# Coping with Loneliness: Adolescent Online and Offline Behavior

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## ABSTRACT

This study looked at the similarities between the way adolescents cope with loneliness both online and offline. There were 429 participants, ranging from 14 to 23 years old, who answered a questionnaire posted on the Internet. There was a strong relationship between avoidant coping strategies offline and Entertainment Internet use. In addition, adolescents who considered Communication as the most important use of the Internet also coped with loneliness through Emotion Expression and Social coping. Results suggest that online and offline coping behaviors are strongly related especially if they are avoidant.

## INTRODUCTION

THERE HAVE BEEN SEVERAL debates about the effect of the Internet on a person's level of loneliness starting with the HomeNet study by Kraut et al.[1] This study found that Internet use was related to increased loneliness. Kraut et al.[1] interpreted their findings by suggesting that the Internet may increase a person's level of loneliness by taking time away from social activities and hence fostering social isolation. Other researchers,[2] however, have suggested that the Internet can decrease loneliness by creating a rich interactional medium that allows for positive, anonymous, and topically relevant communications to occur. McKenna et al.,[3] for example, obtained findings suggesting that, because of the lack of face-to-face interaction, the Internet can allow people to express their true inner selves, which can lead to deeper, longer lasting relationships. The Internet therefore has been seen in two different ways; both as an instrument that increases social isolation and one that enables meaningful self-disclosure.

In an attempt to resolve these differing views, the Internet has come to be seen less as an agent of change and more as a tool that is utilized. Kraut et al.,[4] for example, found little evidence of the Internet being an agent of change after the increased levels of loneliness disappeared three years later in a follow-up study of their original HomeNet sample. In a different longitudinal study, they found instead that the Internet seemed to have more positive effects (increased communication, social involvement, and well-being) for extraverts than introverts. They proposed a "rich gets richer" model in which the Internet has more beneficial effects for those who are already well-adjusted. In line with this model, other research has looked at the nature and quality of communication that takes place over the Internet and has found that an adolescent's disposition offline is related to the type of communications he or she had online through Instant Messenging type programs. Gross et al.[5] found that lonelier or socially anxious adolescents in school communicated more with people they

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did not know online. Leung[6] found that college students who were lonelier tended to have self-disclosure that was dishonest, negative and less revealing online. Therefore an adolescent inept at good communication offline was unable to utilize the Internet as a meaningful communication tool.

These previous studies suggest that the Internet may be an extension of a person's behavioral tendencies that already exist offline. Kraut et al.[4] study found that extroverts were better able to utilize the Internet for increased communication and expanding social networks. Gross et al.[5] and Leung[6] suggested that less lonely individuals utilize behaviors online that foster more extensive self-disclosure with people who they know.

A related behavioral tendency that may extend from the offline to the online world is how people cope with loneliness. Several research studies suggest that individuals cope with loneliness either by engaging in avoidance behaviors such as watching T.V. and using drugs, or approach behaviors such as talking with others.[7,8] Rubenstein et al.[8] has found that these more avoidant coping styles were related to a high level of loneliness. They proposed a cyclical pattern where a person's use of avoidance to cope with loneliness led to increased loneliness and further avoidance. This pattern, then, led to a downward spiral of continued loneliness.[9] These coping behavioral tendencies may be reflected online. This study tests the hypothesis that offline coping behaviors are related to how the Internet is used and that both in turn are related to a person's level of loneliness. Therefore, offline coping behaviors that can be described as avoidant should be related to Internet uses that are avoidant as well. Avoidant Internet uses can include activities such as entertainment uses, in which there is very little conscious effort to actively reduce a person's level of loneliness. In the same way, approach coping behaviors offline should be related to approach behaviors online such as trying to resolve the problem by communicating with others.

## MATERIALS AND METHODS

### Procedures

This study adapted the classic methodology of the newspaper survey[8] to the Internet. Participants were visitors to a website who agreed to complete an online questionnaire. The website hosting the questionnaire provided information and resources about loneliness. An Internet counter, located on the introductory page, provided partial information on the rates of visitors from referring URLs and their IP addresses, and suggested a variety in visitors coming from different websites. The majority of respondents came from the search engine Google.com and from referral websites such as Dr. Grohol's Psych Central, which had links to the loneliness website and questionnaire. The online questionnaire was constructed so that respondents would only be able to submit the questionnaire when all the necessary questions were answered. After the questionnaire was answered respondents were invited to preview some preliminary results of the data collected.

