Internet Use, Social Skills, and Adjustment

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ABSTRACT

The present study investigated the extent to which inter-personal skills, personality, and emotional intelligence (EI) were related to the extent of usage of the Internet, as measured with the Internet Addiction Scale, on a sample of undergraduates. EI was assessed by performance measures derived from the identification and labeling of emotions as shown in pictures of facial expressions, and as interpreted from descriptions of social episodes. Use of the Internet was related to loneliness and adherence to idiosyncratic values (strong effects), and also to poorer balance between work and leisure and emotional intelligence (weaker effects). Big Five personality dimensions were also included in the study. No link was found between personality and usage of the Internet. Results suggest that frequent users tend to be lonely, to have deviant values, and to some extent to lack the emotional and social skills characteristic of high EI.

INTRODUCTION

The introduction of the Internet gave rise to a debate of whether Internet usage has a negative impact on social adjustment. The main argument is that the Internet will cut users off from genuine social relationships and ultimately lead to impoverished participation in social life. Counter-arguments highlight the potential of this new technology to enhance one’s social life as it enables users to engage more easily in communication with other people.

Research has not given unequivocal support for either position as results are somewhat mixed. On the one hand, it has been found that usage tends to negatively influence social integration and well-being, in spite of turning to the Internet for social interaction and affiliation. Fascination with socializing on the Internet, such as chat rooms, may even increase a sense of loneliness because usage becomes so time-consuming that it impairs normal functioning within the social and work-related realm. On the other hand, a replication of the study by Kraut with colleagues revealed that usage was not related to a lower level of psychological well-being. Other research suggests that engaging in chat sessions decreases loneliness and increases perceived social support. It has, however, been found that users who socialize on the Internet tend to vary in the ease with which they form online relationships and in loneliness scores.

The debate about whether Internet use can be a potentially isolating activity or not has generally overlooked the mediating effect of users’ emotional and social skills in real life. Instead of merely focusing on the use of the technology itself, attention should be given to the users in terms of their ability to interact with other people. The net effect of the Internet could be increased variance of social ad-
justment, rather than an average improvement of deterioration.

Internet users might be well adjusted as they report higher levels of social activity and network involvement. However, Internet use and social involvement tend to vary in a similar fashion with education, income, and age. Other variables thus remain to be investigated in order to determine the extent that social isolation is a result of usage, regardless of any inherently social disposition on the part of the user. Although it would be useful to investigate whether socially isolated users were deficient in social skills even before taking up the Internet, it is not the aim of the present study to establish the direction of causality. The purpose was to investigate the extent to which emotional and inter-personal skills are related to Internet use. Relevant skills were assessed by means of measures of Emotional Intelligence (EI) and personality variables.

Psychological research has shown that personality variables are differentially associated with the tendency to seek company and get socially involved. For example, extraverts have been found to be gregarious, friendly and socially facile and to have more elaborate social networks. In the context of Internet use, it has been found that extraverts are less inclined to solicit social services offered on the Internet, presumably because their need for social exchange is sufficiently met off-line. Recent research on personality has shown that Agreeableness, which has previously been sparsely investigated, is another variable that reliably predict aspects of social behavior. It has been found that high Agreeableness is related to interpersonal processes involved in promoting social relations. Furthermore, an attempt to unearth psychological mechanisms underlying this personality dimension has shown that persons high in Agreeableness report experiencing more intense emotions during interpersonal situations.

It has been postulated that social interaction is to a large degree coordinated by emotions, which provide valuable information for creating and maintaining close relationships. The expression and experience of emotions signal socially relevant information to individuals about their own and their interaction partners’ emotions, intentions, and orientations to the relationship. The ability to perceive, process and understand one’s own and others’ emotions has been termed emotional intelligence by Salovey and Mayer, who made a seminal contribution to the research field. Their studies of EI made use of performance measures derived from, amongst other things, the identification and labeling of emotions as shown in pictures of facial expressions, or as interpreted from descriptions of social episodes. Their research led them to define EI as an ability that was embodied in the overall intelligence structure.

Summing up, we hypothesized that use of the Internet would be negatively related to inter-personal skills. As a measure of use, we administrated the Internet Addiction Scale by Young. We expected that frequent users, bordering on “Internet addiction,” would report a higher degree of loneliness and lower social adjustment in terms of balance between time spent on work and leisure. We also assumed that social integration should benefit from adhering to a mainstream value system and therefore we additionally expected to find that frequent users would deviate in their values from the sample as a whole. Having and expressing idiosyncratic values carries a social risk, and would hence be indicative of less successful adaptation to social life in general. Finally, we also expected that frequent users of the Internet would be lower on EI, Extraversion, and Agreeableness.

