

The Relationship Between Shyness and Internet Addiction: A Quantitative Study on  
Middle and Post Secondary School Students.

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## **Abstract**

This small scale quantitative study looks into the relationship between shyness and internet addiction in middle school students. This study has been conducted on the belief that shyness is a possible predictor of Internet Addiction. To prove this hypothesis a questionnaire was created and distributed to 53 middle school students and 159 post secondary students. The results showed a relationship between shyness and Internet Addiction in middle school but not in post secondary students. It was found that time was the predictor for Internet Addiction with post secondary students. In summary, this study addresses the problem of Internet Addiction and the possibility of shyness as being one of its forecasters by using Young's (2002) Internet Addiction Scale and the Cheek and Buss (1981) Shyness Scale. A Pearson's Correlation was performed to determine if there is a relationship between the two.

## **Introduction**

Internet Addiction is a new phenomenon, while shyness is not. Much of the time people use the Internet as a way to escape from reality or as a way to communicate with others without having to worry about social consequences. The more frequent and common Internet use becomes, the more prevalent Internet Addiction will become.

This study is not attempting to prove the existence of internet addiction or shyness, but rather the correlation between the two. There have been many papers published about Internet Addiction (Hughes, Johansson & Gotestam, Tsai & Lin etc...). Many have been published about relationships between Internet Addiction and social problems such as anxiety and depression (Johansson & Gotestam, Kaltial-Heino, Lintonen, & Rimpela) but it is difficult to find relationships between shyness and Internet Addiction. Of these published studies, many of them discuss the Internet problems concerning high school and college students. Middle school students are a very different group of students, whereas it is a very awkward stage and these students are developing mentally as well as socially. The internet does not have an age requirement and many adolescents have unlimited access to the internet. These adolescents are going through many changes, both physically and emotionally and it is generally considered a very awkward age, especially when it comes to communicating with others. I believe that it is this awkwardness that will make them susceptible to shyness and Internet Addiction.

In an attempt to find a relationship between shyness and Internet addiction, questionnaire surveys were conducted in a middle and post-secondary school. After the questionnaires were analyzed, it was found that there was a significant relationship among middle school between shyness and Internet Addiction. The shier the students were, the more likely it seemed that they would be addicted to the Internet ( $r=0.344$ ,  $p<0.05$ ). This was not the case with the secondary students. There did however seem to be a relationship between the amount of time these students spent on the internet and Internet Addiction ( $r=0.223$ ,  $p<0.05$ ).

To address this question, whether shyness influences Internet Addiction, we must first define what is meant by Internet Addiction and how we assess Internet Addiction and shyness. This study will use Dr. K S. Young's definition of internet addiction which she uses on her website [www.netaddiction.com](http://www.netaddiction.com). Young (2004) believes that Internet Addiction (IA) encompasses excessive amounts of time, or the want to spend time partaking in numerous computer/internet activities. These include;

1. Cybersex – the downloading, viewing or trading pornography.
2. Cyber- Relational – using chat rooms or chat programs.
3. Net gaming –playing video games on the computer or internet.
4. Information overload – searching and collecting data.
5. Computer Addiction – using the computer to play games. (Young 2004)

Questions are also used by Young to assess if an individual may be addicted to the Internet. Those questions were used in the questionnaire distributed to students and will be discussed in the methods section of this report.

Shyness on the other hand can be defined as a difficulty dealing with people in social situations. Shyness is a common trait found in approximately 40% of individuals, females are more likely to experience shyness (Scealy, Phillips & Stevenson, 2002, p.508). Scealy et. al (2002) goes on to state that shyness is a “distinct” personality characteristic and can lead to a range of social problems.

## **Literature Reviews**

Most studies on Internet Addiction use Dr. Young's Internet Addiction scale. Tsai, & Lin's (2003) article “Internet Addiction of Adolescents in Taiwan: An Interview study,” was a follow up to some research completed earlier on a number of Taiwanese students, sixteen and seventeen year olds, that were suspected of having Internet Addiction and were identified using Young's scale. Tsai and Lin interviewed a small number of the students identified and agreed that there seemed to be a problem with the amount of time that the individuals spent using the computer.

