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In this issue:

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Internet Addiction Risk in the Academic Environment

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Abstract

The Internet's effect on society is growing exponentially. One only has to look at the growth of e-commerce, social media, wireless data access, and mobile devices to see how communication is changing. The need and desire for the Internet, especially in such disciplines as Computer Science or Computer Information Systems, pose a unique risk for dependencies to arise. These dependencies are identified under the broad terms of Internet Addiction and/or Internet Abuse.

Keywords: Internet Addiction, Internet Abuse, risk factors, online education

1. INTRODUCTION

Faculty are often on the front line to identify behavior issues with students. To make this task even more difficult, faculty find themselves in a changing educational environment. Online or asynchronous course offerings and student demand for these modalities continue to rise, which in contrast with face to face instruction, provide a myriad of communication challenges. Many faculty comment on the demand of immediacy by online students to respond to e-mails or postings on learning management systems, such as Blackboard™. For all of the positive effects of online education (flexibility, access, availability, etc.) faculty's remote interaction with these online students has a negative effect in that it hinders their ability to identify issues, whether they are social or behavioral. In this environment the Internet is the pervasive medium for communication and

services of today's society. With an extreme reliance on any tool there emerges a possibility for an abnormal dependence to occur.   The need and desire for the Internet, especially in such disciplines as Computer Science, or Computer Information Systems (regarded from this point as CSIT programs), pose a greater risk for these dependencies to arise.

This paper will discuss an overview of Internet Addiction and Internet Abuse; identify resources and courses within the CSIT discipline and supporting courses where awareness / identification of this type of disorder is possible; identify current opportunities for treatments; and discuss preparation for students into the workforce, where strict Internet use policies are the norm and not the exception. What are the current steps to help to identify students with possible risks to Internet Addiction? What are the opportunities within the CSIT program to

address/inform the issues of Internet Addiction? And finally what can we do to reduce Internet Abuse for future CSIT graduates. The authors will provide resources for faculty to help identify those at risk, take steps to support/intervene, and prepare students for Internet Abuse challenges that may face them in the workplace, either as an employee suffering from Internet dependence to being an employer who has to compose policies to restrict and control Internet Abuse in the workplace. The focus is on the CSIT online students, though the authors feel that this can be extended to any online student, or online students who are classified as either traditional or non-traditional.

2. BACKGROUND

In a matter of very few years, the Internet has changed forever the way we do business, the way we learn, and the way we communicate. The Internet has become the conduit of information for millions of people, at home, at school, and at work. Since 1989, the online population worldwide has grown from 500,000 to 2.9 billion now (Morahan-Martin, 2005). In 1995, there were 16 million users worldwide; the Internet reached its 1 billion users mark in 2005; its second billion mark by 2010, and the third billion will be reached by the end of 2014. Eighty six percent of the US population is connected to the Internet (http://www.Internetlivestats.com). The Internet can be a very productive tool. Many people work over the Internet, study on the Internet, and keep in touch with distant friends over the Internet. Whether it be online shopping, education or communication, the Internet (and we can say broadband Internet) is the key component allowing our society to function and interact in a very limited physical manner. It goes without saying that the Internet has become an essential tool for today's students. Because teaching is fundamentally about communication and knowledge transfer, when communication methods are changed, so is education. The Internet's effect on academic programs has already been seen in the rise of online education. Between fall 2002 and fall 2011, institutions of higher education saw a decrease in total enrollment of -0.1 percent; however, enrollment in online courses during that period increased on average by 17.5 percent per year. Online enrollment as a percentage of total enrollment in fall 2011 stood at 32 percent (Allen & Seaman, 2013), meaning nearly 1 out of 3 courses in the U.S is now offered online or at a distance. From an educational viewpoint, the number of students