MATERIALS AND METHODS

Participants

Forty-one students were recruited at the Stockholm School of Economics (SSE). They were on the average 21.1 years old (range 18–28), 20 women and 21 men. All testing was anonymous, a fact stressed to the participants. Testing was done in one session, with all participants present at the same time. Each tested person was paid SEK 400 for participating in the study (about $50).

At enrollment at the SSE, each student is connected to the mainframe system of the school and provided with an email address. This entails connection to the Internet and enables communication with people both within and outside of the school. During their first semester, students are obliged to pass a test in proficiency to handle different software as well as to navigate on the Internet. Upon passing the test, one academic credit is earned, corresponding to 1 week’s work.

Procedure

The total test battery took about 5 h to complete. Its different parts were completed in the following order: identifying emotions in facial expressions, UCLA Loneliness Scale, Work/Leisure Balance Scale, identifying emotions in social episodes, In-
ternet addiction scale, Schwartz’ value scale, and a Big Five inventory. Several other scales, not reported here, were also used.

Identifying emotions in facial expressions and social episodes, respectively, are measures of EI included in the MSCEIT. We have developed similar tests and used them in our previous research. Emotion identification in facial expressions was measured with the display of 12 pictures from the Lightfoot series of facial expressions. The task was to rate the extent that each of the expressions corresponded to eight different emotions using uni-polar three category scales. Emotion identification was also measured with the help of written descriptions of brief social problem episodes involving two actors. The task was to rate the extent to which each of the actors felt each of ten different emotions using uni-polar three category scales.

RESULTS

The EI measures were computed according to the principle for consensual scoring commonly used in studies on EI. That is, the most common response in the sample was taken to define the correct response. The alpha values were, for facial expressions and social episodes, 0.77 and 0.85, respectively.

The personality inventory yielded measures of the personality dimensions according to the five-factor model of personality, having 14–20 balanced items in each factor (α = between 0.73 and 0.83).

Indices were computed for the Internet Addiction Scale (α = 0.95 after seven items had been deleted because they gave no variation among testees), UCLA Loneliness Scale (α = 0.85, 21 items), and the Work/Leisure Balance Scale (α = 0.90, 20 items).

The Schwartz scale of values contains 56 items of which one was deleted as analyses on that single item gave no clear results. As the factor structure of the scale seemed somewhat unstable in our previous work, we performed a component analysis on the items. The analysis yielded four components: Freedom and achievement (α = 0.84, 15 items), Tradition, hierarchy (α = 0.74, 6 items), Equality, justice (α = 0.82, 10 items), and Stimulation, excitement (α = 0.72, 8 items). Indices measuring these values were computed. We also calculated the absolute deviations from the means in these value dimensions, and formed an index of value deviance by taking their average.

Inter-correlations of the Internet Addiction Scale and EI measures, and the three indices of social adaptation are presented in Table 1. Our hypotheses were strongly supported. Strong correlations were found, and the Internet addiction scale formed a reasonably tight cluster with these measures. Internet addiction was related negatively to EI measures and Balance, and conversely, positively to Value Deviance and Loneliness.

The five personality dimensions were correlated with the Internet Addiction Scale, EI measures, and the indices for measuring social adaptation. The results showed that the personality dimensions were not related to the any of the scales of Internet Addiction, Work/Leisure balance, and Value deviance. All dimensions, except for Agreeableness, correlated with the Loneliness scale, however. As expected, extraverts reported experiencing a lower degree of loneliness than introverts, r = −0.67, p < 0.0001. Correlations with loneliness for the remaining dimensions were as follows: Emotionality, r = −0.54, p < 0.0001, Intellectual Openness, r = −0.49, p < 0.01, and Conscientiousness, r = −0.36, p < 0.05. A high level of Agreeableness was linked to a higher level of EI, as expected, since this dimension correlated with Facial Expressions and Social Episodes, r = 0.43 and 0.42, respectively, p < 0.01.

