

Online Communication Preferences across Age, Gender, and Duration of Internet Use

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ABSTRACT

The present study explored variations in online communication and relationship preferences for friends, family, coworkers, and unknown individuals across gender (men, women), age (young, middle, late), and duration of Internet use (low, medium, high). A total of 174 individuals participated in this study. They were divided into two gender (86 men and 88 women), three age (60 young, 60 middle, and 54 late) and three Internet use duration (60 low, 58 medium, and 54 high) groups. All participants completed several questionnaires that assessed online communication and relationship building preferences. Results indicated no significant main effect for gender and online communication and relationship preferences. The main effect for age was significant for online communication with friends and unknown individuals. Young adults indicated their higher preferences for online communication with friends and unknown individuals compared to middle and late adult age groups. The main effect for duration of Internet use was significant for online communication and relationship preferences. High Internet users indicated higher scores on online communication and relationship building, compared to their counterparts. No significant main effects for duration of Internet use were significant on any of the offline characteristics. Implications of these findings and their relevance to mental health issues and organizational environment were discussed.

INTRODUCTION

COMMUNICATION HAS CHANGED greatly throughout the years, and the development of relationships may reflect these changes. The emerging branch of cyberpsychology intends to focus on the relationship patterns between online behavior and the offline characteristics of users. Further understanding of the dynamics of online communication will help us examine the complexities involved with user characteristics.

The Internet is often used for communication and relationship building with others and may be used for developing friendships and romantic interests. Relationships built over the Internet may

develop and change differently from those based on real-life interactions. While pop culture is just beginning to accept online relationships, some individuals may feel the need to hide online relationships due to the offline reactions of friends and peers.² As Internet relationships become more popular, it is important to discover the effect they have on the individual and society.

There are five basic relationship components of online relationships²: (a) proximity and frequency of contact; (b) self-presentation; (c) similarity; (d) reciprocity; and (e) expectations and idealizations. It was found that each of these components is present during online interactions. Currently, there is a debate over the effect of online communication on

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interpersonal relationships. Several studies^{3,4} indicated that relationships based on an online medium are impersonal, shallow, and detrimental to the relationship. In contrast, studies have emphasized that online communication can enhance interpersonal relationships and improve communication.^{5,6} It is uncertain why these discrepancies occurred, but further in-depth research could provide better insight in this field.

The current study attempts to examine online communication and relationship building preference and their variations across age, gender, and duration of Internet use. Specifically, this study focuses on communication and relationship building preference for family, friends, coworkers, and unknown individuals with whom the participant solely interacts with via an online medium.

Correlates of online communication and relationship building

Gender and preference for relationship building. Current research indicates that men and women communicate differently with friends and family.^{7,8} Women have been found to have larger social circles and prefer to have more intimate relationships with their friends,⁹ while men prefer more instrumental relationships and may communicate more to gain or to keep a social position.⁸

There is some debate on gender gaps and Internet use, as computer use has traditionally been considered a male-dominated field. However, in recent years women have become frequent computer users. Out of the 94 million Americans with Internet access, the overall population is evenly split between men and women.¹⁰ Despite the even number of users, research shows gender differences found in preference and style for Internet activities. Women typically report greater difficulty finding information than men and prefer to use the Internet for education, communication, and personal information, whereas men are more likely to obtain information regarding weather, business, sports, and games. Women tend to favor personal communication via email and computer-mediated communication (CMC), and tend to use CMC to contact friends, family, and coworkers more than men.¹¹

Consistent with these findings, Weiser¹² noted that men and women differ in their computer usage. Female Internet use is driven by a need for interpersonal communication, and women prefer the Internet for chatting online, sending email, and receiving educational assistance, while men report a greater use of the Internet for building web pages,

searching for romance, pursuing sexual relationships, reading the news, and playing games.

