

INTERNET USE AND SOCIABILITY IN JAPAN

SHUNJI MIKAMI

ABSTRACT

This article presents a cross-national comparison between the WIP survey data in Japan and the UCLA samples, using parallel questions and MCA methods with similar dependent and independent variables and coding schemes. In the cross-section correlation between Internet usage and household socializing behavior, no significant relations were found. Further MCA analyses suggest the existence of intervening variables which may or may not involve displacement of time spent in Internet use by other activities than socializing with family or friends.

The significant relation found between heaviest Internet usage and higher level of friend socializing suggest a kind of "virtual community" effect, which expands the sphere of socializing behavior beyond the physical time and space limits. However, analysis using the retrospective estimate questions concerning perceived levels of contact produced the opposite relation, namely that heavier Internet users perceived less social contact.

Shunji Mikami is a professor of media communication at Tokyo University, where he conducts research on the social impact of Internet, mobile phones, multi-channel TV and other digital media. He has been the principal investigator of the Japanese part of the World Internet Project since April 2000.

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The preceding articles by the UCLA and China-Hong Kong teams provide little evidence to support any significant relationship between Internet usage and sociability from data collected by other members of the World Internet Project (WIP) (Cole and Robinson 2002; Lee and Zhu 2002—both in this issue). The purpose of this article is to examine the relationship between Internet use and sociability in Japan by using the comparable survey data and the same analytical method of Multiple Classification Analysis.

SURVEY METHODOLOGY

Sampling: As members of the World Internet Project, the Japanese WIP team consists of five major researchers who are conducting sociological studies of the Internet's impact in Japan. They have conducted a two-wave panel survey: the first in October–November 2000 and the second in October–November 2001. The national sample was drawn with a stratified random sampling method from the population of Japan, aged 12 to 74 (in year 2000) and 75 (in year 2001). The total number of completed survey interviews was 2555 in year 2000 and 2816 in year 2001.

From the start, the survey was designed as a panel study, which it is hoped will continue for five years. Therefore, in the first survey, all respondents were asked whether or not they would accept a reinterview in the second-wave panel survey. Out of 2555 respondents sampled, 1924 respondents said they would. For various reasons, the number of respondents who actually cooperated the second-wave survey was only about two-thirds of that—1346. In order to adjust the bias in the demographic construction of sample compared with the total population, and also to keep a large sample size needed for continuing the panel study in the following years, 1470 additional respondents were randomly added using the area sampling method. The demographic traits of the augmented 2816 sample in year 2001 are similar to the national census data, and therefore are regarded as a representative sample of the total population aged 12 to 75 in Japan.

Trained interviewers from the Shin Joho Center, one of the largest non-profit public opinion survey organizations in Japan, visited each respondent door-to-door and asked them to fill out the self-completion questionnaire forms. They instructed them how to answer the questions, and then revisited them a few days later to collect the forms. All answers were checked strictly to assure the reliability of responses. Three data sets were compiled from the two-wave panel surveys: two independent data sets for the year 2000 and year 2001 survey, and the combined two-wave panel data set. This analysis uses only the 2001 survey data set.

Sociability Questions: There are two different sets of questions on sociability in the 2001 survey. The first set of questions are behavioral, asking about hours per week for socializing with other members of one's household or

with friends—to be comparable with UCLA and China-Hong Kong data. The second set of questions is subjective, asking for each respondent's own evaluation of the Internet's influence on their socializing behavior with family or friends. In order to compare the survey results with the UCLA data, only those over age 18 are examined here.

COMPARISON OF MCA RESULTS

Cole and Robinson (2002) reanalyzed the UCLA 2000 survey data and found little relation between Internet usage and sociability, in terms of behavioral estimates. Lee and Zhu (2002) also found no significant relation between Internet use and household socializing and friend socializing. As part of the World Internet Project, two comparable questions on sociability were included in the year 2001 Japan survey, shown in Appendix A.

Table 1 shows the MCA results related to these two behavioral estimate variables. For the purpose of comparison, the corresponding MCA results from the UCLA sample are shown in the same table, with race excluded as an independent variable in Japan. Because of the very low divorce rate in Japan, marital status in Japan consists only of two categories: either married or not married (including divorced, separated, or widowed). The categorization of household income is naturally different between the U.S. and Japan, due to the different currency systems and income levels. For the other variables, categories were the same as in the UCLA data.