Another study using Young's scale for Internet Addiction is “Internet Addiction: Characteristics of a Questionnaire and Prevalence in Norwegian Youth (12-18 years)” by Johansson and Gotestam (2004). This paper discusses other studies conducted in Australia, China, Taiwan and the United States. Johansson et. al. (2004, p.228) state that all of the studies conducted, including their own in Finland, showed that Internet Addiction was prevalent in 8-10% of those studied. They also add that this type of Internet dependence has many commonalities with a gambling type of addiction (Johansson et. al. 2004, p.228). Both studies discuss the implications of Internet Addiction but do not mention that shyness may be a contributing factor to Internet Addiction. There is however a study by Scealy, Phillips & Stevenson (2002) which discusses shyness and anxiety as predictors of patterns for internet usage.

There has been some research conducted on the relationship between Internet Addiction and Shyness. Scealy et. al. (2002, p.507) conducted a survey that included an Internet use survey, the Social Reticence Scale and a Trait Anxiety Inventory which was completed by 177 participants. Although the study was not able to conclude that shyness was a contributing factor to Internet Addiction, they did however have some interesting findings. They found that shy and anxious people did not use the internet anymore than people that did not have the same social problems, but they did predict that what people did with their time on the Internet can be isolating (Scealy et. al. 2002, p.513). Furthermore, they predicted that with the increase popularity of the Internet and its facilitation of relationships on and offline may be detrimental to those who have difficulties with the offline aspects, and would cause social isolation for those with high levels of shyness (Scealy et. al. 2002, p.513).

These studies are very important to the development of this study. First and foremost all of the studies used Young's scale when measuring Internet Addiction. The study by Scealy, Phillips & Stevenson used the Cheek and Buss shyness scale when evaluating their participants.

It is also very important to note that the idea of Internet Addiction is not a cultural phenomenon, as noted in the Johansson and Gotestam discussion (2002).

Finally although Scealy, Phillips & Stevenson article did not find shyness to be a contributing factor to Internet abuse, they did however formulate the hypothesis that shyness would contribute to excessive use of the Internet for communication. As it became more widespread, it would therefore contribute to the isolation of the socially inept.

After a review of the literature this study suggests the following hypothesis:

H1: The higher the level of shyness, the more likely one tends to be addicted to the internet.

H2: Middle school students have a tendency to be more publicly withdrawn than primary or secondary students; therefore shyness will have a more prominent influence on their internet habits.

## **Methodology**

### **Participants**

Two self administered online questionnaire surveys were conducted in a convenience sampling method. There are limitations in the accuracy of generalization; non-probability snowball sampling was used because of time and resource limitations. The post 159 secondary students' questionnaires were posted on the internet and the 53 middle school students' online questionnaire was placed in a server, so they could be

supervised while completing it. The instructor and a library assistant were also present while the middle school students completed their questionnaire, to answer questions they may have. After all of the middle school students completed the questionnaire, its online address was deleted from the school server.

The online questionnaire was created, completed and the results stored in [www.my3q.com](http://www.my3q.com), the questionnaire contained four separate sections;

- 1) Internet Addiction Tendency
- 2) Shyness Scale
- 3) Internet Usage
- 4) Demographics

The middle school students were then told about the contents of the questionnaire and it was shown to them on an interactive whiteboard. They were also told that they would complete the questionnaire individually, and that it was anonymous. The students were also told that it was important to answer all of the questions on the questionnaire and to check the answer that they felt was closest to their personal response. The post secondary students had their questionnaire posted on the Internet and spread to the researcher's students.

The students

The middle school students were monitored while they completed the questionnaire and any questions they had were answered. The computer lab was set up in such a way that it would be difficult for the students to share their responses without the instructor knowing. The instructor was also aided by the library assistant. The same conditions and procedures were repeated for the three classes. After all of the students involved answered the questionnaire, the address for the questionnaire was deleted from the shared folder on the school server.

The secondary students were able to complete the questionnaire in their spare time.

## **Results and Findings**

Among the 59 middle school students, 45.3% are male and 54.7% are female. The Internet Addiction scale identified 2 (3.8%) as Internet addicts. Of the 159 post secondary students, 34.3% were male and 65.7% are females. The post secondary group had 9 students classified as Internet addicts (5.7%).