Currently, women are more likely to send email to friends than men. Seventy-three percent of women say they have sent email to a distant friend, whereas only 65% of men have. There was no indication of a gender difference from communication with local friends, but women are more likely to communicate with distant friends and will be more likely to send email to parents, grandparents, and extended family.¹⁰ Women tend to use email in the work place and have made computers part of their work routine in order to perform a variety of tasks while men use computers in the workplace for originally prescribed purposes.¹³

Lee and Anderson's¹⁴ findings were congruent with the previous research, finding that women are more likely to email people who are far away and tend to write emails that contain more personal content and that women communicate with family and distant friends more than men do. Women were also less tolerable concerning delays in email response, whereas men were comfortable with time elapsing before a response to an email. No noticeable gender differences for communication with local friends and use of the World Wide Web were found.

Studies have identified stylistic differences with language use across gender.^{11,15} Herring¹⁵ speculated that there were obvious differences in email written by women. It was noted that women tended to ask questions, included more personal and supportive statements, and had an overall warmer tone. Men's language included rhetorical questions, strong assertions, bold statements, and used more humor. While these statements may be stereotypical and were only anecdotally investigated, it is important to note that gender may have a strong influence on the language used in email.

Boneva et al.¹¹ found preliminary evidence that women may not consider email suitable for sharing personal thought and emotions and felt uncomfortable with self disclosure via the Internet. Some women felt that email was efficient for sending quick messages and served as a precursor to phone conversations. However, some women did feel that email allowed them to say things that they might not otherwise say in person.

Age and preference for relationship building. It was found that men and women between the ages of 20 to 30 are the most frequent users of the Internet. Individuals in this age group were found to spend their online time chatting, emailing, meeting new people, and playing online games.¹⁶ However, it has

not been found if age predicts communication preference or a preference for relationship building.

While older Internet users (aged 50–64) do use the Internet for email, getting general and political news, checking weather, and doing research for their jobs, seniors are generally not frequent users of the Internet.¹⁷ While 56% of all Americans go online, only 15% of Americans over the age of 65 have access to the Internet. Eighty-one percent of people who say they definitely will not go online are over 50. Fifty-six percent of those over age 65 say they definitely will not go online, compared to just 6% who say they definitely plan to go online. Men over 40 use the Internet for obtaining information and research and women over 40 build web pages more than other age groups.¹³

Of the 84% of seniors who say they first got Internet access for reasons unrelated to work or school, 48% say they were encouraged to do so by family members. Forty-five percent say they first got Internet access for personal reasons. Very few seniors who first got online for personal reasons say that they were encouraged by friends to get access. By contrast, younger Americans report that friends had a greater influence than family members in making the choice to go online.

Most seniors value the Internet as a useful tool to stay in touch with family members. Online seniors who email a significant family member are likely to say they communicate more often with that person now that they use email. Nearly 56% of online senior citizens say that the Internet has improved their connections with family.¹⁷

Internet use. People who use the Internet can be broken down into groups, based on Internet experience and frequency of usage. Frequent users have used the Internet for over three years, log on every day, and have incorporated the Internet into their work and home lives.¹⁶ These users enhance their social lives, manage work related tasks, and feel comfortable participating in most web-related activities.

Individuals who have accessed the Internet within two to three years and may log on every day for less time than the previous group may still feel comfortable participating in Web activities. However, they are less active in accessing the Web's content and view the Internet as a functional tool for completing many tasks in their lives.

Individuals who are relatively new to the Internet do not spend much time online and have not integrated the Internet into their lives as individuals in the previous groups may have. This can result in severe communication discrepancies between indi-

viduals who use the Internet as a primary form of communication and individuals who prefer offline communication.

Statement of intent

The purpose of this study is to examine the relationship between both online behavior and offline characteristics across age, gender, and Internet use groups. This study intends to identify existing differences in their preference for online communication and relationship building with friends, family, coworkers, and unknown individuals. For the purposes of this study, unknown individuals were defined as individuals that were only known to the participant via an online medium and where there has been no offline interaction. Several research questions were explored, below are the questions (Q) and hypotheses (H) for this study.