### Participants

A sub-sample of the respondents to the questionnaire was used for the analyses in this report. It consisted of 429 youths who were (a) ages 14–23 (mean age = 19.5) and (b) from the United States. The sample was restricted to teenagers and college students to correspond to the samples of previous studies. Respondents from outside the United States were excluded because there were too few respondents from any one country or region to permit valid comparison or control for national and regional differences. Sixty-seven percent of the respondents in the sub-sample were female; 76% reported using the Internet at least once a day.

### Measures

*Loneliness.* To measure the level of participants' loneliness, an abridged version of the UCLA Loneliness scale[10] was used. This particular loneliness scale was utilized because of its strong validity and reliability.[11,12] It had 11 items, which were responded to on a four-point Likert scale. The mean score on this scale was 18.0 (SD = 9.2); the scale had a strong reliability of alpha = 0.92.

*Coping.* The coping scale consisted of items compiled from three separate coping instruments.[11,13,14] The scale was compiled by adding unique coping strategies from each of the three coping instruments. In cases where there was an overlap of coping strategies between coping instruments, only one of the duplicates were chosen. The final scale contained sixty items and measured 28 different coping strategies.

A factor analysis of the 28 coping strategies revealed four main coping factors: *Rumination* (thoughts and cognitions that dwell on the negative aspects of loneliness), *Passive-Avoidant* (the use of passive behaviors such as over-eating or watching TV that avoid dealing with the problem of lone-

liness), *Constructive Active* (active behaviors such as working, exercising, and cognitions that positively re-interpreted the loneliness situation), and *Emotion Expression and Social* (the use of social communication to express emotions, discuss the loneliness problem, and attempt to resolve it). Individual coping strategies were summed to create a composite score for each of the four coping factors. The Rumination and Passive-Avoidant coping factors can be classified as avoidant, whereas Constructive Active and Emotion Expression and Social coping factors can be classified as approach.[15]

*Internet use.*   Internet use was assessed in three areas. *Frequency* assessed how often respondents reported being online. Frequency was obtained from a single item asking how often they used the Internet with possible responses ranged from several times a day to once a year. *Activity* assessed what different activities they utilize over the Internet, and lastly *Important Use* assessed what the most important use of the Internet is for respondents. The questions pertaining to Activity and Important Use of the Internet had 12 Internet use choices: work, entertainment, news/weather/sports, reference information, school-related activities, instant messenging, email, chat rooms, newsgroups, surfing, purchasing, and playing games. The Activity questions required respondents to identify as many of the 12 choices that they utilized over the Internet. Respondents answered yes or no to each of the 12 Internet use choices. For the Important Use question, respondents were asked to identify which one of the 12 choices was the most important use of the Internet for them.

In order to make comparisons between Internet use more manageable, the 12 choices for Activity and Important Use of the Internet were condensed into three categories. These were *Entertainment* (chat rooms, playing games, surfing, and entertainment), *Communication* (email and instant messenging), and *Information* (work, news/weather/sports, reference info., newsgroups, and school-related activities).[15] For Activity, composite scores were created for each of the three categories by adding individual Internet use questions for each category. For Important Use, the scale was recoded so that the 12 individual Internet use choices were reduced to the three categories of Internet use. Note that chat room use was included with Entertainment use because it showed significant correlations to other items in Entertainment Internet use. Also, the Internet use choice, purchasing, did not show significant correlations to any items in the other categories and was left out.

## RESULTS

To determine the relationship between loneliness and Internet use, Pearson's correlations were calculated between respondents' level of loneliness and the three categories of Internet use for Activity. It was found that only Entertainment Internet use was significantly correlated to loneliness ($r = 0.28$, $p < 0.001$). This indicated that lonelier persons tended to use the Internet more for Entertainment uses, but a person's level of loneliness is not associated with whether they utilize the Internet for Communication or Information uses.

To test the study's hypothesis, Pearson's correlations were calculated between the four coping factors and the three categories of Internet use for Activity. Table 1 shows the results. As suggested in the hypothesis, there were strong relationships between offline coping behaviors and online Internet use. In particular there were significant positive correlations between Entertainment Internet Use, loneliness, and the avoidant coping factors; Rumination and Passive Avoidant coping. In addition, Information Internet Use was positively correlated with Constructive Active and Emotion Expression

