An exploration of factors related to students' attitudes toward use of the Internet

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Northern Illinois University

An Exploration of Factors Related to Students' Attitudes Toward Use of the Internet

A Thesis Submitted to the University Honors Program
In Partial Fulfillment of the Requirements of the Baccalaureate Degree

With University Honors

Department of Family, Consumer, and Nutrition Sciences

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A survey was administered to 115 Northern Illinois University students to assess attitudes toward use of the Internet. Online activities investigated included a) past experience using the Internet; b) variety of Internet usage experience; c) time spent using the Internet for buying products or looking for information; d) time spent using the Internet for communicating through e-mail; e) time spent using the Internet for communicating through chat rooms for entertainment; and f) time spent on the Internet for entertainment (other than in chat rooms). Surveys were administered in two university classrooms, and Pearson correlations were used to test for relationships between independent and dependent variables. Past experience using the Internet, variety of Internet usage experience, and time spent on the Internet for entertainment (other than in chat rooms) were positively related to attitudes toward use of the Internet. No significant relationship was found between other activities and attitudes toward use of the Internet. Therefore, the more students use the Internet, and the greater the variety of usage experiences, the more positive their attitude toward use of the Internet.
Abstract
A survey was administered to 115 Northern Illinois University students to assess attitudes toward use of the Internet. Online activities investigated included a) past experience using the Internet; b) variety of Internet usage experience; c) time spent using the Internet for buying products or looking for information; d) time spent using the Internet for communicating through e-mail; e) time spent using the Internet for communicating through chat rooms for entertainment; and f) time spent on the Internet for entertainment (other than in chat rooms). Surveys were administered in two university classrooms, and Pearson correlations were used to test for relationships between independent and dependent variables. Past experience using the Internet, variety of Internet usage experience, and time spent on the Internet for entertainment (other than in chat rooms) were positively related to attitudes toward use of the Internet. No significant relationship was found between other activities and attitudes toward use of the Internet. Therefore, the more students use the Internet, and the greater the variety of usage experiences, the more positive their attitude toward use of the Internet.
An Exploration of Factors Related to Students' Attitudes Toward Use of the Internet.

The Problem and Its Setting

The Statement of the Problem

The purpose of this study was to determine online activities related to students' attitudes toward use of the Internet. Factors investigated included: a) past experience using the Internet, b) variety of Internet usage experience, c) time spent using the Internet for buying products or looking for information, d) time spent using the Internet for communicating through e-mail, e) time spent using the Internet for communicating through chat rooms for entertainment, and f) time spent using the Internet for entertainment (other than in chat rooms).

Variables

Dependent Variable. Students' attitudes toward use of the Internet.

Nominal Definition: Students' positive and negative opinions about using the Internet.

Operational Definition: In this study, students' attitudes toward using the Internet were measured by scores on the index comprising items 129-140 in the Online/Internet Survey (see Appendix A).

Independent Variables.

1. Past experience using the Internet.

Nominal Definition: The number of hours per week spent using the Internet.

Operational Definition: In this study, past experience using the Internet was measured by item 104, "On average, about how many hours per week do you spend online?" in the Online/Internet Survey (see Appendix A).

2. Variety of Internet usage experience.

Nominal Definition: Number of activities for which a person has used the Internet, for example, using the Internet as a resource tool.
Operational Definition: In this study, variety of Internet usage experience was measured by adding the number of reasons indicated in items 106 and 107, "Do you use the Internet for any of the following reasons?" in the Onlinellnternet Survey (see Appendix A).

3. Time spent using the Internet to buy products or look for product information.

Nominal definition: Number of hours spent using the Internet to buy products or look for product information.

Operational Definition: In this study, time spent using the Internet to buy products or look for product information was measured by item 109, "About how many hours per week do you spend on the Internet buying products or looking for product information?" in the Onlinellnternet Survey (see Appendix A).

4. Time spent using the Internet for communicating through e-mail.

Nominal Definition: Number of hours spent using the Internet for communicating through e-mail.

Operational Definition: In this study, time spent using the Internet for communicating through e-mail was measured by item 110, "About how many hours per week do you spend on the Internet communicating through e-mail?" in the Onlinellnternet Survey (see Appendix A).

5. Time spent using the Internet for communicating through chat rooms for entertainment.

Nominal Definition: Number of hours spent using the Internet for communicating through chat rooms for entertainment.

Operational Definition: In this study, time spent using the Internet for communicating through chat rooms for entertainment was measured by item 111, "About how many hours per week do you spend on the Internet communicating through chat rooms for entertainment?" in the Onlinellnternet Survey (see Appendix A).
6. Time spent using the Internet strictly for entertainment (other than in chat rooms).

**Nominal Definition:** Number of hours spent using the Internet strictly for entertainment (other than in chat rooms).

**Operational Definition:** In this study, time spent using the Internet strictly for entertainment (other than in chat rooms) was measured by item 112, "About how many hours per week do you spend on the Internet strictly for entertainment (other than in chat rooms)?" in the Onlinellnternet Survey (see Appendix A).

1. The first subproblem was to assess students' attitudes toward use of the Internet.

2. **The second subproblem.** The second subproblem was to determine students' past experience using the Internet.

3. The third subproblem was to determine students' variety of Internet usage experience.

4. **The fourth subproblem.** The fourth subproblem was to determine time spent using the Internet for different activities.

5. The fifth subproblem was to determine which factors were related to students' attitudes toward use of the Internet.

H1: There will be a positive relationship between past experience using the Internet and attitudes toward use of the Internet.

H2: There will be a positive relationship between variety of Internet usage experience and attitudes toward use of the Internet.

H3: There will be a positive relationship between time spent on the Internet buying products or looking for information and attitudes toward use of the Internet.
H4: There will be a positive relationship between time spent on the Internet communicating through e-mail and attitudes toward use of the Internet.

H5: There will be a positive relationship between time spent on the Internet communicating through chat rooms and attitudes toward use of the Internet.

H6: There will be a positive relationship between time spent on the Internet for entertainment (other than chat rooms), and attitudes toward use of the Internet.

**The Delimitations**

The study will not attempt to determine a causal relationship between the factors to be investigated and attitudes toward use of the Internet.

The study is not a qualitative investigation.