Q-1: Are there gender differences in preference for online communication and relationship building with friends, family, coworkers, and unknown individuals?

H-1A: It was hypothesized that women would spend more time communicating and building relationships online with friends, family, and coworkers than men.

H-1B: It was hypothesized that men would spend more time communicating and building relationships online with unknown individuals than women.

Q-2: Are there age differences in online communication and relationship building with friends, family, coworkers, and unknown individuals?

H-2A: It was hypothesized that young adult age groups will spend more time communicating and building relationships online with friends, family, and unknown individuals than late adult individuals.

H-2B: It was hypothesized that middle adult age groups will spend more time communicating and building relationships online with coworkers than late adult age groups.

Q-3: Are there differences in the duration of Internet use on user's preference for online communication and relationship building with friends, family, coworkers, and unknown individuals?

H-3: It was hypothesized that high Internet users will spend more time communicating and building relationships online with friends, family, coworkers, and unknown individuals than middle and low Internet users.

METHODS

Participants

One hundred and seventy four participants (86 males and 88 females) were recruited for this study. Participants were selected at random from local universities and personal networks and were then classified based on gender, age, and duration of Internet use. Participants were placed into two gender (men and women), three age (young adult, middle adult, late adult), and three Internet use (low, medium, high) groups.

Users who spend between 0–2 hours online were considered low users, users who spend 3–5 h online were considered medium users, and users who spend 6+ h online were considered high users. Inclusion criteria for participants included at least two years of higher education and current residence in the United States. Any participant not meeting these requirements was excluded from the study.

The final sample consisted of 86 males and 88 females all over the age of 20. Of these participants 85.6% percent were Caucasian, 2.8% were Hispanic, 3.3% were Asian, 0.6% were African-American, and 1.7% were classified as other. Participants ranged in education from college to Ph.D., with 63.3% participants graduated or received at least 2 years of college education, 25% had master's degree, 6.1% had a Ph.D., and 1.7% reported other degrees. Sixty of these participants were young adults, 60 individuals were middle age adults, and 54 individuals were late adult. Sixty of these participants were classified as low Internet users, 58 were classified as medium users, and 56 were classified as high users.

Measures

Each participant received a written consent form and was asked to complete a demographic information sheet and four self-report questionnaires. These measures assessed both the online preference and offline characteristics of the participants.

Demographic background information sheet. Information regarding participants' age group, ethnicity, state of birth, and level of completed education was collected through a self-report questionnaire.

Internet use questionnaire. Participants received an 84-item questionnaire measuring user's preference concerning online communication and relationship building with friends, family, coworkers,

and unknown individuals. Questions addressed the frequency of use of online services for communication purposes, the impact communication via an online medium has had on personal and professional relationships, the ability to judge personality traits via an online medium, the frequency of interaction with individuals the participant knows only via an online medium (i.e. participants on a message board, public chat rooms), and the differences between the frequency of communication in face to face interactions versus contact via an online medium. Sample items include: "Email/Messaging/Internet improved your ability to connect with friends," "With whom do you use email to communicate with most frequently," and "The Internet is a fun and relaxing "place" to meet people."

Lower scores on this scale indicate a stronger preference for online communication and relationship building. Items were selected from scales used in previous studies that would be pertinent to the current study. Items were selected from a survey used in a study on Internet use across cultures.¹⁸ The reliability of this scale was 0.72 to 0.85. Items were selected based on their relevance to online communication and relationship building.

Procedure

Participants were given the option of completing a questionnaire in person or online via a secure online response format. Research shows that measures completed online, compared to pen and paper, can reduce socially desirable responding and there are few demographic differences between online and offline participants and that the Internet can be a viable method for conducting research.^{19,20} In order to prevent from targeting Internet users, at least half of the participants completed the self-report measures in person and each group contained an equal number of participants who completed the survey on and offline, so as not to impact the data.

Participants who completed the questionnaire in person received a questionnaire packet along with the consent form and were requested to complete it and return it to the investigator.

