and its applications can lead to severely negative impacts for the user, both socially and personally.

To look at the specific effects of Internet addiction on social satisfaction the criteria questions must be considered first. Since there is no existing Internet addiction scale, one was created for the purposes of this study. Results show that the scale was lenient in determining addicted users as it showed nearly half met criteria. By increasing the required score for addiction more accurate results may be gleaned from future experiments. Also it became evident from post study analysis that only six of the eight criteria questions differed significantly between those addicted to the net, and those who weren't. While the reasons for this are not clear, it is possible that the questions wording may have led to lower responses. Another possibility is that the questions that did not differ significantly were not accurate signs of Internet addiction. Further research is needed to determine the relevance of all criteria questions.

It should be noted that the mean scores of those addicted fell well above the cutoff point at 20 (X= 30.59). This should be taken into account when looking at the mean scores for each individual criteria question. Only two of the questions showed that Internet addicts agree where non addicts disagree. One question shows that both agree, however the level of agreement differs significantly. The remaining questions only vary in terms of how much the addicts and non addicts disagree with each other. This problem is not evident when comparing mean scores on the satisfaction with social life scale. Reasons for the variations in mean scores on the individual questions could be due to many things. At this stage, the criteria questions are unrefined, and have not been repeatedly tested. This could result in participants being unable to relate to the wording of a particular question, even though it may apply to them more directly if worded slightly differently.

When taking a look at the social satisfaction questions we find that one of the five questions did not differ significantly between groups. The question related to participants feelings of their social life being close to ideal. When looking at the responses in detail it became evident that the majority of participants responded on the positive side of the Likert scale to this question. Again, this could simply be due to the wording of the questions, however future experimenters should be aware of this and make changes accordingly.

When looking at variations between males and females in terms of Internet usage it became clear that significant differences do exist. Results show that females are more likely to engage in social activities online such as Facebook or other social networking sites. Males on the other hand, tend to utilize the Internet for its more devious offerings

and as a result tend to have more severe consequences from these actions than females. Results showed that males undertake more risky behavior online. For example males downloaded and viewed pornography on a much higher rate than females. Males also reported more severe consequences in terms of effects on grades, jobs and other performance related areas. Males also reported a higher likelihood of losing sleep, missing meals and exercising less related directly to their amount of Internet usage.

There were also variations between sexes when looking at the addiction and social satisfaction criteria. Males reported significantly more trouble when trying to cut back their Internet usage than females, which could relate to many factors such as males being more likely to engage in online gaming. Females on the other hand reported staying online longer than intended regularly. This could be related to the usage of social networking sites and their intense time requirements in order to keep up to date. Another possibility is that females are better at recognizing when enough in enough whereas males simply do not set limits relating to the amount of time they spend online.

The results of the factor analysis are important for further studies on this topic. They will enable future researchers to determine which of the many variables included in the current survey are meaningful to the main hypotheses. Elimination of variables with low relevance will decrease the time it takes for participants to complete the survey, thereby increasing the chances of completion. Determination of the powerful variables will also enable future researchers to create multiple, highly focused questions in order to obtain the specific responses necessary to determine the secondary effects of Internet addiction and its effects on social satisfaction.

Limitations

Limitations relating to this study revolve around a few key areas. First is the way in which participants were recruited. All participants were notified of the study in one of two ways. First was through the social networking site Facebook. This creates some issues with the data collected. It is possible that the participants who responded to the survey were the ones who simply used these types of sites more often than those who did not complete it. Also, since these users are already on these types of sites, their numbers could vary between those who were recruited in the second fashion. The other main recruitment method was through the university's Introduction to Psychology subject pool. These participants were notified of the study through Rowan's SONA system. Since results were kept 100% anonymous, there is no way of telling in this current study whether or not these two different subject pools differed significantly from each other

Results from this survey were all self-reported which could lead to any number of inaccurate responses. Participants may not have liked or understood the wording to a question and responded differently than intended. This also relates to the final major limitation. Since no reliable or validated Internet addiction scale has yet been created, the results of this experiment must not be taken as definitive. The results from this study should be used as a baseline for tweaking and refinement of the Internet addiction scale in future studies. Future studies should conduct a factor analysis on the Internet addiction criteria questions in order to determine which questions are truly predictive of Internet addiction. A new total score should be determined based on the results of this analysis.