**The Definition of Terms**

Chat rooms. General sites on the Internet where people can interactively communicate online with others.

Downloading. Loading information from a website onto one’s own computer.

Internet. Collection of computer networks that link computers used by millions of people all around the world.

Network. A connection of at least two computers sharing information.

Newsgroups. Focused-interest groups, on the Internet, conversing about a shared interest.

Surf. A leisurely activity in which people engage on the Internet when they are simply looking through different web sites.

Online. One way to define online is as a description of a person being connected to another computer through their phone lines. The other way to define online is as the status of a person being able to access websites.

Server. A computer that is connected to a network or software.

Uploading. Uploading is defined as putting information onto a website so that others can access it.
Virtual. Simulating reality.

- Electronic information sites that people use to relay information.

Website. Virtual on-screen pages that combine text, graphics, audio, and links (access) to other web sites.

- A collection of servers that allow viewers to access virtual on-screen pages that combine text, graphics, audio, and links to other web sites.

The first assumption is that the students hold attitudes about the Internet.

The second assumption is that the survey administered to the students accurately assesses their attitudes toward use of the Internet.

The third assumption is that the survey accurately measures each of the factors to be investigated.

The Internet is becoming a widely used tool in today's society. Businesses are taking advantage of this and uploading web pages to offer access to their businesses through the Internet (Brightman, 1995).

Educators, researchers, and others involved in consumer education may benefit from exploring students' attitudes toward use of the Internet as an educational tool. Knowing what factors affect attitudes toward use of the Internet will help educators determine why some choose not to use the Internet. Some people may be afraid to use the Internet because of misconceptions or unfounded fears about it. Educators can help to dispel possible fears and misconceptions about the Internet and show students how to take advantage of useful information the Internet has to offer.
Review of Literature

Internet Users

As of March 1996, there were 15 million Internet users in the United States alone, and this number is constantly increasing (Federal Trade Commission, 1996). Studies on the characteristics of Internet users have repeatedly revealed that those who use the Internet most often tend to be younger (median age = 32 years) well-educated men (Fram & Grady, 1995; Giese, 1996; Miller, 1996; Mogelonsky, 1996). Women made up only 21% of Internet users (Fram & Grady).

Past Experience using the Internet

According to Maignan and Lukas (1997), past experience with using the Internet was found to be one of the three main factors that influenced consumers’ attitudes about the Internet. Whether a student has had positive experiences or negative experiences with the Internet in the past would likely influence the opinion that they form of the Internet. This generalization effect would be similar to forming an opinion of a restaurant and judging the various menu items based on this general opinion.

Maignan and Lukas (1997) found that the participants in their study who were newer to the Internet and accessed the World Wide Web more often than they accessed newsgroups were more likely to consider the Internet to be more impersonal. They viewed it as a resource for providing information and consumption opportunities. Participants who used the Internet regularly and accessed the newsgroups more often considered the Internet to be more of a communication tool, or a way to interact with others (Maignan and Lukas). These findings indicate that familiarity with the Internet affects attitudes toward use of it.

In considering one’s past experience with using the Internet, it is necessary to look at past experience in terms of “how long” and “how much” (Miller, 1996). “How long” refers to the total amount of time a person has been using the Internet. “How much” refers to the amount of experience a person has had with the Internet, how much,
or how often they are on the Internet, what do they use the Internet for, how long they stay online, etc. These two concepts do not necessarily correlate. A person could have been using the Internet for two years, but not very often. At the same time, a person could have just started using the Internet six months ago but use it five hours every day. In comparing two such users, the second would probably be considered to have more past experience with using the Internet. Therefore, the number of hours of use is a better measure of past experience using the Internet than length of time since one started using the Internet.

**Summary**

Past experience with using the Internet has been found to influence people’s attitudes toward the Internet (Maignan & Lukas, 1997). In considering past experience with using the Internet, it is important to take into account not only how long a person has been using the Internet, but also how much experience they have had online (Miller, 1996).

**Variety of Internet Usage Experience**

Variety of Internet usage experience was another one of the factors found to influence people’s attitudes toward the Internet (Maignan & Lukas, 1997). Once people have accessed the Internet, they tend to use it for more than one purpose (Miller, 1996). There are eight things for which people usually use the Internet: to gather news or information, send e-mail, conduct research, surf various sites, post a bulletin board, participate in chat rooms, play games, and shop (Fawcett, 1996). If people use the Internet for a number of activities, they may have positive attitudes toward the Internet if they have enjoyed their experiences, or negative attitudes if they did not.

**Summary**

Variety of Internet usage experience may affect attitudes toward use of the Internet positively or negatively. The more activities people engage in on the Internet, the more positive their attitudes toward use of the Internet may be.
Degree of Involvement When Using the Internet

Degree of involvement when using the Internet is the third factor that Maignan and Lukas (1997) identified as having an influence on people’s attitudes toward the Internet. It is similar to the “how much” aspect of past experience, but it addresses how involved one is, such as how many hours are spent interacting with others on the Internet (Miller, 1996). How involved a person is when they are working on the Internet may affect not only their attitude toward the Internet (Miller), but also their attitude toward use of the Internet.

According to Fawcett (1996), Internet users spend most of their time sending e-mail, conducting research, and gathering information. Surfing, chat rooms, bulletin boards, and playing games were other Internet activities reported in order in frequency (Fawcett).

E-mail, chat rooms, and use of bulletin boards represent more involved use of the Internet because they require communication with others. Playing games on the Internet may or may not involve interaction with others. Conducting research and gathering information does not usually require communication with others, and thus are considered less interaction (Maignan & Lukas, 1997). It is possible that the degree of involvement experienced on the Internet affects willingness to try other interactive or communicational Internet activities. If people spend many hours per week using the Internet for e-mail, they may be more likely to try out chat rooms. Depending upon their experiences doing these things, they may think more positively or negatively about the Internet.

Summary

Degree of involvement when using the Internet may be positively or negatively related people’s attitudes toward use of the Internet. E-mail, conducting research, and gathering information are the three Internet activities on which people spend most of
their time. The different Internet uses may be related to one another and may influence attitudes toward use of the Internet as a shopping tool.