Pearson's correlation analysis was run to test the relationships between usage, shyness and Internet Addiction for both middle and post secondary school students. The results supported Hypothesis 1. Shyness does contribute to a middle school student's internet habits. The shyer a student is, the more likely he/she will become an internet addict ( $r=0.344$ ,  $p<0.05$ ). **Table II**

Hypothesis 2 was also supported because shyness was not a factor for Internet use by the Post secondary students, the amount of time one spends on the internet was the influential factor. In the case of the post secondary student the Pearson result for the amount of time versus Internet addiction( $r=0.223$ ,  $p<0.05$ ) **Table III**

Further analysis of the data also showed that the majority of the middle school students also spent most of their time using messenger programs and chat rooms (56.6%) **Table IV**

## **Conclusions**

In conclusion, the analysis of the results have shown that shyness is a contributing factor to the Internet abuse in middle school students, unlike the post secondary students, which Internet time contributed to Internet Addiction.

Although this study has shown some significant relationships between Internet Addiction and Shyness in middle school students and time with post secondary students, it does have its limitations. The data was collected over a very short period of time and the questionnaire does have its restrictions. To seriously consider the results of this study, it is also important to believe that Young's Addiction scale and the Cheek Buss shyness scale are accurate ways of measuring Internet Addiction and shyness. In the case of the middle school, the amount of students that completed the questionnaire is not an adequate number for a sample and generalizations cannot be made.

The outcomes of this study are however quite significant. If it is possible to use shyness as a predictor of Internet Addiction, it would be much easier to identify students with an Internet Addiction problem. The results of this study demonstrate the need for further investigation. If shyness in middle school students does influence Internet Addiction, then what will be the consequences on their social and emotional growth? This question also needs to be answered.

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**TABLE I** The questions posed to the students in the Internet Addiction and Shyness Scale in the questionnaire.

Young's Internet Addiction Questionnaire (www.netaddiction). If the individual answers yes to five or more questions, there is a possibility that he/she may suffer from Internet Addiction.

1. Do you feel preoccupied with the Internet (think about previous on-line activity or anticipate next on-line session)?
2. Do you feel the need to use the Internet with increasing amounts of time in order to achieve satisfaction?
3. Have you repeatedly made unsuccessful efforts to control, cut back, or stop Internet use?
4. Do you feel restless, moody, depressed, or irritable when attempting to cut down or stop Internet use?
5. Do you stay on-line longer than originally intended?
6. Have you jeopardized or risked the loss of significant relationship, job, educational or career opportunity because of the Internet?
7. Have you lied to family members, therapist, or others to conceal the extent of involvement with the Internet?
8. Do you use the Internet as a way of escaping from problems or of relieving a dysphoric mood (e.g., feelings of helplessness, guilt, anxiety, depression)?

A copy of the Cheek and Buss Shyness Scale (1983). Respondents would check the most appropriate answer:

- 1) Strongly Disagree (1pt) 2) Disagree (2pt)
  - 3) Neutral (3pt) 4) Agree (4pt)
  - 5) Strongly Agree (5pt)
1. I feel tense when I'm with people I don't know well.
  2. I am socially somewhat awkward.
  3. I do not find it difficult to ask other people for information.
  4. I am often uncomfortable at parties and other social functions.
  5. When in a group of people, I have trouble thinking of the right things to talk about.
  6. It does not take me long to overcome my shyness in new situations.
  7. It is hard for me to act natural when I am meeting new people.
  8. I feel nervous when speaking to someone in authority.
  9. I have no doubts about my social competence.
  10. I have trouble looking someone right in the eye.
  11. I feel inhibited in social situations.
  12. I do not find it hard to talk to strangers.
  13. I am more shy with members of the opposite sex.
- A score between 13-35 indicates that you are not a shy person.  
 A score between 36-49 indicates that you are somewhat shy.  
 A score between 50-65 indicates that you are a very shy person.



**Table II** shows the correlation between Internet Addiction and Shyness in the group of middle school students.

**Correlations**

		GENDER	AGE	ADDICT	SHY	TIME
GENDE R	Pearson Correlation	1.000	. <sup>a</sup>	.153	.134	.047
	Sig. (2-tailed)	.	.	.275	.340	.737
	N	53	53	53	53	53
AGE	Pearson Correlation	. <sup>a</sup>	. <sup>a</sup>	. <sup>a</sup>	. <sup>a</sup>	. <sup>a</sup>
	Sig. (2-tailed)	.	.	.	.	.
	N	53	53	53	53	53
ADDICT	Pearson Correlation	.153	. <sup>a</sup>	1.000	.344*	.198
	Sig. (2-tailed)	.275	.	.	.012	.156
	N	53	53	53	53	53
SHY	Pearson Correlation	.134	. <sup>a</sup>	.344*	1.000	-.074
	Sig. (2-tailed)	.340	.	.012	.	.597
	N	53	53	53	53	53
TIME	Pearson Correlation	.047	. <sup>a</sup>	.198	-.074	1.000
	Sig. (2-tailed)	.737	.	.156	.597	.
	N	53	53	53	53	53

\*. Correlation is significant at the 0.05 level (2-tailed).

a. Cannot be computed because at least one of the variables is constant.