The score on the Internet Addiction scale was run as the dependent variable in a regression analysis

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<td>1. Internet addiction scale</td>
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<td>2. Facial expressions</td>
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<td>3. Social episodes</td>
<td>−0.38*</td>
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<td>4. Loneliness scale</td>
<td>0.33*</td>
<td>−0.32*</td>
<td>−0.28</td>
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<td>5. Work/leisure balance</td>
<td>−0.45**</td>
<td>0.47**</td>
<td>0.42**</td>
<td>−0.38*</td>
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<td>6. Value deviance</td>
<td>0.65***</td>
<td>−0.35*</td>
<td>−0.32*</td>
<td>0.28</td>
<td>−0.24</td>
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*p < 0.05; **p < 0.01; ***p < 0.0001.
with the two EI measures as independent variables. This analysis yielded a significant result, $F(2,38) = 4.69, p < 0.015$, $R^2 = 0.20$, showing that about one fifth of the variation in more frequent use was explained by the EI measures. However, standardized regression coefficients did not reach significance (Facial Expressions $\beta = -0.36, t = -1.56, p < 0.12$ and Social Episodes $\beta = -0.10, t = -0.44, p < 0.66$). They nevertheless suggested, as further indicated by partial correlations, that the score on Facial Expressions was related to and contributed toward the explanation of Internet use to a higher degree than Social Episodes.

The score on the Internet Addiction scale was run in another regression analysis with the three indices of social adaptation as independent variables. This analysis yielded a significant result, $F(3,37) = 13.08, p < 0.0001$, $R^2 = 0.52$, and standardized regression coefficients revealed that Value Deviance made the most important contribution, $\beta = 0.56, t = 4.65, p < 0.0001$. The contribution of Work/Leisure Balance was moderate, $\beta = -0.29, t = -2.29, p < 0.03$, and that of Loneliness was non-significant ($\beta = 0.06, t = 0.48, p < 0.63$).

Responses to two questions about the extent of Internet use, on a weekday or the weekend, were combined to an index measuring frequency of use. The index was used to divide the participants into two groups: high and low frequency of use of the Internet. For Loneliness and Deviant values, there were very large differences, as expressed in differences of means of standardized values. For Balance and EI, there were differences in the same direction, but smaller (Figs. 1–4).
The figures illustrate how frequency of use of the Internet is strongly related to Loneliness and Deviant values, less strongly but as expected also to EI and Balance.

**DISCUSSION**

The results show a very large difference in Loneliness between high- and low-frequency users of the Internet. High users were lonelier, which is consistent with prior research, but the present study additionally showed that high users expressed more deviant values.

Results of the present study also confirm the expectation that frequent users of the Internet would be lower than others on EI. In agreement with our previous research, the two measures of EI were shown to be clearly related to the three indices of social adaptation. This supports our assumption that the ability to understand emotions as perceived in others is useful for conforming to the demands of social life and adjusting to the social context. Results thus suggest that frequent users of the Internet tend to lack the emotional competence characteristic of high EI that confers an advantage for social adaptation. They adhere to idiosyncratic values and have less elaborate social networks, as indicated by their lower score on the Balance scale, in addition to their tendency to report a greater sense of loneliness.

Hence, it was possible to discern a strong relation between a more frequent use of the Internet and EI, but frequent use could not be linked to any
specific personality dimension. Extraversion, however, was strongly related in a negative direction to Loneliness, which is in line with prior research suggesting that social activity is more prevalent among extraverts. In contrast, Agreeableness was related to the measures of EI. Results in this respect are consistent with the claim that individuals who are high on Agreeableness may be more concerned with the emotional experience of their partners during interaction. Hence, the results suggest that they may be more perceptive to and skilled at apprehending emotional cues as expressed by others.

There are several possible interpretations for the strong negative relation between frequent Internet use and EI. One plausible explanation is prompted by the stronger relation found between frequent use and Facial Expressions, as compared to Social Episodes. A greater sensitivity to emotional cues may strengthen the sense of reward that comes from interaction face-to-face, which would, therefore, be preferred to the rather shallow interactive character of the Internet. Another possibility may simply be that the social involvement associated with high EI, as indicated particularly by the correlation with the Balance scale, allows only limited time to be spent on the Internet.

The strong relation found between Internet addiction and Value Deviance calls for further research. Does frequent use of the Internet bring in new value perspectives? A highly frequent usage of the Internet may perhaps, in similarity to deviant behavior, be traced to a tendency toward unconventionality. Such a tendency would facilitate a shift in values given certain circumstances. Alternatively, is Internet surfing resorted to in the face of failures in social life caused by idiosyncratic thinking and the expression of deviant values? It is possible that ardent usage of the Internet stems from social rejection due to deficient social-cognitive skills, which have been shown to be involved in problems with peer group entry, perception of group norms and interpretation of pro-social interaction.

The present study is admittedly based on a small sample, but we suggest that the results are quite strong and shed some light on the extent to which Internet use is related to social adjustment. Results warrant the tentative conclusion that the degree of inter-personal skills may determine how strongly users will embrace the new technology. The results also call for a closer investigation into the link between Internet addiction and deviance in social values.

REFERENCES


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