**Attitudes Toward the Internet**

Attitudes toward use of the Internet are defined as positive and negative opinions about using the Internet. Both those who have and those who have not used the Internet have attitudes toward it. In past studies, those who had used the Internet were found to have positive and negative attitudes. Those with positive attitudes toward the Internet expressed satisfaction with it (Fram & Grady, 1995), and found using the Internet to be fast and efficient (Giese, 1996). Maignan and Lukas (1997) found that those who have used the Internet viewed it as a “multi-faceted entity” with much to offer. Those with negative attitudes found the Internet to be dull and boring (Martin, 1996), and were concerned with security issues.

Some Internet users do not have a strict negative or positive attitude toward the use of the Internet (Maignan & Lukas, 1997). A few of their general concerns were about the quality and credibility of the information available on the Internet, violation of privacy, and a possible addiction of the Internet and the dangers associated with this. One positive aspect expressed by these Internet users was the accessibility of the Internet which suggested some users do recognize some value to Internet use.

People who had never used the Internet tended to hold negative attitudes toward it (Eliasberg, 1997). Like people who had used the Internet, non-users felt that Internet shopping was not a secure place to use credit cards (Eliasberg). Concern about credit card security issues has been cited by a number of researchers as a negative aspect of Internet held by many (Ante, 1997; Eliasberg; Fawcett, 1996; Fram & Grady, 1995; Morris-Lee, 1996; Rowley, 1996). Some users, however, believe that Internet shopping is a safe place to use credit cards (Morris-Lee, 1996).

Another attitude held by some was that to be successful, the Internet needs to offer people something they cannot get elsewhere (Ante, 1997). The fact that people
who have never used the Internet held mostly negative attitudes about the Internet was likely related to use of hearsay as their basis judgment about it. If so, then this would mean that the Internet has a negative reputation for some.

Both Internet users and non-users hold attitudes toward using the Internet. People who have used the Internet held both positive and negative attitudes. Some Internet users have general concerns about use of the Internet. People who haven't used the Internet held only negative attitudes (Eliasberg, 1997). A concern of both groups was that the Internet is not a secure place to use credit cards (Ante, 1997; Eliasberg; Fawcett, 1996; Fram & Grady, 1995; Morris-Lee, 1996; Rowley, 1996).

Maignan and Lukas (1997) found that three factors most influenced people's attitudes toward the Internet: past experience with using the Internet, variety of computer usage, and degree of involvement when using the Internet. Because these factors were found to influence attitudes toward use of the Internet, it is reasonable to assume that attitudes toward use of the Internet will also be related to some specific uses of the Internet that define degree of involvement, such as time spent using the Internet, using the Internet for buying products or looking for information, for communicating through e-mail, for communicating through chat rooms for entertainment, and for entertainment (other than chat rooms). Both those who have and those who have not used the Internet hold attitudes toward it (Eliasberg, 1997). Some Internet users do have a strictly positive or negative attitude toward use of the Internet, but have general concerns about it (Eliasberg). One common concern was that the Internet is not a secure place to use credit cards (Ante, 1997; Eliasberg; Fawcett, 1996; Fram & Grady, 1995; Morris-Lee, 1996; Rowley, 1996). The goal of this study is to determine which factors can be used to predict student's attitudes toward use of the Internet.
Methodology

Selection of the Sample

The sample consisted of 115 undergraduate students enrolled in two Family, Consumer, and Nutrition Science classes at Northern Illinois University. Since the population of interest was college students, it was important to examine the attitudes toward use of the Internet of a sample of such students.

Development of the Instrument

An Online/Internet Survey comprising 44 items was developed for the current study, with items numbered from 101-144 (See Appendix A). One item (104), measured students’ past experience with using the Internet. Two items (106 and 107) measured variety of Internet usage experience. Four items (109-112) measured time spent using the Internet for different activities.

Scores on an index comprising 12 items (129-140) measured students’ attitudes toward use of the Internet. Items 142-144 measured the demographic variables, age, marital status, and gender.

Use of Human Subjects in Research

Approval of the use of human subjects in research was granted by NIU’s Institutional Review Board (See Appendix B). Consent forms were completed by subjects prior to participation in the study. Two different consent forms were designed to meet the needs of students enrolled in different classes. Consent forms will be retained by Dr. Prawitz for three years (See Appendix C).

Administration of the Instrument

The survey was administered to the students in FCNS 343 during class as an optional assignment during the Fall 1997 semester. The survey was administered to the students in FCNS 258 as an extra credit assignment. All students were told that they would get full credit if they completed the entire survey. They were also told that there were no “right” answers and they would not be graded on how they answered. Surveys
were checked for completeness at the time of submission. At that time, consent forms identifying participants were separated from surveys. Since surveys contained no identifying information, anonymity was assured. Students were not penalized if they chose not to participate. The data were summarized by NIU testing services.

**Treatment of the Data**

The statistical package, SPSS for Windows© was used to analyze the data. Although the instrument in Appendix A contains 44 items, not all data were used for this study. Only data specific to the current study were analyzed and reported here.

**H1: There will be a positive relationship between past experience with using the Internet and attitudes toward the Internet.**

The variables needed to test this hypothesis were past experience using the Internet and attitudes toward use of the Internet. The data needed to measure past experience with using the Internet were found in responses to item 104 (HRWKONL) on the Online/Internet Survey questionnaire. The data needed to measure attitudes toward use of the Internet were scores on the attitude index comprising items 129-140 (ATTITUDE) on the Online/Internet Survey questionnaire. A Pearson Correlation tested this hypothesis.

**H2: There will be a positive relationship between variety of Internet usage and attitudes toward the Internet.**

The variables needed to test this hypothesis were the variety of Internet usage experience and attitudes toward use of the Internet. The data needed to measure variety of Internet usage were found by adding the number of responses indicated in items 106 and 107 (REASONS) on the Online/Internet Survey questionnaire. The data needed to measure attitudes toward the Internet were scores on the attitude index
comprising items 129-140 (ATTITUDE) on the Online/Internet Survey questionnaire. A Pearson Correlation tested this hypothesis.

H3: There will be a positive relationship between time spent on the Internet buying products or looking for information and attitudes toward the Internet.

