

5-2010

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### Recommended Citation

Townsend, Greg (2010) "The Prevalence of Technology," *Undergraduate Psychology Research Methods Journal*: Vol. 1 : Iss. 11 , Article 9.

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## **The Prevalence of Technology**

Greg Townsend

*The current study at hand administered a survey to determine the prevalence of technology and Internet usage in undergraduate college students. The results of a survey administered to 66 participants revealed that just about two-thirds of the students may have or had an excessive problem, which could be related to several aspects such as age, gender, class status, country of origin, and so on. The results did allow the research to support the hypothesis that stated if someone in college were given a technology and Internet addiction survey, then he/she would report that he/she is in fact addicted to the Internet.*

As old technologies are left behind and new technology is being discovered, the usage of it is drastically on the rise. With such a high usage, one must ask where to draw the line between a hobby and an addiction. This research survey is to discover if people are in fact addicted to technology, more specifically, the Internet. When looking at college students, it would be interesting to actually see how much effort and time is being guided to the use of the Internet. Therefore, the hypothesis for this study is if someone in college were given a technology and Internet addiction survey, then he/she will report that he/she is in fact addicted to technology and the Internet.

Some say that there is a negative effect on relationships from the over usage of the Internet. In fact, researchers have found significant differences between relationships formed through computer-mediated communication (on the Internet) and the relationships that are formed off-line (Chan & Cheng, 2004). Chan and Cheng (2004)

stated that a difference, which existed, was that less depth characterized an Internet-based relationship, meaning that online relationships will not be very strong, even though there are more of them.

In an additional study, Bryant, Sanders-Jackson, and Smallwood (2006), it was found that when on Instant Messaging, adolescents and teenagers spent their time as follows: keep in touch with friends, 92.0%; Make plans with friends, 88.0%; Play games with IM software, 61.5%; Play a trick on someone, 60.0%; Ask someone out, 44.0%; Write something you wouldn't say in person, 42.0%; Send non-text information, 38.5%; Break up with someone, 24.0%. At the same time, over 65% of those participants were using text messaging as well. What one can see from the results of the Bryant, et al. (2006) study is that users of technology use more than just one form, i.e., instant messaging and text messaging.

To better understand what constitutes an Internet addiction, Young (1996) gathered 400 case studies in order to provide some common Internet addiction warning signs: (1) compulsively checking e-mail's, (2) always anticipating the next Internet session, (3) other's complaining that one spends too much time on the Internet, and (4) other's complaining that one spends too much money on the Internet. As 1996 was 14 years ago, one can only imagine how these four warning signs may have changed. Let's say that someone is seeing a therapist or someone in the helping profession about his or her Internet addiction, how might what evaluate his or her patient? During a clinical interview, the therapist must interview for the following pieces of information to get a handle on the supposed addiction: affect, anxiety, ambivalence, cognition, and reality orientation (Legan, 1998). When looking at affect, one is looking at moods and the

patient's expressions of emotions, all while looking for signs of anxiety, or signs of interference with the patient's ability to function. Ambivalence deals with the patients' indecisiveness, doubt, fear of directness, and may indicate self-esteem and dependency problems. The cognition of such addict patients would show that disassociation is occurring, which may interfere with the patient's ability to be logical, clear, and relevant. Also looking at language acquisition of the patient falls under cognitive. Finally, during a clinical interview, the clinician is looking that the patients reality orientation. In Internet addiction, the most prevalent aspect of reality orientation would be the misunderstanding of time. However, other aspects would include knowing where one is (places) and understanding one's surroundings (Legan, 1998). The above pieces of information are all useful for those trying to determine if one does have an addiction, more specifically, an Internet addiction.

Internet addiction is not going to have the same impacts as addiction to alcohol or drugs, such as liver cirrhosis (alcoholism) or increase in stroke risk (cocaine usage). However, some of the side effects of Internet addiction include time (lack thereof), late nights (3 or 4 AM) and sleep deprivation (Young, 1996). On a more physical side, excessive use can lead to carpal tunnel syndrome, back strain, or even eyestrain (Young 1996). When looking at the negative effect of Internet addiction, one should really consider familial, academic, and occupational problems. Young (1996) found that 53% of couples where one spouse was addicted to the Internet reported relationship problems. Over time, relationships with the family slowly decrease in order to make more time for being in front of the computer. The most affected familial aspect would be marriages. The spouse with the Internet addiction neglects to do household chores and even neglects

to take care of the children. As time goes on, this “phase” turns into an addiction and turns into arguments and fights about how the spouse is spending his/her time (Young, 1996).