Overall, even with an unrefined scale to measure a participant's Internet addiction level some interesting effects of overuse were found. It is clear that unrestricted use of the Internet can be harmful, especially to males. It was found that by knowing a participant's

level of addiction, we could weakly predict their level of social satisfaction. A higher addiction score is weakly correlated with a lower satisfaction with social life score. With further studying and adjustments to the criteria questions, a stronger predictive value will no doubt be found. It was also determined that the social aspects of multiplayer gaming were not strong enough to raise a participant's level of social satisfaction at any significant level. It has been shown that Internet addiction and satisfaction with social life are clearly linked and that overuse of the Internet can have serious consequences in the user's life. Another consideration must be paid to the scale used to measure a participant's social satisfaction. To suit the current study the original scale was modified slightly by adding the word social to each question. Since the original scale was not designed for this purpose the responses may have differed significantly. Further research should be conducted to determine the effects of modifying the scale in order to accurately measure satisfaction with social life.

Implications for future research

The results of this experiment show that the Internet can be addictive in nature. The impact of Internet addiction on social satisfaction is a new focus area for research. Future studies should attempt to refine the criteria questions for Internet addiction. This would enable better understanding of the detrimental effects that Internet addiction may have on social satisfaction, and on an addict's life as a whole. The Internet is a powerful and useful tool. More research must be conducted on the diagnosis and treatment on Internet addiction.

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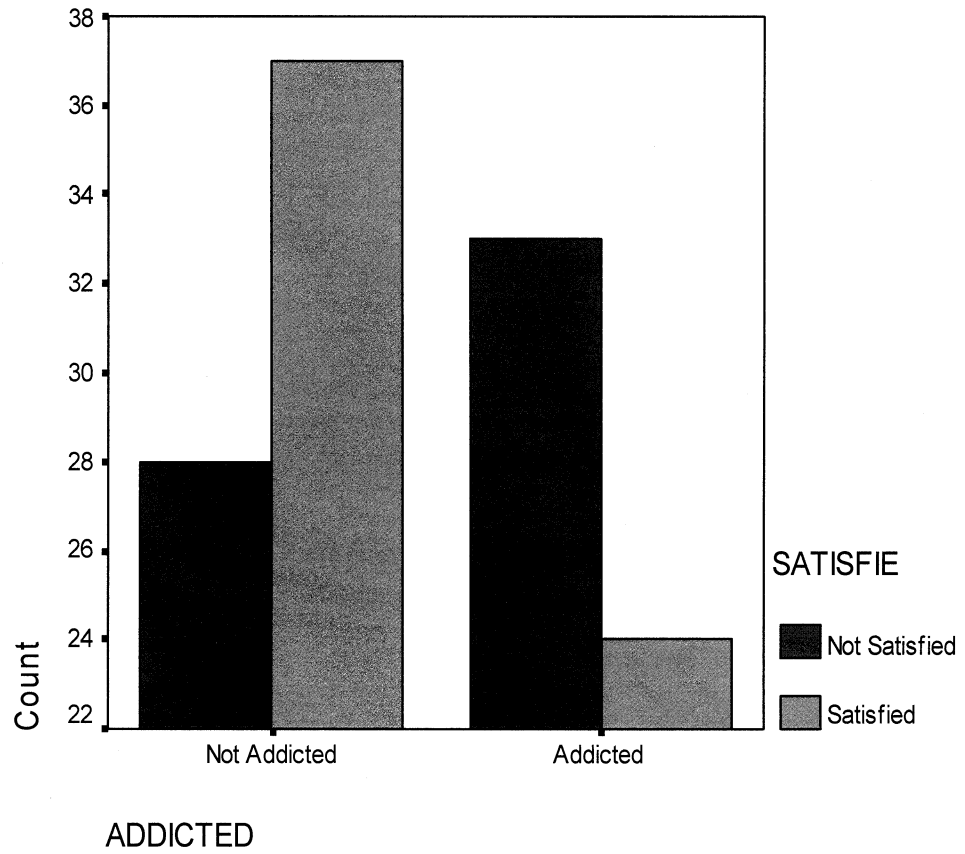>
> www.netaddiction.com