The variables needed to test this hypothesis were time spent on the Internet buying products or looking for information and attitudes toward use of the Internet. The data needed measure time spent on the Internet buying products were found in responses to item 109 (HRWKBUY) on the Online/Internet Survey questionnaire. The data needed to measure attitudes toward use of the Internet were scores on the attitude index comprising items 129-140 (ATTITUDE) on the Online/Internet Survey questionnaire. A Pearson Correlation tested this hypothesis.

H4: There will be a positive relationship between time spent on the Internet communicating through e-mail and attitudes toward the Internet.

The variables needed to test this hypothesis were the number of hours spent on the Internet communicating through e-mail and attitudes toward use of the Internet. The data needed to measure time spent on the Internet communicating through e-mail were found in responses to item 110 (HRWKMAIL) on the Online/Internet Survey questionnaire. The data needed to measure attitudes toward use of the Internet were scores on the attitude index comprising items 129-140 (ATTITUDE) on the Online/Internet Survey questionnaire. A Pearson Correlation tested this hypothesis.

H5: There will be a positive relationship between time spent on the Internet communicating through chat rooms and attitudes toward the Internet. The variables needed to test this hypothesis were time spent on the Internet communicating through chat rooms and attitudes toward use of the Internet. The data needed to
measure time spent on the Internet communicating through chat rooms were found in responses to item 111 (HRWKCHAT) on the Online/Internet Survey questionnaire. The data needed to measure attitudes toward use of the Internet were scores on the attitude index comprising items 129-140 (ATTITUDE) on the Online/Internet Survey questionnaire. A Pearson Correlation tested this hypothesis.

H6: There will be a positive relationship between time spent on the Internet for entertainment (other than chat rooms) and attitude toward the Internet. The variables needed to test this hypothesis were time spent on the Internet for entertainment (other than chat rooms) and attitudes toward use of the Internet. The data needed to measure time spent on the Internet for entertainment (other than chat rooms) were found in responses to item 112 (HWKENTER) on the Online/Internet Survey questionnaire. The data needed to measure attitudes toward use of the Internet were scores on the attitude index comprising items 129-140 (ATTITUDE) on the Online/Internet Survey questionnaire. A Pearson Correlation tested this hypothesis.

Results

Demographic Characteristics of the Sample

One hundred of the 115 students (87%) who participated were female (see Table 1). Ages of the participants ranged from 18 to 26 years and older, with a mean age of 21.5 years for the sample (see Table 2). About 90% of the students (n=104) reported marital status as single (see Table 3).

Table 1

<table>
<thead>
<tr>
<th>Gender</th>
<th>Frequency</th>
<th>Percent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>female</td>
<td>100</td>
<td>87</td>
</tr>
<tr>
<td>male</td>
<td>15</td>
<td>13</td>
</tr>
<tr>
<td>total</td>
<td>115</td>
<td>100</td>
</tr>
</tbody>
</table>
Table 2

Ages of the Participants

<table>
<thead>
<tr>
<th>Age</th>
<th>Frequency</th>
<th>Percent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>18 yrs.</td>
<td>5</td>
<td>0.9</td>
</tr>
<tr>
<td>19 yrs.</td>
<td>21</td>
<td>4.3</td>
</tr>
<tr>
<td>20 yrs.</td>
<td>44</td>
<td>18.3</td>
</tr>
<tr>
<td>21 yrs.</td>
<td>18</td>
<td>38.3</td>
</tr>
<tr>
<td>22 yrs.</td>
<td>11</td>
<td>15.7</td>
</tr>
<tr>
<td>23 yrs.</td>
<td>6</td>
<td>9.6</td>
</tr>
<tr>
<td>24 yrs.</td>
<td>2</td>
<td>5.2</td>
</tr>
<tr>
<td>25 yrs.</td>
<td>7</td>
<td>1.7</td>
</tr>
<tr>
<td>26 or older</td>
<td></td>
<td>6.1</td>
</tr>
<tr>
<td>total</td>
<td>115</td>
<td>100</td>
</tr>
</tbody>
</table>

Table 3

Marital Status of the Participants

<table>
<thead>
<tr>
<th>Marital Status</th>
<th>Frequency</th>
<th>Percent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>married</td>
<td>10</td>
<td>8.7</td>
</tr>
<tr>
<td>single</td>
<td>104</td>
<td>90.4</td>
</tr>
<tr>
<td>divorced</td>
<td>1</td>
<td>0.9</td>
</tr>
<tr>
<td>total</td>
<td>115</td>
<td>100</td>
</tr>
</tbody>
</table>

Testing of the Hypotheses

H1: There will be a positive relationship between past experience with using the Internet and attitudes toward use of the Internet.

Hypothesis one was supported. A positive relationship was found between past experience using the Internet (HRWKONLI) and attitudes toward use of the Internet (ATTITUDE) \( r = .42, p < 0.01, n = 112 \) (see Table 4). That is, the more time a people spent using the Internet, the more likely they were to have a positive attitude toward use of the Internet.
Table 4

Pearson Correlation Coefficients for Attitudes Toward the Use of the Internet and Independent Variables

| Past experience using the Internet (HRWKONL) | 0.416* |
| Variety of Internet usage experience (REASONS) | 0.263* |
| Time spent using the Internet for buying products or looking for information (HRWKBUY) | 0.109 |
| Time spent using the Internet for communicating through e-mail | 0.169 |
| Time spent using the Internet for communicating through chat rooms for entertainment (HRWKCHAT) | 0.155 |
| Time spent using the Internet for entertainment (other than chat rooms) (HWKENTER) | 0.318* |

Note: *p<.01

H2: There will be a positive relationship between variety of Internet usage experience and attitudes toward use of the Internet.

Hypothesis two was supported. A positive relationship was found between variety of Internet usage (REASONS) and attitudes toward use of the Internet (ATTITUDE) \((r = .26, \ p < 0.01, \ n = 111)\) (see Table 4). That is, the greater the variety of Internet usage, the more positive the attitude toward use of the Internet.
H3: There will be a positive relationship between time spent on the Internet buying products or looking for information and attitudes toward use of the Internet.

Hypothesis three was not supported. No relationship was found between time spent on the Internet buying products or looking for information (HRWKBUY) and attitudes toward use of the Internet (ATTITUDE) \( (r = .11, \ p = .26, \ n = 112) \) (see Table 4).

H4: There will be a positive relationship between time spent on the Internet communicating through e-mail and attitudes toward use of the Internet.