Quittner (1997) even says that lawyers dealing with marital affairs have seen a rise in divorce due to cyber affairs. The next major effect is on academics, or schooling. The issue that is apparent here is that the Internet is such a useful and prominent tool for those enrolled in school. Due to excessive Internet usage, Young (1996) found that 58% of students reported a decrease in their study habits. This is one of the major issues of concern in the study at hand. Another academic aspect that comes into question is literacy. Research on text messaging and instant messaging is attempting to discover if there are any positive or negative correlations. As no conclusive results have been found, it has been found that text messages and instant messages to people who are not close friends or is about something serious turn from the abbreviated versions to a more conventional way (Baggott, 2007).

Finally, the last area that can be negatively affected by Internet usage is in the occupation or job setting. When employees misuse the Internet at work, they can in fact lose their jobs (depending on how they misused it). Surveying the top 1,000 companies, Robert Half International (1996) discovered that 55% executives believed that when their employees misused work time to surf the Internet that the employees are undermining the company and decreasing their effectiveness. As 14 years have passed since this research, there are now monitoring devices and/or firewalls/blocks for executives to use on certain websites.

Now, the real question is whether or not Internet addiction (and other forms of technological addictions) should be considered for the *Diagnostic and Statistical Manual for Mental Disorders (DSM)*. In a previous issue of *American Journal of Psychiatry*, there is an editorial describing Internet addiction as “excessive gaming, sexual pre-occupations and e-mail/text messaging” as a compulsive disorder and should therefore be part of the DSM (Ottawa Citizen, 2008 as cited in Park, 2008).

With all of the issues and research revolving around technology and the Internet, I am very interested in studying these two aspects among college students.

### **Method**

#### **Participants**

My experiment involved a total of 66 participants, 40 of them being women and 26 being men. The ages of these 66 participants ranged from 18 to 33 years old. All of the participants came from a college/university setting currently enrolled in undergraduate programs at Lindenwood University where 33 were freshman, 18 were sophomores, 8 juniors, and 7 total seniors. Also, all participants were recruited through the Lindenwood Participant Pool (LPP). The LPP is located on the fourth floor of Young Hall on Lindenwood University’s campus. Recruitment was done through the use of the LPP sign up sheets, which were put up on the LPP Board after approval. Participation was strictly voluntary, however, the participants through the LPP also received extra credit from their professors if they were enrolled in one or more of the following classes: Cultural Anthropology (ANT 112), Focus on Modern Asia (ANT 300), Principles of Psychology (PSY 100), Interactive Psychology (PSY 101), Basic Concepts of Sociology (SOC 102), Social Problems (SOC 220), Race and Ethnicity: A Global Perspective (SOC

318), Introduction to Athletic Training (AT 295), Foundations of Sports and Exercise Science (EXS 100).

### **Materials**

The materials used in this study were fairly straightforward. Paper was the main material for this research. It was used for items such as the reSTART Internet Addiction Recovery Program (2010) 15-question survey (Appendix A), demographic survey (Appendix B), informed consent form (Appendix C), feedback letter (Appendix D), and participant receipts (Appendix E). Aside from the materials I prepared, the LPP also booked rooms (in the psychology lab in the bottom floor of Young Hall) for me that included chairs or tables/desks to administer the research. Ink pens were also provided in order for the participants to fill out all of the aforementioned documents. These were used to fill out everything that was handed to the participants. There were also a three 3-ring binders, which I utilized to keep all of the above materials organized and easily accessible.