**Table III** shows that there is no correlation between Internet Addiction and shyness in the post secondary group of students. It does show that there is a direct correlation between Internet Addiction and the amount of time the students spend online.

**Correlations**

		GENDER	AGE	ADDICT	SHY	TIME
GENDE R	Pearson Correlation	1.000	.062	-.107	.009	.052
	Sig. (2-tailed)	.	.463	.208	.918	.539
	N	143	143	141	137	142
AGE	Pearson Correlation	.062	1.000	.072	.090	.194*
	Sig. (2-tailed)	.463	.	.392	.294	.020
	N	143	145	143	139	144
ADDICT	Pearson Correlation	-.107	.072	1.000	.129	.223**
	Sig. (2-tailed)	.208	.392	.	.128	.008
	N	141	143	157	140	143
SHY	Pearson Correlation	.009	.090	.129	1.000	.027
	Sig. (2-tailed)	.918	.294	.128	.	.748
	N	137	139	140	142	139
TIME	Pearson Correlation	.052	.194*	.223**	.027	1.000
	Sig. (2-tailed)	.539	.020	.008	.748	.
	N	142	144	143	139	145

\*. Correlation is significant at the 0.05 level (2-tailed).

\*\*. Correlation is significant at the 0.01 level (2-tailed).

**Table IV** shows the percentage of middle school answers when asked which online activity they most often took part.

**USAGE**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1) Checking e-mail	4	7.5	7.5	7.5
	2) Web surfing	3	5.7	5.7	13.2
	3) Searching for information on WWW	5	9.4	9.4	22.6
	4) ICQ, MSN messenger, or Yahoo messenger	30	56.6	56.6	79.2
	5) Playing online games	10	18.9	18.9	98.1
	6) Reading online news	1	1.9	1.9	100.0
Total		53	100.0	100.0	

**Table V** shows the frequencies and percentages of the middle school students answers to Young’s Internet Addiction questions.

**ADDICT**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid .00	12	22.6	22.6	22.6
1.00	18	34.0	34.0	56.6
2.00	9	17.0	17.0	73.6
3.00	8	15.1	15.1	88.7
4.00	4	7.5	7.5	96.2
5.00	1	1.9	1.9	98.1
8.00	1	1.9	1.9	100.0
Total	53	100.0	100.0	

**Table VI** shows the frequencies and percentages of the middle school students’ answers to Cheek and Buss’ shyness scale.

**SHY**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 26.00	1	1.9	1.9	1.9
28.00	1	1.9	1.9	3.8
29.00	2	3.8	3.8	7.5
31.00	8	15.1	15.1	22.6
32.00	1	1.9	1.9	24.5
33.00	3	5.7	5.7	30.2
34.00	3	5.7	5.7	35.8
35.00	3	5.7	5.7	41.5
36.00	1	1.9	1.9	43.4
37.00	8	15.1	15.1	58.5
38.00	3	5.7	5.7	64.2
39.00	3	5.7	5.7	69.8
40.00	5	9.4	9.4	79.2
41.00	3	5.7	5.7	84.9
43.00	1	1.9	1.9	86.8
44.00	2	3.8	3.8	90.6
45.00	3	5.7	5.7	96.2
46.00	1	1.9	1.9	98.1
50.00	1	1.9	1.9	100.0
Total	53	100.0	100.0	

**Table VII** shows the frequencies and percentages of the middle school students' time spent on the internet.

**TIME**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2.00	1	1.9	1.9	1.9
	3.00	1	1.9	1.9	3.8
	4.00	4	7.5	7.5	11.3
	5.00	6	11.3	11.3	22.6
	6.00	6	11.3	11.3	34.0
	7.00	8	15.1	15.1	49.1
	8.00	14	26.4	26.4	75.5
	9.00	5	9.4	9.4	84.9
	10.00	7	13.2	13.2	98.1
	11.00	1	1.9	1.9	100.0
	Total	53	100.0	100.0	