Hypothesis four was not supported. No relationship was found between time spent on the Internet communicating through e-mail (HRWKMAIL) and attitudes toward use of the Internet (ATTITUDE) \( (r = .17, \ p = .07, \ n = 112) \) (see Table 4).

H5: There will be a positive relationship between time spent on the Internet communicating through chat rooms and attitudes toward use of the Internet.

Hypothesis five was not supported. No relationship was found between time spent on the Internet communicating through chat rooms (HRWKCHAT) and attitudes toward the Internet (ATTITUDE) \( (r = .16, \ p < .10, \ n = 112) \) (see Table 4).

H6: There will be a positive relationship between time spent on the Internet for entertainment (other than chat rooms) and attitude toward use of the Internet.

Hypothesis six was supported. A positive relationship was found between time spent on the Internet for entertainment (HWKENTER) and attitudes toward use of the Internet (ATTITUDE) \( (r = .32, \ p < .01, \ n = 112) \) (see Table 4). That is, the more time people spent on the Internet for entertainment, the more likely they were to have a positive attitude toward use of the Internet.
Discussion and Conclusions

The purpose of the current study was to determine which online activities were associated with attitudes toward use of the Internet. Three out of the six hypotheses were supported in the current study. A positive relationship was found between past experience using the Internet (hours per week online) and attitudes toward use of the Internet. One possible explanation for this is that the more time people spend using the Internet, the more likely they are to find something that interests them. Such experiences presumably make using the Internet more enjoyable, resulting in positive feelings about the Internet. Another explanation could be that people who spend more time using the Internet already have positive attitudes toward use of the Internet, which is one of the reasons they spend more time engaged in this activity.

A positive relationship also was found between the variety of Internet usage experience (number of activities for which the Internet was used) and attitudes toward use of the Internet. A reason for this might be that people who use the Internet for a greater variety of activities are more likely to be exposed to activities that they find enjoyable, making their experience using the Internet more positive. An alternative explanation is that people who use the Internet for a greater variety of activities already have positive attitudes.

A positive relationship was found between time spent on the Internet strictly for entertainment (other than chat rooms) and attitudes toward use of the Internet. It is logical that people who spend more time on the Internet for entertainment are probably doing so because they find it enjoyable. Thus, they will have more positive attitudes toward use of the Internet.

No relationship was found between time spent on the Internet buying products or looking for information and attitudes toward use of the Internet. The majority of participants had little or no experience with using the Internet for buying products or looking for information; over three fourths of the participants (76%) reported never
having used the Internet for buying products or looking for information. Because the majority of participants did not have much experience using the Internet for buying products or looking for information, this activity may not have affected their attitude toward use of the Internet.

No relationship was found between time spent on the Internet communicating through e-mail and attitudes toward use of the Internet. People may view e-mail as a communication tool rather than an Internet activity. Indeed, some users may have access to e-mail but no Internet access. Additionally, no relationship was found between time spent on the Internet communicating through chat rooms and attitudes toward use of the Internet. Similarly, people may view the chat room as a communication tool rather than an Internet activity. It is important to note that the majority of participants, 79%, reported never having used the Internet for communicating through chat rooms. Since so few participants had experience using the Internet for communicating through chat rooms, it may not have affected their attitudes toward use of the Internet.

These results are consistent with previous findings. Maignan and Lukas (1997), reported that past experience, variety of Internet usage, and degree of involvement when using the Internet to be the three factors that most strongly influenced people's attitude toward use of the Internet. These researchers found that people who had regularly used the Internet for a variety of activities were more likely to view the Internet in a positive light, as a tool for improving "human interactions." They found that people who had little experience with the Internet and who used it only for a limited number of activities were more likely to view the Internet as an impersonal tool which simply provided information. The findings of the current study lead to similar conclusions. People who spent more hours online and those who used the Internet for a greater variety of online activities had more positive attitudes toward the Internet. People with
less experience and variety of usage, and who spend less time on the Internet for entertainment were likely to have more negative attitudes toward the Internet.

These findings suggest that educators may want to offer students more time to spend on the Internet to build their experience with using the Internet. Educators should be careful to expose students to credible Internet sites that the students may not encounter on their own. This not only guides the students to appropriate sources, but contributes to increasing their variety of Internet usage.

Future researchers may want to use a larger, random sample. The sample in this study was limited in that it consisted of a non-random sample of 115 students. The sample also consisted of young participants who reported a mean age of 21.5 years. The median age reported by Internet users tends to be older than this, 32 years. This study also consisted of mostly women, whereas past studies indicate that the majority of Internet users are men (Fram & Grady, 1995; Giese, 1996; Miller, 1996; Mogelonsky, 1996). Thus, the profile of participants in the current study is different from that of the typical Internet user.

Future researchers may also want to study a sample of Internet shoppers. A comparison of online shoppers with non-shoppers to examine whether participating in Internet shopping affects people's attitudes toward use of the Internet would add to the gap in the body of knowledge on this topic. It may be that using the Internet to shop contributes to a more positive attitude toward use of the Internet but there were not enough participants who reported using the Internet as a shopping tool to examine this relationship.
Reference List


Appendix A: Online/Internet Survey
ONLINE/INTERNET SURVEY

Instructions: Sign both consent forms and tear off bottom copy for your records. Do not place your name or Social Security number on the SCANTRON sheet or the survey questionnaire. Please mark the SCANTRON sheet to indicate your response to each item. Note that for some items, you are to mark all answers that apply. For others, you are to mark only one answer. Answering every question will assure you of receiving full credit for this assignment.