Participants who completed the measures online were given a link to a secure web page hosted by the University. Completed measures were transmitted via email to the Investigator. To access the completed measures, a password known only by the investigator was required. Responses were printed out and contained in a secure location.

Statistical analysis

Both univariate and multivariate statistical procedures were utilized to test the hypotheses of this study. A 2 (gender) \times 3 (age) \times 3 (duration of Internet use) multivariate analysis of variance (MANOVA) was carried out on the four areas of communication and relationship building. Separate ANOVAs were run, but no interaction effects were found.

RESULTS

Comparison of online communication and relationship building across gender groups

A MANOVA was used to assess the effect of two gender (men, women), three age (young, middle, late adult), and three Internet use (low, medium, high) groups on their preferences for online communication and relationship building with friends, family, coworkers, and unknown individuals. The subscales used for the four interpersonal areas (friends, family, coworkers, unknown) were used as the dependent variables in the analysis.

The first interest of this study was to determine if there were gender differences in the online communication and relationship building preferences for friends, family, coworkers, and unknown individuals among men and women. Results revealed that preferences for online communication and relationship building did not significantly differ across gender (Table 1).

Comparison of online communication and relationship building across age groups

The second interest of this study was to determine if there were age differences in online com-

munication and relationship building preferences for friends, family, coworkers, and unknown individuals. The online communication measures for the four subscales (friends, family, coworkers, and unknown) were included as dependent variables in the analysis. The independent variable was age (young, middle, and, late adulthood).

MANOVA results indicated a significant main effect of age on online communication and relationship building preferences, Pillai's $F(8, 174) = 3.14, p < 0.05$ (Table 2). Follow-up univariate analyses revealed that preferences for online communication and relationship building were significant for friends, and unknown individuals. Results were not significant for online communication and relationship building with family and coworkers across age groups (Table 2). No interaction effects were shown to be significant.

Tukey's Post Hoc analysis revealed that individuals in the young adult age group preferred to communicate online and build online relationships with friends, followed by individuals in the late and middle adult age groups. Individuals in the young age group indicated their preferences for online communication and relationship building with unknown individuals, followed by the middle adult age group, and the late adult age group (Table 2).

Comparison of online communication and relationship building across Internet use groups

The third interest of this study was to determine if there were differences in the duration of Internet use on communication and relationship building. A MANOVA was performed on online communication and relationship building variables to identify differences based on the Internet use. The four subscales (friends, family, coworkers, and un-

TABLE 1. MANOVA FOR ONLINE COMMUNICATION AND RELATIONSHIP BUILDING ACROSS GENDER, AGE, AND INTERNET USE GROUPS

Main effect	df	Pillai F	Significance
Gender	4	2.29	0.63
Age	8	3.14	0.002*
Internet use	8	7.41	0.000**
Gender \times age	8	0.56	1.01
Gender \times Internet use	8	1.08	0.19
Age \times Internet use	16	1.13	1.12
Gender \times age \times Internet use	16	0.94	1.21

* $p < 0.05$.

** $p < 0.001$.

TABLE 2. ANALYSIS OF VARIANCE FOR ONLINE COMMUNICATION AND RELATIONSHIP BUILDING ACROSS AGE GROUPS

<i>Variables</i>	<i>Young adult mean, SD</i>	<i>Middle adult mean, SD</i>	<i>Late adult mean, SD</i>	<i>df</i>	<i>F</i>
Friends	9.07, 3.17	10.92, 3.61	10.91, 3.83	2	6.33**
Family	10.48, 3.04	11.15, 2.83	10.11, 3.23	2	1.90
Coworker	15.38, 3.84	14.56, 3.30	15.52, 5.85	2	0.80
Unknown	22.72, 6.14	24.97, 5.95	25.59, 6.55	2	3.90*

**p* < 0.05.

***p* < 0.001.

known) were included as dependent variables in the analysis.