APPENDIX A

Figure 1 Scree Plot Identifying Factors on the Steep Slope

Scree Plot
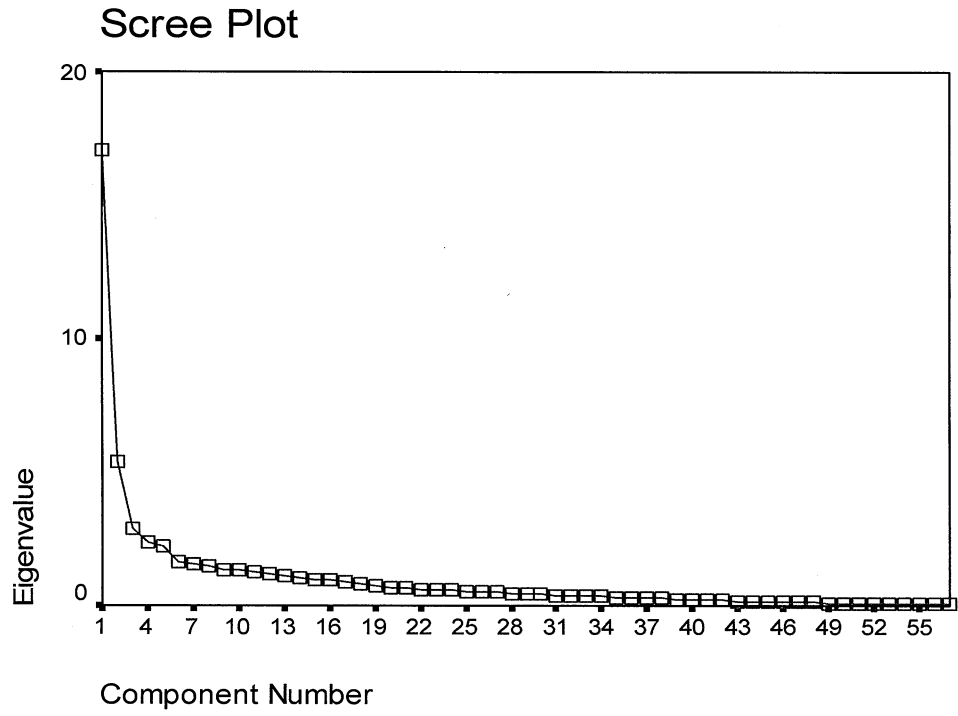
APPENDIX B

Figure 2 Internet Addiction as it Correlates to Satisfaction with Social Life

APPENDIX C

Table 1. F value, Significance Level and t Value of Internet Addiction Criteria
Questions Between Internet Addicted and Non Addicted Participants

Question	Sig.	t	Xa	Xna
I feel preoccupied with the Internet (Think about previous online activity or anticipate next online session)	.821	8.879	4.55	2.15
I feel the need to spend more and more time online to be satisfied	.000	8.966	3.55	1.28
I have made repeated unsuccessful attempts to cut back on my online time.	.000	8.394	3.47	1.38
I feel restless, moody, depressed, or irritable when attempting to cut down or stop Internet use.	.000	8.553	3.03	1.03
I sometimes stay online longer than intended.	.713	2.433	5.60	4.80
I have jeopardized or risked the loss of a significant relationship, job, educational or career opportunity because of the Internet.	.000	6.084	2.47	1.03
I have lied to others about the extent of my Internet use.	.000	6.934	2.94	1.17
I use the Internet as a way of escaping from problems or relieving a bad mood such as feeling helpless, guilty anxious or depressed.	.045	8.248	4.15	1.90

APPENDIX D

Table 2. F value, Significance Level and t Value of Satisfaction with Social Life Criteria Questions Between Socially Satisfied and Socially Unsatisfied Participants