Column 1 of Table 1 shows the average time spent with other household members and friends in U.S.A. and Japan. It is surprising how similar the average times are in the two countries.

Background Factors: The correlations of *age* with the dependent variables are all statistically significant at the .05 level in both the U.S. and Japan. Although the relations are not monotonic, some interesting similarities are found between the U.S. and Japan in some age classes. In the case of household socializing, the highest means are found in age 65–74 and the lowest means are found in age 45–54 in both countries. This strongly suggests the negative effect of work obligations on socializing with family, regardless of cultural differences. By the same token, the most time socializing with friends is found for age 18–24 in both the U.S. and Japan—which perhaps reflects more opportunities and free time for socializing with friends in the late teens and early twenties in both cultures.

Gender differences are not statistically significant in the U.S. sample for either household socializing or for friend socializing. In contrast, gender differences are statistically significant for both household socializing and friends socializing in Japan. In Japan, the mean socializing times for women are longer than men, which probably reflects more time available for women in socializing activities. Further evidence of this can be found when including work status as

TABLE 1: SOCIABILITY BEHAVIORS BY DEMOGRAPHICS (MCA ADJUSTED)

	Household Socializing		Friends Socializing	
	U.S.	Japan	U.S.	Japan
TOTAL SAMPLE	28.7 hrs (n=1774)	31.7 hrs (n=2393)	9.5 hrs (n=1774)	9.3 hrs (n=2167)
Age				
18-24	0 (180)	1.9 (249)	2.4 (180)	7.5 (269)
25-34	1.1 (441)	3.0 (470)	1.0 (441)	-.9 (423)
35-44	1.2 (395)	-2.0 (450)	-.2 (395)	-2.0 (368)
45-54	-5.1 (363)	-5.1 (491)	-1.9 (363)	-2.0 (416)
55-64	-.8 (217)	.5 (425)	-1.0 (217)	-.8 (394)
65-74	5.3 (270)	4.2 (308)	.4 (270)	.9 (297)
Correlation	.15 -->.13 Sig	.21-->.13 Sig	.15 -->.12 Sig	.37 -- > .31 Sig
Gender				
Men	-1.9 (513)	-3.6 (1211)	.8 (513)	-.4 (1057)
Women	1.5 (717)	3.7 (1182)	-.6 (717)	.4 (1110)
Correlation	.05 -- >.06 NS	.17-- > .14 Sig	.07-- >.06 NS	.02-- > .04 Sig
Education				
HighS Inc.	-4.8 (165)	1.2 (288)	1.1 (165)	-.0 (261)
High Grad	-.8 (687)	-.1 (1181)	1.0 (687)	.3 (1059)
Some Coll	1.0 (508)	.1 (378)	-.4 (508)	.4 (357)
Coll Grad	1.0 (340)	-.5 (519)	-1.2 (340)	-.9 (464)
Grad Schl	3.4 (164)	-.6 (27)	-1.3 (164)	-2.0 (26)
Correlation	.06 --> .09 NS	.12 --> .02 NS	..09-->.09 Sig	.06-->.05 NS
Income (U.S. (Japan)				
\$0-14.9K (\0-3999K Yen)	3.3 (249)	.6 (645)	-1.5 (249)	-.4 (624)
\$15-49.9K (\4000-5999K)	1.9 (847)	1.2 (583)	.3 (847)	-.7 (515)
\$50-99.9K (\6000-7999K)	-4.0 (484)	-1.0 (420)	-.2 (484)	-.1 (362)
\$100K+ (\8000K+)	1.0 (139)	-.8 (550)	1.1 (139)	.7 (489)
No Data	.2 (145)	-1.0 (195)	.7 (145)	1.7 (177)
Correlation	.10--> .12 NS	.09-- >.04 NS	.10 --> .06 NS	.13-- >.08 Sig
Marital Status				
Married	1.5 (988)	3.9 (1916)	-1.2 (988)	-.5 (547)
Divorced	-2.5 (207)	-	1.2 (207)	-
Separated	-1.7 (40)	-	0 (40)	-
Widowed	-6.0 (168)	-	-.8 (168)	-
Never Married	-5.8 (375)	-15.7 (477)	2.8 (375)	1.8 (362)
Correlation	.12 --> .12 Sig	.28-- >.30 Sig	.16 --> .15 Sig	.29-- >.10 Sig
Internet Use				
None	1.2 (657)	-.3 (1385)	.7 (657)	-.1 (1259)
0.1-1.9	-1.1 (245)	-3.7 (90)	.3 (245)	-.4 (71)
2-4.9 Hrs	-.5 (277)	.6 (415)	-1.4 (277)	-.1 (375)
5-9.9 Hrs	-1.2 (265)	.5 (245)	-.1 (265)	-.9 (221)
10+ Hrs	.1 (420)	1.5 (258)	-.2 (420)	1.8 (241)
Correlation	.05-->.04 NS	.12-->.04 NS	.06-->.06 NS	.12-->.07 Sig

Sig. = Eta correlation is significant at .05 level after MCA adjustment vs.