### **Procedure**

Since research was done through the LPP, all recruitment was done through sign up sheets that were placed on the LPP Board. Once participants signed up, they participants would arrive on the allotted time and day, sign in on the Experimenter's List of Participants (Appendix F), and choose a desk or spot where I placed three sheets of paper on the desks; Appendices E, C, B, and A (in that order). The experimenter then introduced himself and informed the participants to start to fill out the papers in order on their respective desks and for them to inform the experimenter when finished. Once all participants finished filling out the papers, the papers were collected and placed into one

of the 3-ring binders. Next, the experimenter debriefed the participants as to purpose and hypothesis of the experiment and a feedback letter was then passed out with the summary of the experiment and contact information for the experimenter if the participants needed to reach him for any reason at a later date.

### Results

My hypothesis stated if someone in college were given a technology and Internet addiction survey, then he/she would report that he/she is in fact addicted technology and the Internet. I used scoring guide from the reSTART Internet Addiction Recovery Program (2010) survey that stated, three to four "yes" responses suggest you may be spending too much time using the Internet or interfacing with technology and five or more "yes" responses suggest you may have a problem with excessive Internet or technology use, or a possible addiction. After analyzing the data and conducting frequency tests, I found that about two-thirds of participants had three or more "yes" responses and may have or have an excessive technology or Internet addiction. I found that 40.9 % had no problem, 27.3 % may have a problem and 31.8% have an excessive problem, it is important to know what participants had these problems or lack thereof.

When comparing the data, it is important to know where and who the problems reside with. First, I compared the number of yes responses between participants from the United States of America with students from other countries. Please note that three students from the United States of America did not fully complete their surveys; only partially. On average, participants from the U.S.A circled 2.82 "yes" responses and participants from countries other than the U.S.A. circled 4.37 "yes" responses. When it came to grade levels, freshman would circle an average of 3.13 "yes" responses,



sophomores an average of 3.41 “yes” responses, where as juniors were lower with an the average circled “yes” responses at 2.13 and seniors with an average “yes” response at 5.00. Finally, when comparing the genders, men circled “yes” an average of 3.20 times whereas the women were little higher at 3.34 averaged circled yes’s.

In the demographic survey (Appendix B), the last question had participants choose what forms of technology he/she uses most. The top three (of 17 total to choose from) were cell phone usage at 80.3 %, social networking at 72.7 %, and music sharing and television both with 36.4 %.

### **Discussion**

My hypothesis, which stated if someone in college were given a technology and Internet addiction survey, then he/she would report that they are in fact addicted to technology and the Internet, was in fact supported by the research and I can therefore accept my research hypothesis. With all of the different statistical analyses that were performed, what do they all mean? According to reSTART, “If you or someone you care about is using the Internet or technology excessively, and it is interfering with important aspects of daily living (e.g. health, family life, relationships, academic achievement, or work responsibilities) intervention may be merited.” (reSTART, 2010). For the 31.8 % that circled five or more “yes” responses in the present study, they may need to consider getting help. For the 27.3% that may have a problem, steps need to be taken to it does not further into excessive use.

Ideally, I would have been able to get many more participants, including evening out the men and women ratios as well as U.S. to non-U.S. country origins. If time permitted, contacting the company, which created the survey to get their results and

compare, would also be beneficial. If looking at the survey itself, I think there should be more questions that are more specific as technology is much more broad than the Internet, though they are both wide spread topics. As time goes on, it is apparent that technology and Internet usage is drastically on the rise and will continue, so the next steps are finding out ways to cope or handle any excessive problems.

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Appendix A

Survey

Participant ID: SRP-

**Directions: Please choose the answer that best fits you for each question.**

1. Do you feel you have a strong desire, or impulse, to use the Internet?

Yes

No

2. When attempting to limit or cease use of the Internet and/or other technology, do you find yourself feeling restless, irritable or anxious?

Yes

No

3. When limiting or ceasing use of your usual and preferred Internet activities, do you find that seeking out the use of other media sources (i.e., TV, handheld consoles, cell phones, etc.) relieves those feelings of restlessness, anxiety or irritability?

Yes

No

4. Do you find yourself continually having to increase the amount of Internet and/or digital technology use to reach your previous level of satisfaction?

Yes

No

5. Do you continue to use the Internet and/or other forms of digital technology in excess, regardless of its harmful effects (e.g., relationship problems, failing classes, missing work, poor hygiene, weight gain or loss, etc.)?

Yes

No

6. Have you been repeatedly unsuccessful in limiting the amount of time you spend on the Internet and/or digitally-based products?