Question	Sig.	t	Xs	Xns
In most ways my social life is close to my ideal.	.764	11.152	5.43	3.20
The conditions of my social life are excellent.	.000	10.244	5.86	3.72
I am satisfied with my social life.	.000	10.069	6.06	3.90
So far I have gotten the important things I want from my social life.	.000	9.622	5.89	3.56
If I could start my social life over, I would change almost nothing.	.000	8.764	5.78	3.56

Table 3. List of Questions in the Three Main Factors

Factor 1
I prefer to have an intimate on-line relationship with someone I met on the net than someone in person
I have more fun with people I only know on the net than with people I know in person.
I have borrowed money to cover my Internet related fees.
People say my personality has changed since I started going on-line.
If it weren't for my computer, I would not have any fun at all.
I have rearranged social plans in order to get more time online.
I have missed at least three appointments that I intended to attend because of the net.
I occasionally have dreams about being on-line.
If Internet access was shutdown in my city for 48 hours, I would drive to the nearest city for access.
I have been misled about someone's gender I met online.
Only my net friends truly know who I really am.
My last boyfriend/girlfriend complained about my on-line usage.
I laugh, smile and/or feel happiest when I am connected to the Internet.
I would rather spend an evening online rather than go out with friends
I have made arrangements to meet someone I only knew from the net.
I have used the net for gambling purposes.
Net friends have introduced me to things I would never have done before
I have shared intimate secrets with someone I met online.
I have tried to hide from others the amount of time I spend online.
I routinely cut my sleep hours short to spend more time on-line.
Social relationships are important to me.
At times, I have noticed a change in my eating habits because of the net.
I have gotten in to trouble with my school/employer for net related activity.
My grades and/or work performance have decreased since I have been communicating online.
I have been accused of being a computer "nerd" or computer "junkie".
I have ordered merchandise over the net.
I have unsuccessfully attempted to spend less time on-line.
Most of the people I talk to on the net are friends from offline.
Factor 2
Social relationships are important to me.

At times, I have noticed a change in my eating habits because of the net.
I have been accused of being a computer "nerd" or computer "junkie".
I have ordered merchandise over the net.
I have gotten less than 4 hours of sleep on more than one occasion due to using the net (not for studying, deadlines, etc)
More than once I have missed a meal because I was using the net.
If it has been awhile since I last logged on, I find myself thinking about what will be waiting for me when I do.
I have used the net to talk to others at times when I was feeling alone or down.
More than once I have gotten physically aroused while I was online.
I have found information or software that I needed free on the net.
More than once I have been late for appointments because of the net.
I have used net resources intended for adults only.
I have downloaded or viewed sexually oriented pictures/videos on the net.
I have used the net to help myself feel better when I was down or depressed.
I ask questions on the net that I could easily find the answers to in the library.
I have had to buy a better computer since I started using the net.
My exercise habits have changed since I found the net.
I have attempted to resolve an interpersonal conflict electronically instead of face-to-face.
When I wake up the first thing I want to do is get on the computer.
Factor 3
I feel I have an extroverted (outgoing) personality.
I have always been more introverted than extroverted.
People say I am shy.
I find it easier to talk face-to-face with someone than to talk over the net.

APPENDIX F

Survey of Internet Addiction and Satisfaction with Social Life

Reminder: All submissions are held in strict confidentiality. All results are completely anonymous. Only the survey creator has access to the results.

ROWAN STUDENTS: If you are taking this survey as part of an Introduction to Psychology class, you must access this site through the SONA system to receive your credit.

Top of Form

◌ I certify that I am 18 years or older and accept the terms and conditions associated with this survey.

I am a:

◌ Male

◌ Female

I am ⌐_____ years old.

The highest level of education I have completed is:

◌ Elementary School

◌ High School

◌ Some College

◌ College Grad

◌ Masters

◌ Doctorate

I typically use the internet at: (You may check more than one)

☐ Home ☐ Work ☐ School ☐ Other (Public Access)

I am primarily: (check only one)

◌ a student ◌ employed part-time ◌ employed full-time ◌ self employed

○ unemployed

My computer use at work is: (check only one)
○ little to none. ○ little to moderate. ○ moderate ○ moderate to substantial
○ substantial to constant.