MANOVA results indicated a significant main effect for duration of Internet use on preferences for online communication and relationship building across Internet use, Pillai's *F* (2, 174) = 7.41, *p* < 0.001 (Table 1). Follow up univariate analyses of variance indicated significant difference in online communication and relationship building with friends, family, coworkers, and unknown individuals across duration of Internet use (Table 3). No significant interaction effects were found.

Post hoc analysis revealed that individuals in the high users group preferred to communicate online and build online relationships with friends, followed by the medium user group, the low user group. Individuals in the medium user group preferred to communicate online and build online relationships with family, followed by the high user group and the low user group. Individuals in the high user group communicate online and build online relationships with coworkers, followed by the medium user group and individuals in the low group. Individuals in the high user group preferred to communicate online and build online relationships with unknown, followed by the medium user group, and the low user group. The interaction ef-

fect of gender, age, and Internet use was only significant for family (Table 3).

DISCUSSION

Online communication and relationship building across gender groups

The first hypothesis of this study stated there would be a gender difference in the areas of online communication and relationship building across gender groups. It was hypothesized that women would prefer to communicate online and build online relationships with friends, family, and coworkers more than men, and that men would prefer to communicate online and build online relationships with unknown individuals more than women. Results did not support this hypothesis, and no significant differences were observed across gender groups. However, the mean scores indicated a trend towards women's preference for communication and relationship building online with friends and family members was observed.

Currently, the notion of gender differences in online communication has been inconclusive. Previous research indicates that women are more likely

TABLE 3. ANALYSIS OF VARIANCE FOR ONLINE COMMUNICATION AND RELATIONSHIP BUILDING ACROSS INTERNET USE GROUPS

<i>Variables</i>	<i>Low mean, SD</i>	<i>Medium mean, SD</i>	<i>High mean, SD</i>	<i>df</i>	<i>F</i>
Friends	12.66, 3.36	9.31, 2.67	8.69, 3.50	2	25.96**
Family	11.77, 2.78	9.84, 2.76	10.11, 3.26	2	8.23**
Coworker	17.03, 3.72	14.74, 4.20	13.45, 4.57	2	11.00**
Unknown	28.05, 5.51	23.10, 5.58	21.73, 6.03	2	19.45**

**p* < 0.05.

***p* < 0.001.

to communicate with family, friends, and co-workers more than men.^{13,14} However, researchers have suggested that women may feel that the Internet is too impersonal for communication and relationship building.¹¹ Women may be socialized for interpersonal communication and relationship building and may find the Internet does not allow for personal communication.

In previous years, computer usage was regarded as a male dominated field but it was recently reported that the overall population is evenly split between men and women.¹⁰ It is possible that the findings of this study reveal that while women are beginning to use the Internet as much as men, they still do not feel comfortable communicating and building relationships online. While women may communicate offline more than men, they perhaps communicate equally online. This may indicate a trend towards gender equality on the Internet.

Online communication and relationship building across age groups

The second hypothesis of this study stated there would be a difference in the areas of online communication and relationship building across age. It was hypothesized that individuals in the young adult age group would communicate online and build online relationships with friends, family, and unknown individuals more than middle and late age adults and that middle age adults would communicate online and build online relationships with coworkers more than young or late age adults. Current findings partially supported these hypotheses. Results indicated that young adults spend more time communicating online and building online relationships with friends and unknown individuals more than middle and late age adults. Results did not support the hypothesis that young adults will communicate online and build online relationships with family more than middle and late age adults and that middle age adults spend more time communicating with coworkers than young and late age adults.

The current findings were consistent with previous research which indicated that young adults spend more time using the Internet for communication.¹⁶ Young adults may also feel more comfortable communicating and building relationships online than middle and late adults because they are growing up in a technological era. Online communication is encouraged in schools and is being integrated into the lives of young adults both in personal and professional settings. Individuals in the middle and late age group may be relatively

less adaptive to the changes in communication and relationship building the Internet brings.