Yes

No

7. As a result of your Internet use, are you spending little or no time in social, recreational or other activities that you used to enjoy?

Yes

No

8. Do you have difficulty controlling use (e.g. time and content) of your Internet and/or digital technology use?

Yes

No

9. Do you find that your Internet use is a way to escape problems or gain relief from negative feelings?

Yes

No

10. Do you deny or minimize your Internet use to parents, teachers, schoolmates, friends, or professionals (this includes time, content, money expenditures, etc.)?

Yes

No

11. Are you finding that everyday life and social functioning is impaired (e.g., relationships, education or employment) as a result of your Internet or technology use?

Yes

No

12. Are you experiencing chronic exhaustion due to lack of sleep, weight gain from lack of exercise, poor general health from poor nutrition, or other physical health problem due to excessive Internet use or video gaming?

Yes

No

13. Have you ever stolen, cheated, or lied in order to fulfill your online desires (e.g., parent's credit card to buy something for a game)?

Yes

No

14. Have you ever become violent or abusive when someone tried to limit your access to the Internet or video game?

Yes

No

**Directions: Please circle the answer that best fits you.**

15. Do you think you may have a problem with excessive use of the Internet and/or any other technology-based product(s)?

(Excessive: using some form of technology or Internet more than 5 times an hour (please do not include checking what time it is).

Yes, absolutely

Maybe a possibility

I don't think so

Absolutely not

Someone in my life thinks I do

Other (please specify):

## Appendix B

## Participant Demographic Survey

Participant ID: SRP-

1.) Please circle your schooling status:

Freshman      Sophomore      Junior      Senior      Other: \_\_\_\_\_

2.) Please indicate your age: \_\_\_\_\_ years

3.) Please circle your gender:

Female                      Male

4.) What country are you from? \_\_\_\_\_

5.) What Internet or technology-based activity do you enjoy the most (Please choose up to 3 choices by placing an X on the line in front of the description)?

- |   |   |
|---|---|
| <input type="checkbox"/> Blogging   | <input type="checkbox"/> Online Gaming  |
| <input type="checkbox"/> Cell Phone Use (Blackberry, iPhone)                      | <input type="checkbox"/> Online Pornography (online sex cruising)                             |
| <input type="checkbox"/> Forum Browsing   | <input type="checkbox"/> Online Shopping  |
| <input type="checkbox"/> Handheld Gaming Devices                                  | <input type="checkbox"/> Social Networking (Facebook, Twitter etc)                            |
| <input type="checkbox"/> MMORPG (Massively multiplayer online role-playing games) | <input type="checkbox"/> Software Developer (programming, IT, etc.)                           |
|   | <input type="checkbox"/> Surfing the Net  |
| <input type="checkbox"/> Music Sharing  | <input type="checkbox"/> Television (Hule, on/offline viewing)                                |
| <input type="checkbox"/> Online Auctioning  | <input type="checkbox"/> Video Gaming (Microsoft Xbox Live, Nintendo Wii, Playstation, other) |
| <input type="checkbox"/> Online Gambling  |   |

Other (please specify):



## Appendix C

## Informed Consent Form (LPP Participants)

I, \_\_\_\_\_ (print name), understand that I will be taking part in a research project that requires me to complete a 15-question survey about Internet addiction that will take approximately 10 minutes to complete. I also understand that all questions must be answered. I am aware that my participation in this study is strictly voluntary and that I may choose to withdraw from the study at any time without any penalty or prejudice, as well as if I cannot complete the test. I understand that the information obtained from my participation will in no way be able to identify who I am and that all identifying information will be absent from the data in order to ensure anonymity. I am also aware that my responses will be used strictly for research and educational purposes only. I understand that any questions I may have regarding the survey shall be answered by the researchers(s) to my satisfaction. Finally, I verify that I am 18 years of age and that I am legally able to give consent. Also, I verify that if I am under the age of 18 that I have on file, with the LPP Office, a completed parental consent from that allows me to give consent as a minor.