TABLE 1.   INTERCORRELATIONS OF LONELINESS AND COPING FACTORS WITH INTERNET USE ($N = 429$)

| Coping factors | Internet use | | |
| --- | --- | --- | --- |
| | Entertainment | Communication | Information |
| Rumination | 0.30** | >−0.01 | −0.02 |
| Passive avoidant | 0.19** | 0.17** | 0.08 |
| Constructive active | −0.05 | 0.12* | 0.12* |
| Emotion expression and social | 0.07 | 0.09 | 0.14** |

**$p < 0.001$, *$p < 0.05$.

TABLE 2.   ANOVA OF LONELINESS AND COPING STRATEGIES WITH INTERNET USE ($N = 417$)

| Dependent variables | Means of internet uses | | | F-value |
| --- | --- | --- | --- | --- |
| | Entertainment | Communication | Information | |
| Rumination | 14.59[b] | 10.29[a] | 10.46[a] | 9.06[**] |
| Passive avoidant | 10.83 | 10.38 | 9.17 | 2.82 |
| Constructive active | 15.23 | 16.10 | 16.44 | 0.99 |
| Emotion expression and social | 25.26[a] | 30.96[b] | 30.12[b] | 6.53[*] |
| Loneliness | 22.56[b] | 17.15[a] | 16.18[a] | 13.00[**] |

[**]$p < 0.001$, [*]$p < 0.01$.
[b]Mean > [a]Mean at $p < 0.05$ (Scheffé test).

and Social coping. The one discrepant finding was that use of the Internet for Communication was related to Passive-Avoidant coping.

Additional analyses were conducted to evaluate how the most Important Internet use was related to coping factors. The relationship of Important use to loneliness was also tested. To determine this, five ANOVA tests were conducted in which the four coping factors and loneliness were the five dependent variables and Important Use of the Internet was the independent variable. Table 2 displays the results. The ANOVA tests revealed significant mean differences for Rumination and Emotion Expression and Social coping factors. Entertainment use had a significantly higher mean for those who used Ruminative coping. Entertainment use also had a significantly lower mean for persons who employed Emotion Expression and Social coping. Consistent with the hypothesis, respondents who used Ruminative coping considered Entertainment Use as most important Internet use whereas those who use Emotion Expression and Social coping were least likely to indicate Entertainment Internet use as the most important. The ANOVA was also significant for loneliness. Consistent with the hypothesis, people who reported Entertainment as the most Important Internet use also reported the greatest levels of loneliness.

## DISCUSSION

The results here provide partial support for the hypothesis that offline coping behaviors are related to Internet uses. Support for the hypothesis is strongest for avoidant coping behaviors and Entertainment Internet uses. Youth who avoid dealing with their loneliness problems offline also avoid dealing with it online as well. Specifically, respondents who coped with loneliness using Rumination or Passive Avoidant coping also used the Internet for Entertainment uses, and considered Entertainment the most important use of the Internet. There was less clear overlap between the approach coping factors and Internet use. Emotion Expression and Social coping for example was not significantly related to Communication Internet use. Interestingly, respondents who used Passive-Avoidant coping were more likely to report using the Internet for Communication, but were not likely to consider Communication as the most important Internet use. In contradistinction, Emotion Expression and Social coping was not related to Communication Internet use but respondents who used this type of coping considered Communication as one of the most important uses of the Internet. Therefore while respondents who avoidantly cope with loneliness significantly utilize Communication Internet uses, they don't consider these communications are important and meaningful to them. This is opposed to respondents who use approach coping, while not reporting any significant relationship to Communication Internet use, considered Communication one of the most important uses of the Internet, suggesting alternatively that these communications are important and meaningful. This finding falls in line with previous research, which showed more positive disclosure with less lonely adolescents.[6]

The conclusion that online and offline behaviors are related to each other need to be accepted with reservation given the self-selected sample and the cross-sectional nature of the study. These raise issues of generalizability and the direction of the relationships. For example, this study indicates that lonely people avoidantly cope with loneliness and actively use the Internet for Entertainment, but what is unclear is whether the Internet can influence a lonely person to avoidantly cope with loneliness. This is unsure, but given past research, it

seems more plausible that offline tendencies become reflected online verses the other way around. Using the Internet for Entertainment then becomes another avoidant way of coping with loneliness.

Overall, therefore, these results suggest that, left to their own devices, the Internet will not have a positive impact on youth who are already ineffectively coping with their loneliness offline. The results and conclusion of this study provides further support to the suggestion by Tyler[16] that the Internet seems to be "a new way of doing old things." Further research is needed in order to determine if, and under what conditions, the Internet can be used as a means of getting the "poor richer" instead of continuing adolescent's offline tendencies.

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