Online communication and relationship building across Internet use groups

The third hypothesis of this study stated there would be a difference in the areas of online communication and online relationship building among members of the Internet use groups. It was hypothesized that high Internet users would communicate online and build online relationships with friends, family, coworkers, and unknown individuals more than low and medium Internet users. The results of this study supported the hypothesis. As demonstrated by a Post Hoc analysis, individuals who spend more time online feel comfortable using the Internet for communicating and relationship building with friends, family, coworkers, and unknown individuals. This data supports previous findings that more time online increases comfort for communicating and building relationships via an online medium.¹⁶

It could be possible that heavy Internet users would be less comfortable communicating and building relationships offline. The results of this study also indicate that, as society makes a movement towards increased communication online, individuals are expected to become socialized with online culture and therefore would prefer online communication.

Limitations

This study presents several interesting findings. However, there are some limitations to this study. First, the sample size of each group was too small, limiting statistical significance and predictability for larger populations. Results indicated several trends that perhaps with a larger sample size could have been significant. Additionally, participants selected for this study had access to the Internet, either at home or at work. Therefore, this study does not include who may not have access to the Internet on a regular or semi-regular basis, which creates a limitation in the sampling.

Secondly, the duration of Internet use groups added difficulty in obtaining participants. It was increasingly difficult to find participants belonging to high Internet user group and thus the sample size was uneven. The results could have been significant with increased sample size. The use of another modality, such as interview, could have been more useful. Use of longitudinal data tends to provide better interpretation over the current cross-

sectional sampling. This study has also acknowledged the limitations concerning the response choice (online versus personal) of participants.

Implications for further research

The results of this study show that duration of Internet use is significantly related to online communication and relationship building. As more and more individuals turn to online communication and relationship building the differences in their communication preferences will become more evident. This study found significant differences in preference for communication across different age groups. It is also interesting to note that there were no significant interaction effects. Further research on the differences between online and offline communication could reveal reasons for this.

As society continues to explore communication and relationship building online, profiling Internet users and their preferences may help individuals improve their overall communication skills. Implications for further research include exploring reasons individuals may prefer online communication and relationship building over offline and vice versa, exploring stylistic differences of online communication and relationship building and examining the role of these technological advances on interpersonal relationships patterns in personal and professional domains.

The increasing popularity of instant messaging programs, web blogs, online journals, and other communication mediums may increase comfort level with online communication. Websites such as Livejournal, Friendster, and MySpace provide forums for individuals to meet new people and make connections. It is becoming apparent that the use of the Internet for a communication medium is increasing in popularity and usability as users are provided with more technology and interactive websites to help promote online communication and the development of online relationships. Further research that incorporates the most recent and trendiest mediums for communication may provide further insight into which forums users are comfortable with and prefer to use. Additionally, since the Internet is still a recent technological advance, it will continue to evolve as new services continue to emerge.

The findings also suggest users who spend higher amounts of time online may feel more comfortable communicating online compared to communicating offline. Individuals who have minimal preferences to use online communication use offline communication exclusively. In

order to communicate with each other, these groups will need to learn more adaptive methods of communication through balancing both mediums of communication.

Further research on the effect of the Internet on mental health and well being could provide better insight into the long term impact of the Internet both on personal and professional lives. This seems extremely relevant since our society is making a drastic shift towards communicating and building relationships online.

As society embraces communication and relationship building online, there may be a push for clinical psychologists to understand the determinants and consequences of Internet use to provide a better understanding of issues like cyber addiction, online language, emotional expression and self-presentation. Furthermore, there is certainly a need to examine the online behavior and offline characteristics of users to facilitate therapeutic intervention both at the individual and family levels. This area of research also will be beneficial for professionals working in business organizations to understand interpersonal dynamics and challenges in the work place and thus enrich services provided by consultants for both employees and employers at the given setting.

Overall, this study provides preliminary data concerning online communication and relationship building patterns, which seem to be the focus among researchers in this emerging branch of cyberpsychology. More in-depth studies in the respective areas of online relationships, user preferences and users characteristics will help us explore and clarify the dynamics of human interaction in cyberspace.

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