\_\_\_\_\_

Date: \_\_\_\_\_

(Signature of Participant)

\_\_\_\_\_

Date: \_\_\_\_\_

(Signature of Researcher Obtaining Consent)

Student Researcher's Name, E-mail, and Number:

Greg Townsend grt357@lionmail.lindenwood.edu (314) 605-9056

Supervisor:

Dr. Michiko Nohara-LeClair

Course Instructor

(636) 949-4371

mnohara-leclair@lindenwood.edu

## Appendix D

## Feedback Letter

Thank you for participating in my experiment. The survey that was just administered was about technology and Internet addiction. All participants received this survey. I am attempting to determine how many college students are in fact addicted to technology or Internet. If this is the case, it is apparent that human interaction is decreased by the time one spends on the Internet, which is mentally unhealthy. There were a few questions that may have been personal, but there will be no way for anyone to identify you and your answers.

If you have any questions and/or concerns regarding any portion of this study, please do not hesitate to bring them up in the future. Contact information can be found at the bottom of this letter. If you are interested in obtaining a summary of the findings of this study and a date later than you taking the test, please make an effort to contact a number at the bottom of the page and it will be available upon the completion of the experiment.

Thank you for your time and contribution to the study.

Sincerely,

Principal Investigator:

Greg Townsend      (314) 605-9056      [grt357@lionmail.lindenwood.edu](mailto:grt357@lionmail.lindenwood.edu)

Supervisor:

Dr. Michiko Nohara-LeClair (636) 949-4371      [mnohara-leclair@lindenwood.edu](mailto:mnohara-leclair@lindenwood.edu)

Appendix E

| <u>Participant's Receipt</u>   | <u>Participant's Receipt</u>   |
|--|--|
| x _____<br><b>(Participant's full name-printed)</b>  | x _____<br><b>(Participant's full name-printed)</b>  |
| x _____<br><b>(Signature)</b>  | x _____<br><b>(Signature)</b>  |
| x _____<br><b>(Student ID number)            (Time of Class)</b>   | x _____<br><b>(Student ID number)            (Time of Class)</b>   |
| x _____<br><b>(Teacher's name)</b>   | x _____<br><b>(Teacher's name)</b>   |
| _____<br><b>(Project Number)</b>   | _____<br><b>(Project Number)</b>   |
| _____<br><b>(Experimenter's name-printed)</b>  | _____<br><b>(Experimenter's name-printed)</b>  |
| _____<br><b>(Experimenter's Signature)            (date)</b>   | _____<br><b>(Experimenter's Signature)            (date)</b>   |
| <p style="text-align: center;"><b>Please return this form to Y407<br/>to receive your extra credit</b></p> | <p style="text-align: center;"><b>Please return this form to Y407<br/>to receive your extra credit</b></p> |

Appendix F

**EXPERIMENTER’S LIST OF PARTICIPANTS**

Project #: \_\_\_\_\_ Experiment Name: \_\_\_\_\_

|     | <b>Print</b> Participant’s Name | Date | Professor | Class Time | Student ID Number |
|-----|---------------------------------|------|-----------|------------|-------------------|
| 1.  |                                 |      |           |            |                   |
| 2.  |                                 |      |           |            |                   |
| 3.  |                                 |      |           |            |                   |
| 4.  |                                 |      |           |            |                   |
| 5.  |                                 |      |           |            |                   |
| 6.  |                                 |      |           |            |                   |
| 7.  |                                 |      |           |            |                   |
| 8.  |                                 |      |           |            |                   |
| 9.  |                                 |      |           |            |                   |
| 10. |                                 |      |           |            |                   |
| 11. |                                 |      |           |            |                   |
| 12. |                                 |      |           |            |                   |
| 13. |                                 |      |           |            |                   |
| 14. |                                 |      |           |            |                   |
| 15. |                                 |      |           |            |                   |
| 16. |                                 |      |           |            |                   |
| 17. |                                 |      |           |            |                   |
| 18. |                                 |      |           |            |                   |
| 19. |                                 |      |           |            |                   |
| 20. |                                 |      |           |            |                   |

\_\_\_\_\_  
*Experimenter’s Signature*

\_\_\_\_\_  
*Date*

Must be completed (this **doesn’t** mean that all 20 slots have to be filled out) and turned into the LPP by **Friday evening 8:00 P.M.** or the experimenter responsible will be fined accordingly.