I belong to _____ (number of) clubs or organizations OFF of the net.
○ 0-2 ○ 6-9
○ 3-5 ○ 10+

I belong to _____ (number of) clubs or organizations ON the net.
○ 0-2 ○ 6-9
○ 3-5 ○ 10+

I spend an average of_____ hours per week on the Internet(WWW, email, gaming, etc.).
○ 0-2 ○ 10-20
○ 3-6 ○ 20-40
○ 6-10 ○ 40+

On average I spend _____ hours socializing off of the net.
○ 0-2 ○ 10-20
○ 3-6 ○ 20-40
○ 6-10 ○ 40+

My primary reason for using the net is: (check all that apply)
☐ To find resources for work or school.
☐ for learning
☐ to talk to friends
☐ to meet new people
☐ to stay abreast of new developments in areas of interest (hobby, culture)
☐ cybersex or pornography

How many hours do you spend EACH WEEK on each of the following activities:
Personal Email
○ Never use ○ 5-15
○ 1-2 ○ 15

○ 2-5   ○ 40+

News and Current Events
○ Never use   ○ 5-15
○ 1-2   ○ 15
○ 2-5   ○ 40+

Social Networking Sites (Facebook, Myspace ,etc)
○ Never use   ○ 5-15
○ 1-2   ○ 15
○ 2-5   ○ 40+

Other World Wide Web browsing
○ Never use   ○ 5-15
○ 1-2   ○ 15
○ 2-5   ○ 40+

Chat rooms
○ Never use   ○ 5-15
○ 1-2   ○ 15
○ 2-5   ○ 40+

Multiplayer games
○ Never use   ○ 5-15
○ 1-2   ○ 15
○ 2-5   ○ 40+

I have been using the internet regularly for:
○ 0-3 months   ○ 3-6 months
○ 6-12 months   ○ 1-2 years
○ 2-5 years   ○ more than 5 years

Please answer the following questions using the following rating code:
1 = strongly disagree, 2 = disagree, 3 = disagree somewhat, 4 = neither agree or disagree,
5 = agree somewhat, 6 = agree, 7= strongly agree.

1. My first computer experience was with video games.

○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7

3. More than once I have been late for appointments because of the net.

○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7

4. Most of the people I talk to on the net are friends from offline.

○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7

5. I would rather spend an evening online rather than go out with friends

○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7

6. I have gotten less than 4 hours of sleep on more than one occasion due to using the net (not for studying, deadlines, etc)