NS = Not Significant

an independent variable for explaining family or friend socializing. Here the gender difference weakens or disappears and the *job status* becomes the strongest predictor. As expected, those who have full-time jobs tend to spend less time, and students or other unemployed respondents spend more time in socializing with friends. In the case of household socializing, housewives spend 7.6 more (39.3) hours socializing with household members, whereas those who have full-time jobs spend 2.9 less (28.8) hours socializing with household members. Job status thus explains some notable differences in the time spent socializing.

Education and *income* do not have any monotonic relations with household members or friends in Japan, as in the U.S. However, marital status is significantly related with household or friend socializing in both the U.S. and Japan, as shown in Table 1. In both countries, those who are married spend more time socializing with family but less time socializing with friends than other groups; however, those who have never married (the U.S.) or not married (Japan) spend less time socializing with family and more time socializing with friends than those married.

As for the relations between Internet *use* and socializing, a significant difference is found between the heaviest Internet users and other non-heavy users in terms of estimated time socializing with friends. As shown in Table 1, those who use the Internet 10 or more hours per week spend 1.8 more (11.1) hours socializing with friends, but other groups spend less than average times.

The relation is not monotonic, but a similar tendency is found for socializing with family, although this is not statistically significant. Those who use the Internet 10 or more hours per week spend 1.5 more (33.2) hours, compared with other groups spending from 3.7 fewer (28.0) hours to 0.6 more (32.3) hours for household socializing. The reason why the heaviest Internet user group spends the longest time in socializing with friends is not clear. This group may consist of persons who are active in any kind of communication behavior or social activities, as well as on the Internet.

RESPONDENT EVALUATIONS OF THE IMPACT OF INTERNET USE ON THEIR SOCIABILITY

The above analysis was based on the cross-sectional multivariate analysis, using Internet usage time and the socializing time index. However, these analyses can obscure the true influence of the Internet upon one's socializing behavior. Even though there are problems in asking respondents retrospectively about their subjective evaluation of the impact of the Internet upon changes in their daily life, they do reflect how respondents feel about the early influence of the Internet on their lives. Thus several questions asked about the respondents' own evaluation of the Internet's impact upon their socializing behaviors, as shown in the second section of Appendix A.

Table 2 shows the result of this MCA analysis. The dependent variables are six ordinal measures of socializing time with family or friends and the independent variables are the same as the above MCA comparative analysis. Although the range of mean value differences are not large, there are three indexes of socializing which show significant difference in terms of Internet usage; and the relationships are almost monotonic for each index. That is, the more the respondents use the Internet, the less socializing impact they tend to retrospectively attribute to the Internet. These results suggest that introduction of Internet into one's life may result in perceptions of less socializing with family or friends.

It should be noted, however, that there is one exception in the direction of the Internet's impact on sociability. The Internet usage and the frequency of communication with those who share hobbies and recreations are positively correlated and monotonic, which suggests some promotional function of the Internet for socializing with friends in their "community of interest."

CONCLUSIONS

A cross-national comparative analysis of the WIP survey data in Japan using the parallel questions and MCA methods with almost the same dependent and independent variables and coding schemes leads to similar results with those found in the United States, mainland China and Hong Kong. As far as the cross-sectional correlation between Internet usage and household socializing is concerned, no significant relations were found in either country. This strongly suggests the lack of short-term negative impact of the Internet upon household socializing beyond cultural differences. Some additional MCA analyses suggest the existence of intervening variables, such as the availability of free time or job obligations outside the home, which may or may not allow displacement of time spent in Internet use by activities other than socializing with family or friends. The significant relations found between the heaviest Internet usage and the higher level of friend socializing suggest a kind of "virtual community" effect which expands the sphere of socializing behavior beyond physical time and space limits.