101. Indicate sites where you have access to the Internet. (Mark all that apply.)

   a) HOUSEHOLD OR DORM ROOM WHERE I CURRENTLY LIVE
   b) PLACE OF EMPLOYMENT
   c) SOMEONE ELSE'S HOUSEHOLD OR OFFICE
   d) INTERNSHIP SITE OR VOLUNTEER SITE
   e) COMPUTER LABS ON CAMPUS
   f) OTHER ________________________________ (MARK SCANTRON AND SPECIFY LOCATION ON THIS SHEET)

102. Indicate the sites where you have used the Internet. (Mark all that apply.)

   a) HOUSEHOLD OR DORM ROOM WHERE I CURRENTLY LIVE
   b) PLACE OF EMPLOYMENT
   c) SOMEONE ELSE'S HOUSEHOLD OR OFFICE
   d) INTERNSHIP SITE OR VOLUNTEER SITE
   e) COMPUTER LABS ON CAMPUS
   f) OTHER ________________________________ (MARK SCANTRON AND SPECIFY LOCATION ON THIS SHEET)

103. On average, about how many times a month do you log on to the Internet? (Mark only one answer)

   a) NONE
   b) 1 - 5
   c) 6 - 10
   d) 11 - 15
   e) 16 - 20
   f) 21 - 25
   g) 26 - 30
   h) 31 - 35
   i) 36 - 40
   j) 41 OR MORE
104. On average, about how many hours per week do you spend online?

(Mark only one answer)

a) NONE
b) UP TO 3
c) 4 - 6
d) 7 - 9
e) 10 - 12
f) 13 - 15
g) 16 - 18
h) 19 - 21
i) 22 - 24
j) 25 OR MORE

105. About how many months ago did you first start using the Internet?

(Mark only one answer)

a) NEVER USED
b) FEWER THAN 3
c) 4 - 6
d) 7 - 9
e) 10 - 12
f) 13 - 15
g) 16 - 18
h) 19 - 21
i) 22 - 24
j) 25 OR MORE

106. Do you use the Internet for any of the following reasons?

(Mark all that apply.)

a) NEWS
b) SCHOOL/EDUCATION/HOMEWORK
c) RESEARCH
d) "HOW TO" ADVICE
e) READ ONLINE VERSIONS OF NEWSPAPERS/MAGAZINES
f) "SURF" FOR SPECIFIC INFORMATION
g) 'SURF" FOR FUN
h) PLAY GAMES ONLINE
i) I HAVE NOT USED THE INTERNET FOR ANY OF THESE

107. Do you use the Internet for any of the following reasons?

(Mark all that apply.)

a) TRAVEL SERVICES
b) PRODUCT PURCHASING INFORMATION
c) PURCHASE PRODUCTS
d) MOVIE REVIEWS
e) DOWNLOAD SOFTWARE
f) SEND/RECEIVE E-MAIL
g) CHAT IN "CHAT ROOMS"
h) COMMUNICATE THROUGH NEWSGROUPS
i) BULLETIN BOARD SERVICES
j) I HAVE NOT USED THE INTERNET FOR ANY OF THESE
108. About how many hours per week do you spend on the Internet looking for specific information? (Mark only one answer)

a) NONE
b) SOME, BUT FEWER THAN 3
c) 4 - 6
d) 7 - 9
e) 10 - 12
f) 13 - 15
g) 16 - 18
h) 19 - 21
i) 22 - 24
j) 25 OR MORE

109. About how many hours per week do you spend on the Internet buying products or looking for product information? (Mark only one answer)

a) NONE
b) SOME, BUT FEWER THAN 3
c) 4 - 6
d) 7 - 9
e) 10 - 12
f) 13 - 15
g) 16 - 18
h) 19 - 21
i) 22 - 24
j) 25 OR MORE

110. About how many hours per week do you spend on the Internet communicating through e-mail? (Mark only one answer)

a) NONE
b) SOME, BUT FEWER THAN 3
c) 4 - 6
d) 7 - 9
e) 10 - 12
f) 13 - 15
g) 16 - 18
h) 19 - 21
i) 22 - 24
j) 25 OR MORE
111. About how many hours per week do you spend on the Internet communicating through chat rooms for entertainment?  
   (Mark only one answer)  
   a) NONE  
   b) SOME, BUT FEWER THAN 3  
   c) 4 - 6  
   d) 7 - 9  
   e) 10 - 12  
   f) 13 - 15  
   g) 16 - 18  
   h) 19 - 21  
   i) 22 - 24  
   j) 25 OR MORE  

112. About how many hours per week do you spend on the Internet strictly for entertainment (other than in chat rooms)?  
   (Mark only one answer)  
   a) NONE  
   b) SOME, BUT FEWER THAN 3  
   c) 4 - 6  
   d) 7 - 9  
   e) 10 - 12  
   f) 13 - 15  
   g) 16 - 18  
   h) 19 - 21  
   i) 22 - 24  
   j) 25 OR MORE  

113. Which of the following products or services have you researched or tried to find information about via the Internet in the past 12 months?  
   (Mark all that apply.)  
   a) BOOKS  
   b) CAMERAS  
   c) CARS  
   d) CLOTHING  
   e) FINANCIAL SERVICES  
   f) FLOWERS  
   g) FOOD/BEVERAGES  
   h) HOUSEHOLD APPLIANCES  
   i) INSURANCE  
   j) NONE OF THESE
114. Which of the following products or services have you \textit{researched} or tried to find information about via the Internet in the past 12 months? (Mark all that apply.)

a) MUSIC CDs/TAPES  
b) PERSONAL COMPUTER  
c) SOFTWARE/COMPUTER PRODUCTS  
d) SPORTING EQUIPMENT  
e) STEREOS/AUDIO EQUIPMENT  
f) TRAVEL SERVICES  
g) OTHER \hspace{1cm} \text{ (MARK SCANTRON AND SPECIFY ON THIS SHEET)} 
h) NONE OF THESE

115. Which of the following products or services have you \textit{purchased} via the Internet in the past 12 months? (Mark all that apply.)

a) BOOKS  
b) CAMERAS  
c) CARS  
d) CLOTHING  
e) FINANCIAL SERVICES  
f) FLOWERS  
g) FOOD/BEVERAGES  
h) HOUSEHOLD APPLIANCES  
i) INSURANCE  
j) NONE OF THESE

116. Which of the following products or services have you \textit{purchased} via the Internet in the past 12 months? (Mark all that apply.)

a) MUSIC CDs/TAPES  
b) PERSONAL COMPUTER  
c) SOFTWARE/COMPUTER PRODUCTS  
d) SPORTING EQUIPMENT  
e) STEREOS/AUDIO EQUIPMENT  
f) TRAVEL SERVICES  
g) OTHER \hspace{1cm} \text{ (MARK SCANTRON AND SPECIFY ON THIS SHEET)} 
h) NONE OF THESE
117. Thinking about all the products and services you've purchased over the Internet in the past 12 months, approximately how much have you spent on these purchases?  