taking at least one online course in the past year increased by over 570,000 to a new total of 6.7 million. Since keeping statistics on online courses, the lowest percent of growth in numbers of online courses in one year is 9.3 percent (http://www.onlinelearningsurvey.com/reports/changingcourse.pdf). Here at the authors' institution, the online rate by fall 2013 is approximately 31 percent, reflecting a 10 percent growth each academic year since fall 2001. Internet has also become an important part of student life (Chou, Condron, & Belland, 2005). Besides the use for education, students appreciate interactivity, ease of use, availability, and breadth of information accessed online (Chou, 2001) In addition, the Internet provides students and all users in general a place to relax, escape pressures, and seek excitement (Morahan-Martin & Schumaker, 2000). More and more courses are being offered asynchronously, and not just viewed on computer, but on smartphones, tablets, and heard through mp3 players which provides an advantage for students, especially non-traditional students (defined as undergraduate students age 25 and higher), who are a growing sector of undergraduate enrollments today. There are enough studies to show the academic effectiveness of online education and the judgment of the worth of online education is not the focus of this paper.

As educators, the faculty's interactions with online students, as well as the students' peer-to-peer support, is fundamentally changing. So the question that becomes apparent is, what effect does this increased movement online in education have specifically for CSIT programs? There are many factors that indicate a high risk for CSIT students. These disciplines already requires high exposure to the Internet and all of its opportunities as part of normal academic use/need/studies. The computer and the Internet are an essential component for study in these disciplines. The Internet is the subject as well as the medium for CSIT education. The typical CSIT student is in the demographic age bracket most likely to be at a greater risk of Internet related addictions. As early as 1997, researcher Brenner suggested that college students' greater accessibility and usage of the Internet may increase their vulnerability to Internet Abuse (Velezmoro, Lacefield, & Roberti, 2010).

It is not uncommon to find students in the CSIT field who are passionate about computers and the world of the Internet; many of these students do not remember a time when

broadband Internet service was not a given in a household; rather they see the Internet as a fundamental necessity. Faculty teaching CSIT courses can be seen as part of the problem as we insist on internalizing computer knowledge and require long hours of interaction with the computers and often via the Internet. Time online is an important factor or index for determining Internet Addiction (Chou et al, 2005). Knowing that intensive computer and Internet use has the potential to magnify addiction problems with students, faculty need to be part of the solution. So the fundamental questions become: how do faculty maintain the role of a front line identifier of risks for Internet Addiction? And how can we address/inform students of the issues of Internet Addiction? And, how do we as faculty help students transition into a world of computer monitoring in the workplace where Internet Abuse is a major concern for employers?

3. WHAT IS INTERNET ADDICTION?

The explosive growth of the Internet over the past decade has almost certainly changed the profile of the computer addict (Chou et al, 2005), and therefore the definition of computer Addiction. Defining Internet Addiction is also difficult even for those who have researched extensively in the field. One definition is that Internet Addiction is a "psychological dependence on the Internet" (Chou et al, 2005). Internet Addiction has yet to be formally recognized as a mental health illness (Felix, 2014), Although Internet Addiction appears to be a common disorder that merits inclusion in Diagnostic and Statistical Manual of Mental Disorders (DSM-V), the closest to formal recognition is that of Internet Gaming Disorder in the fifth edition of the DSM-V (Block, 2008). Internet Gaming Disorder was identified in Section III as a condition warranting more clinical research and experience before it might be considered for inclusion in the main book as a formal disorder (www.dsm5.org).

Young concludes that, although the Internet itself may not be addictive, specific applications (e.g. computer games) appear to play a roles in the development of pathological Internet use (Chou et al, 2005). The confusion as to whether or not Internet Addiction should be a unique disorder stems mainly from the fact that it is co-morbid (a condition that exist alongside another condition) with other disorders, such as panic disorder, or obsessive-compulsion disorder (Felix, 2014).