○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7

7. More than once I have missed a meal because I was using the net.

○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7

8. I have made arrangements to meet someone I only knew from the net.

○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7

9. I have used the net to help myself feel better when I was down or depressed.

○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7

10. I feel preoccupied with the internet (Think about previous online activity or anticipate next online session

○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7

11. My grades and/or work performance have decreased since I have been communicating online.

○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7

12. I have used the net to talk to others at times when I was feeling alone or down.

○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7

13. I find it easier to talk to people on the net than in person.

○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7

14. I have attempted to resolve an interpersonal conflict electronically instead of face-to-face.

○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7

15. In most ways my social life is close to my ideal.

○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7

16. I have shared intimate secrets with someone I met online.

○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7

17. I have been misled about someone's gender I met online.

○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7

18. I have more fun with people I only know on the net than with people I know in person.

○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7

19. When I wake up the first thing I want to do is get on the computer.

○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7

20. I feel the need to spend more and more time online to be satisfied.

○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7

21. I have spent so much time on the internet that I have lost track of time and forget to eat.

○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7

22. People say I am shy.

○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7

23. Social relationships are important to me.

○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7

24. I have voluntarily gone more than 3 days without using the internet in the past 3 months.

○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7

25. The conditions of my social life are excellent.

○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7

26. I have been told at least twice that I spend too much time on the net.

○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7

27. I have been accused of being a computer "nerd" or computer "junkie".

○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7

28. I have used net resources intended for adults only.

○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7

29. I have rearranged social plans in order to get more time online.

○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7

30. I have made repeated unsuccessful attempts to cut back on my online time.

○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7

31. I have always been more introverted than extroverted.

○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7

32. If it weren't for my computer, I would not have any fun at all.

○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7

33. I laugh, smile and/or feel happiest when I am connected to the internet.

○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7

34. I have tried to hide from others the amount of time I spend online.

○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7

35. I am satisfied with my social life.

○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7

36. I have missed at least three appointments that I intended to attend because of the net.

○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7

37. At times, I have noticed a change in my eating habits because of the net.

○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7

38. I have never gotten into an argument with anyone about the amount of time I use the net.

○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7

39. I have unsuccessfully attempted to spend less time on-line.

○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7

40. I feel restless, moody, depressed, or irritable when attempting to cut down or stop Internet use.

○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7

41. My exercise habits have changed since I found the net.

○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7

42. Net friends have introduced me to things I would never have done before

○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7

43. More than once I have gotten physically aroused while I was online.

○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7

44. People say my personality has changed since I started going on-line.

○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7

45. So far I have gotten the important things I want from my social life.

○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7

46. I have gotten in to trouble with my school/employer for net related activity.

○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7

47. Only my net friends truly know who I really am.

○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7

48. I prefer to have an intimate on-line relationship with someone I met on the net than someone in person.

○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7

49. I have found information or software that I needed free on the net.

○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7

50. I sometimes stay online longer than intended.

○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7

51. I have borrowed money to cover my internet related fees.

○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7

52. I find the net to be impersonal.

○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7

53. My last boyfriend/girlfriend complained about my on-line usage.

○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7

54. I have had to buy a better computer since I started using the net.

C 1 C 2 C 3 C 4 C 5 C 6 C 7

55. If I could start my social life over, I would change very little.

C 1 C 2 C 3 C 4 C 5 C 6 C 7

56. I feel I have an extroverted (outgoing) personality.

C 1 C 2 C 3 C 4 C 5 C 6 C 7

57. I routinely cut my sleep hours short to spend more time on-line.

C 1 C 2 C 3 C 4 C 5 C 6 C 7

58. I occasionally have dreams about being on-line.

C 1 C 2 C 3 C 4 C 5 C 6 C 7

59. If it has been awhile since I last logged on, I find myself thinking about what will be waiting for me when I do.

C 1 C 2 C 3 C 4 C 5 C 6 C 7

60. I have jeopardized or risked the loss of a significant relationship, job, educational or career opportunity because of the internet.

C 1 C 2 C 3 C 4 C 5 C 6 C 7

61. I am concerned that government attempts to control the Internet will impact negatively on the things I like to do on the net.

C 1 C 2 C 3 C 4 C 5 C 6 C 7

62. I find it easier to talk face-to-face with someone than to talk over the net.

C 1 C 2 C 3 C 4 C 5 C 6 C 7

63. My work and/or performance has not deteriorated since I started using the net.

C 1 C 2 C 3 C 4 C 5 C 6 C 7

64. I have no desire to meet my net friends in person.

C 1 C 2 C 3 C 4 C 5 C 6 C 7

65. I would not feel irritated if I could not use my computer today.

C 1 C 2 C 3 C 4 C 5 C 6 C 7

66. If internet access was shutdown in my city for 48 hours, I would drive to the nearest city for access.

C 1 C 2 C 3 C 4 C 5 C 6 C 7

67. I have downloaded or viewed sexually oriented pictures/videos on the net.

C 1 C 2 C 3 C 4 C 5 C 6 C 7

68. I have used the net for gambling purposes.

C 1 C 2 C 3 C 4 C 5 C 6 C 7

69. After spending hours at a computer, I have sometimes experienced some disorientation or visual effects.

C 1 C 2 C 3 C 4 C 5 C 6 C 7

70. I have lied to others about the extent of my internet use.

○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7
71. I have ordered merchandise over the net.
○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7
72. I ask questions on the net that I could easily find the answers to in the library.
○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7
73. I use the internet as a way of escaping from problems or relieving a bad mood such as feeling helpless, guilty anxious or depressed.
○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7