(Mark only one answer)  
a) NONE  
b) $1 - 100  
c) $101 - 200  
d) $201 - 300  
e) $301 - 400  
f) $401 - 500  
g) $501 - 600  
h) $601 - 700  
i) $701 - 800  
j) $801 OR ABOVE  

Listed below are some different methods people use to shop. Indicate first your preference for using each method, and then your actual usage of each. (For each item, mark only one answer)  

118. Preference for shopping at retail stores  
a) STRONGLY PREFER THIS METHOD OF SHOPPING  
b) SOMEWHAT PREFER THIS METHOD OF SHOPPING  
c) PREFER NOT TO USE THIS METHOD OF SHOPPING  

119. Preference for shopping via catalogs  
a) STRONGLY PREFER THIS METHOD OF SHOPPING  
b) SOMEWHAT PREFER THIS METHOD OF SHOPPING  
c) PREFER NOT TO USE THIS METHOD OF SHOPPING  

120. Preference for shopping via the Internet  
a) STRONGLY PREFER THIS METHOD OF SHOPPING  
b) SOMEWHAT PREFER THIS METHOD OF SHOPPING  
c) PREFER NOT TO USE THIS METHOD OF SHOPPING  

121. I go to retail stores for  
a) ALL OF MY PURCHASES  
b) MOST OF MY PURCHASES  
c) SOME OF MY PURCHASES  
d) FEW OF MY PURCHASES  
e) NONE OF MY PURCHASES  

122. I use catalogs for  
a) ALL OF MY PURCHASES  
b) MOST OF MY PURCHASES  
c) SOME OF MY PURCHASES  
d) FEW OF MY PURCHASES  
e) NONE OF MY PURCHASES
123. I use the Internet for

a) ALL OF MY PURCHASES
b) MOST OF MY PURCHASES
c) SOME OF MY PURCHASES
d) FEW OF MY PURCHASES
e) NONE OF MY PURCHASES

124. When catalog shopping, I usually

a) ORDER ITEMS VIA TELEPHONE
b) ORDER ITEMS VIA THE MAIL
c) SOMETIMES ORDER ITEMS VIA TELEPHONE AND SOMETIMES VIA THE MAIL
d) I DO NOT USE CATALOGS TO SHOP

Indicate the degree to which your use of the Internet for shopping research and shopping information has affected your shopping frequency in the following places. Has your use of each increased, decreased, or stayed about the same? (For each item, mark only one answer)

125. Retail stores

a) INCREASED
b) DECREASED
c) STAYED ABOUT THE SAME
d) I DO NOT LOOK FOR SHOPPING INFORMATION ON THE INTERNET

126. Catalogs

a) INCREASED
b) DECREASED
c) STAYED ABOUT THE SAME
d) I DO NOT LOOK FOR SHOPPING INFORMATION ON THE INTERNET

Indicate the degree to which your use of the Internet for shopping has affected your shopping frequency in the following places. Has your use of each increased, decreased, or stayed about the same? (For each item, mark only one answer)

127. Retail stores

a) INCREASED
b) DECREASED
c) STAYED ABOUT THE SAME
d) I DO NOT SHOP ON THE INTERNET
128. Catalogs

a) INCREASED
b) DECREASED
c) STAYED ABOUT THE SAME
d) I DO NOT SHOP ON THE INTERNET

Below is a list of statements about the Internet. Indicate how much you agree or disagree with each statement. (For each item, mark only one answer)

129. I'm concerned about privacy issues and the Internet.

a) STRONGLY AGREE
b) SOMewhat AGREE
c) SOMewhat DISAGREE
d) STRONGLY DISAGREE

130. I'm concerned about the security of my personal, credit, or financial information on the Internet.

a) STRONGLY AGREE
b) SOMewhat AGREE
c) SOMewhat DISAGREE
d) STRONGLY DISAGREE

131. The Internet has an abundance of useful information.

a) STRONGLY AGREE
b) SOMewhat AGREE
c) SOMewhat DISAGREE
d) STRONGLY DISAGREE

132. Nowadays, I rely more on the Internet and less on TV, radio, and newspapers for news and other information I need.

a) STRONGLY AGREE
b) SOMewhat AGREE
c) SOMewhat DISAGREE
d) STRONGLY DISAGREE

133. I've made a number of new friends on the Internet.

a) STRONGLY AGREE
b) SOMewhat AGREE
c) SOMewhat DISAGREE
d) STRONGLY DISAGREE
134. My friends on the Internet and I are kind of like our own little community or social group.

a) STRONGLY AGREE
b) SOMewhat AGREE
c) SOMEWHAT DISAGREE
d) STRONGLY DISAGREE

135. I like to spend time on the Internet because it's entertaining.

a) STRONGLY AGREE
b) SOMEWHAT AGREE
c) SOMEWHAT DISAGREE
d) STRONGLY DISAGREE

136. Now that I use e-mail, I find that I'm communicating more with my family and friends than I did before.

a) STRONGLY AGREE
b) SOMEWHAT AGREE
c) SOMEWHAT DISAGREE
d) STRONGLY DISAGREE
e) I DO NOT USE E-MAIL

137. The Internet has made it much easier for me to shop for products I'm interested in buying.

a) STRONGLY AGREE
b) SOMEWHAT AGREE
c) SOMEWHAT DISAGREE
d) STRONGLY DISAGREE

d) STRONGLY DISAGREE

138. Websites on the Internet that simply give you information about a product without any method of purchasing the product would be frustrating for me.

a) STRONGLY AGREE
b) SOMEWHAT AGREE
c) SOMEWHAT DISAGREE
d) STRONGLY DISAGREE

d) STRONGLY DISAGREE

139. Other things being equal, I would rather purchase products and services over the Internet than over the phone.

a) STRONGLY AGREE
b) SOMEWHAT AGREE
c) SOMEWHAT DISAGREE
d) STRONGLY DISAGREE
140. Making a purchase from a company's website using a credit card is no more or less risky than making the same purchase over the phone.

a) STRONGLY AGREE  
b) SOMewhat AGREE  
c) SOMewhat DISAGREE  
d) STRONGLY DISAGREE  