Chang and Man Law (2008) agree that there are four sub-dimensions to the term Internet Addiction. These four are: Compulsive Internet use involving excessive time spent online and failure to control it; withdrawal symptoms when being restricted from Internet use; using the Internet for social comfort; and negative social, academic or work consequences related to Internet use (Gnisci, Perugini, Pedone, & DiConza, 2011). A few studies have compared Internet Addiction and users' social-psychological or personality variables, such as sensation seeking, pleasure experience, use and gratification, loneliness and depression (Chou et al, 2005). The instant access and immediate gratification of the Internet and the services it supports can be addicting or at least a magnifying force to already established addiction disorders, such as online gambling, pornography and substance abuse. (http://whichmbtitype.wordpress.com/2013/06/17/which-mbti-type-is-most-addiction-prone).

In the educational arena, the effects of Internet Addiction can be seen as students get poor grades or are placed on academic probation because they spend too much time on the Internet rather than on their studies (Chou et al, 2005). Problems caused by the Internet: five use related problems such as failure to manage time, missed sleep, and missed meals, suggesting that such patterns are the norm. Some reported more serious problems because of Internet use, trouble with employers or social isolation except for Internet friends, troubles similar to those found with other addictions (Sherer, 1997).

Though most studies that have been conducted refer to students in Asia, it is estimated that Internet Addiction affects at least one in eight Americans (http://netAddiction.com/faqs). Yet, only 1 percent of college-level introductory and abnormal psychology books mentioned Internet Addiction in 2008 (Mossbarger, 2008). CSIT student demographic information reveals that more males are CSIT majors than females, so the fact that males are more likely than females to become Internet Addicts makes the risk even greater for this demographic student body (Sherer, 1997). Chou and Hsiao's study of 910 students in 2000 found that 54 or 6 percent were Internet addicts who spent 20-25 hours per week online, almost triple the number of hours of 856 non addicts spent online (Chou et al, 2005). Online activities or applications (such as chat rooms or online games) are also an important factor in determining Internet Addiction. (Young, 1998).

4. IDENTIFICATION

If faculty are made aware of warning signs and symptoms, they can more readily identify those students who might benefit from intervention through student counseling services at the institution to help identify high risk students/users (Chou, 2001). Young developed an "Internet Addiction diagnosis questionnaire" available free and online. In this questionnaire, respondents are asked to rate themselves in 20 areas such as: How often do your grades suffer because of time spent on the internet? How often has your job performance suffered because of your time on the Internet? How often do you lose sleep because of late night log-ins? The total score, based on answers that range from rarely to sometimes to always, indicate if the respondent has a potential problem. Those who score between 80-100, meaning most of their answers were most often or always, are told: "Your Internet usage is causing significant problems in your life. You should evaluate the impact of the Internet on your life and address the problems directly caused by your Internet usage" (http://netAddiction.com/Internet-Addiction-test).

5. TECHNIQUES

So where do we address this issue of Internet Addiction within the curriculum? In the IS2010 curriculum guidelines (Topi, Valacich, Wright, Kaiser, Nunamaker, Sipior, & de Vreede, 2010), there is no mention of dealing with the issues of Internet Addiction/ Internet Abuse. It should also be noted that, with many degree programs limited by total program credits with major and general education requirements, that adding another specific course to deal with this issue does not make much sense. So, therefore, the quest is to find areas within existing CSIT curriculum that allow for embedding this topic and providing reinforcement throughout the degree program. Fortunately, there are logical places to do that embedding and reinforcement. The first course is the introductory course IS2010.1 (Foundations of Information Systems) which can address the topics of both Internet Addiction and Internet Abuse when discussions deal with the broader issues of computer ethics. Although not in the IS 2010 curriculum, many programs require a computer ethics course, which would serve well for supporting discussion on these topics.

An assignment that could be used in CSIT courses is one that is often used with students taking a Behavior Modification course in the Psychology department. Students are required to identify a specific behavior that they would like to change. Frequently students identify spending too much time on the computer as the excessive behavior that they would like to change. Often in the treatment of addictive behaviors the goal is abstinence (Joosten, DeWeert-Van Oene, Sensky, Van de Staak, & De Jong, 2011). This obviously is not a realistic goal for students taking online courses or future computer programmers. When students are pressed to be more specific about reducing their computer usage, many will identify the amount of time spent on social media websites. The focus of the exercise is to make students aware of the extent of their behavior and learn strategies to effectively monitor and control their actions.

As a first step, students are required to identify antecedents and consequences of the behavior. Then they are asked to monitor the behavior for two weeks. Most will be amazed by the actual frequency or duration of their behavior. Often the mere recording of the behavior will have an impact, typically reducing it. After a two-week monitoring phase, students implement a self-designed intervention plan focusing on altering stimuli that prompt the behavior and changing the contingencies for excessive time on the internet. Students continue to record their behavior allowing for an empirical evaluation of the effectiveness of the intervention. Most students will report some reduction in their time spent online as well as a greater sense of control of their behavior.

Many CSIT programs are seeing value in external internships as a way to give students some real world experience before graduation. Internet Addiction often reveals itself as Internet Abuse. Internet Abuse is defined broadly as inappropriate web surfing during work hours. It is a problem among organizations as it results in low job productivity, security risks, increased turnover rates, and potential for legal liability (Young, 2012). In the workplace, student presentations of internship experiences many times lead to discussion of Internet Abuse affecting the workplace in specific ways. Another common avenue is to find business courses that can facilitate the education on Internet Addiction. First is an Organizational Behavior course. This course has been useful toward CSIT (McAleer & Szakas, 2005) as it not only reminds the CSIT student of the organizational structures that they must navigate in their career ladder, but also may be

a point for possible discussion on the topic of Internet Addiction/Abuse. In organizational behavior courses, a typical task is for students to take a Myers/Briggs Personality tests (MBTI). The test is available online at http://www.humanmetrics.com/cgi-win/ jtypes2.asp. This is important for students because it reminds us of the variety of techniques to interact/deal with employees. Additionally, and perhaps more importantly, there are specific personality types that in fact lend themselves to have a higher risk of Internet Abuse. INTP (introvert, intuitive, think, perceiving) students are more likely to be attracted to disciplines which require an ability to focus in depth to solve problems, including CSIT degree programs. They are quiet and are the ones most likely to lose social interaction due to a computer addiction (http://whichmbtitype.wordpress.com/2013/06/ 17/which-mbti-type-is-most-addiction-prone).

The second business course that has the potential to assist in the discussion of internet Addiction/Internet Abuse is the Principles of Management course. Studies have shown that the Internet's impact on the work environment has a potential risk in terms of Internet Abuse. Companies that do not conduct policy training or monitor internal messages can be putting themselves at risk. Some estimates reveal that computer crime may cost over $50 billion per year. Sixty percent of security breaches occur within the company --- behind the firewall. Non-work related Internet surfing results in up to a 40 percent loss in productivity in American businesses. From a management information systems perspective, employees who use the Internet for other than job tasks place a significant drain on network resources and impair the responsiveness of the system for job-related activities (Young, 2010). One of the key pieces of Internet Abuse is in dealing with making sound policies in an organizational setting that are both understandable and enforceable. The topics of Internet Addiction and Internet Abuse should be discussed in a management course in chapters dealing with workforce productivity, managing in today's worlds, organizational design, foundations of control, and work teams (McAleer & Szakas, 2004).

6. CONCLUSION

The impact of online education for CSIT students warrants additional investigation into abnormal dependencies as the understanding of Internet Addiction continues to evolve. As faculty continue to be the key interface between students and the institution, strategies to assist in identifying students at risk of Internet Addiction is essential. With the increasing trends of online education, the importance of preparing now for this issue cannot be understated. This will help in student academic success as well as support a healthy IT workforce as it will assist in dealing with the growing problem of Internet Abuse in the workplace.

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