141. Which of the following best describes your credit card use? (Mark only one answer)

a) CHARGE MOST PURCHASES ON A CREDIT CARD  
b) CHARGE SOME PURCHASES ON A CREDIT CARD  
c) RARELY USE A CREDIT CARD TO CHARGE PURCHASES  
d) HAVE NEVER USED A CREDIT CARD TO CHARGE PURCHASES  

142. Which of the following best describes your age? (Mark only one answer)

a) UNDER 18  
b) 18  
c) 19  
d) 20  
e) 21  
f) 22  
g) 23  
h) 24  
i) 25  
j) 26 OR OLDER  

143. Are you... (Mark only one answer)

a) MARRIED  
b) SINGLE (NEVER MARRIED)  
c) SEPARATED  
d) WIDOWED  
e) DIVORCED  

144. Are you... (Mark only one answer)

a) FEMALE  
b) MALE  

THANK YOU FOR COMPLETING THIS SURVEY!
Appendix B: Institutional Review of Research Involving Human Subjects
INSTITUTIONAL REVIEW OF RESEARCH
INVOLVING HUMAN SUBJECTS

IF YOU INTEND TO WORK OFF THIS DISK, PLEASE TYPE ALL YOUR RESPONSES IN BOLD, OR OTHERWISE DISTINGUISH YOUR RESPONSE FROM THE QUESTION.

Note: Please complete this form and attach brief responses to the issues raised, keeping in mind that the primary concern is the potential risk, (physical, emotional, or otherwise, to the subjects. Provide copies of all stories, questionnaires, or other documents to be used in the investigation. The Institutional Review Board (IRB) must have enough information about the transactions with the subjects to evaluate the risks of participation. Assurance from the investigator, no matter how strong, will not substitute for a description of the transactions.

*****************************************************************************
Name(s): Aimee Prawitz and 
        Julie Hillery
Department: School of Family, Consumer & Nutrition Sciences
Mailing Address: FCNS
        Northern Illinois Univ.
Phone: (815) 753-6344
Project Title: College Students' Use of the Internet as a Shopping Tool
Data Collection Start Date: December 3, 1997

Note: Unless designated "Exempt" by your department chair or designee, this project must receive formal clearance in the form of an approval letter from the IRB Chair prior to the start of data collection. Projects designated exempt must still be submitted to the IRB within two weeks of that determination.

Type of Project (Check one)

_____ Externally Sponsored Research

Source of Funding:

Office of Sponsored Projects file number:

XX Departmental Research      _____ Graduate School Fund
____ Thesis/Dissertation (Chair:
____ Other (Specify:

*****************************************************************************

FOR ALL PROJECTS

1. Briefly describe the purpose of your study, and, in nontechnical terms, what will happen to your subjects.

2. Describe any potential risks to your subjects.

3. Give the anticipated ages, sex, and number of subjects, and explain how and where they will be recruited.

4. Describe the procedures for obtaining informed consent as provided for in the Code of Federal Regulations, section 46.116. Append any form(s) to be used.
Project Title: College Student's Use of the Internet as a Shopping Tool

1. Briefly describe the purpose of your study, and, in nontechnical terms, what will happen to your subjects.

   The study is an exploration of factors leading to use of the Internet as a shopping tool. Subjects will be asked to complete a short survey questionnaire asking how and why they use the Internet.

2. Describe any potential risks to your subjects.

   None anticipated.

3. Give the anticipated ages, sex, and number of subjects, and explain how and where they will be recruited.

   Subjects will be recruited from the Fall 1997 FCNS 343 class at NIU. The class numbers 104 male and female students of varying ages. The majority of the students are juniors and seniors. Students in the class are assigned 11 written assignments for the semester, and are allowed to drop their lowest assignment grade. Participation in filling out the survey will serve as one of the assignments. Students will receive credit for participation; grading will not be based on responses given. Students' names will not be placed on survey questionnaires, but rather on the attached consent form that later will be removed. Names will never be associated with individual responses. Students choosing not to participate may count this as their "dropped" assignment.

4. Describe the procedures for obtaining informed consent as provided for in the Code of Federal Regulations, section 46.116. Append any form(s) to be used.

   A consent form outlining the above procedures will be attached to the survey. Students will be asked to sign the consent form before completing the survey questionnaire.
December 1, 1997

MEMORANDUM

TO: Aimee Prawitz
    Julie Hillery
    School of Family, Consumer, &
    Nutrition Sciences

FR: Virginia R. Cassidy, Chair
    Institutional Review Board

RE: Faculty Research Involving Human Subjects for the Project Titled
"College Students' Use of the Internet as a Shopping Tool"

This is to inform you that your above-named research project has been
approved by this office as exempt from the Code of Federal regulations
(45 CFR 46) for the protection of human subjects. The rationale for
exemption is section 46.101b, paragraph 2.

Because this research project has been designated "exempt", this
approval is final. You will not need any further review of this
project unless you decide to modify it. If you intend to change the
procedures, subject pool, or otherwise to modify the protocol so that
it would no longer qualify as exempt, you will need to contact the
Office of Research Compliance about approval of the changes.

It is important for you to note that as a research investigator
involved with human subjects, you are responsible for retaining any
signed consent forms obtained from your subjects in a secure place for
a minimum of three years after the study is concluded. If consent for
the study is being given by proxy (guardian, etc.), it is your
responsibility to document the authority of that person to consent for
the subject. The committee also recommends that the informed consent
include an acknowledgment by the subject, or the subject's
representative, that he or she has received a copy of the consent form.
In addition, you are required to promptly report to the IRB any
injuries or other unanticipated problems involving risks to subjects
and others.

Please accept my best wishes for success in your research endeavors.

VRC/bb

cc: S. King
    N. Willott
Appendix C: Consent Forms
CONSENT FORM

I understand that the responses I give to this survey will in no way affect my grade in this course. Further, I understand that participation by completion of the entire survey will result in full credit for this class assignment, but that I will not be graded on the responses themselves. Any answers I give will be kept anonymous and confidential, and results of the survey will be reported in summary form. My name will never be associated with my individual responses. Participation in this assignment is voluntary. If I choose not to participate, I may consider this my “lowest grade dropped” assignment.

Signature of participant

FILE COPY

PARTICIPANT'S COPY