The MCA results based on the retrospective evaluations by the respondents about the Internet's impact upon their socializing behavior seems to be contradictory with the preceding MCA result based on the objective measures. However, it also suggests the long-term influence of the Internet use on household or friend socializing. In order to clarify these longer-term causal relationships between Internet usage and change in sociability, further analysis would be needed using multi-wave panel survey data.

**TABLE 2: SOCIABILITY BEHAVIORS BY DEMOGRAPHICS AND INTERNET USE
(MCA ADJUSTED), BASED ON THE RETROSPECTIVE EVALUATION OF THE IMPACT OF THE
INTERNET USE ON SOCIABILITY**

	Time spent with family	Time spent with friends	Time spent in talking face-to- face with family	Time spent in talking face-to- face with friends	Time spent in outdoor leisure with family	Time spent in communication with people with the same interest or hobby
Total Sample Mean score	(n=1196) 2.86	(n=1200) 2.96	(n=1198) 2.89	(n=1200) 2.93	(n=1198) 2.93	(n=1197) 3.11
Gender						
Male	0.02	-0.02	0.01	0	0.03	-0.01
Female	-0.03	0.03	-0.01	-0.01	-0.04	0.01
Correlation	.01-->.06NS	.08-->.05NS	.01-->.02NS	.01-->.01NS	.04-->.09SIG	.03-->.01NS
Age						
18-24	-0.01	-0.01	-0.02	0.02	-0.02	0.01
25-34	0.02	-0.01	0.01	-0.02	0.04	0.02
35-44	0.01	0	-0.01	-0.01	0	-0.04
45-54	-0.04	0	-0.02	0.02	-0.07	0
55-64	0.03	0	0.04	0	0	0.01
65-74	-0.06	0.19	0.02	0.17	0.13	0.22
Correlation	.07-->.05 NS	.08-->.05 NS	.07-->.05 NS	.07-->.07 NS	.10-->.10 NS	.10-->.07 NS
Education						
HighS	0.03	0.05	0.04	0.06	-0.16	-0.16
High Grad	0	0	0	0	0.02	0.01
Some Coll	0.21	.04	0.03	0.03	0.01	0.06
Coll Grad	-0.01	-0.02	-0.02	-0.03	-0.01	-0.03
Grad Schl	-0.01	-0.06	-0.03	-0.06	-0.05	-0.11
Correlation	.04-->.03 NS	.08-->.06 NS	.05-->.05 NS	.06-->.06 NS	.08-->.10 SIG	.07-->.08 NS
Income						
\3,999K Yen	-0.03	0.05	-0.05	-0.03	0.01	0.07
\4,000K -\5,999K	0	0	0	0.02	0.03	0.02
\6,000K -\7,999K	0.02	0.04	-0.02	-0.02	0	-0.04
\8,000K -	-0.02	-0.02	0.05	0.02	-0.01	0.01
No Data	-0.01	-0.06	-0.03	-0.01	-0.05	-0.13
Correlation	.06-->.07 NS	.08-->.13 NS	.08-->.09 NS	.03-->.05 NS	.07-->.05 NS	.09-->.09 NS
Marital Status						
Married	0.02	-0.04	0	-0.02	0.02	-0.03
Not Married	-0.03	0.07	-0.01	0.04	-0.03	0.06
Correlation	NS	SIG	NS	NS	NS	NS
Internet Use						
1-179 Min	0.1	0.04	0.07	0.05	0.05	-0.03
180-299 Min	0.04	0.04	0.03	0.01	-0.02	-0.01
300-599 Min	-0.02	-0.02	-0.02	0.02	0.02	0.01
600- Min	-0.12	-0.06	-0.08	-0.08	-0.06	0.03
Correlation	.18-->.19 Sig	.08-->.13 NS	.14-->.14 NS	.10-->.11 Sig	.11-->.11 Sig	.05-->.04 NS

Sig. = Eta correlation is significant at .05 level after MCA adjustment vs.

NS = Not Significant

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APPENDIX A
SOCIABILITY QUESTIONS USED IN JAPAN

1. Behavioral

Q1. Sociability with Family:

How many minutes or hours do you usually spend time with your family per week in total? (If it is less than 1 hour, please answer with minutes).

Approximately _____ hours _____ minutes. 0.No family members living together.

Q2. Sociability with friends:

How many minutes or hours do you usually spend time with your friends per week in total? (If it is less than 1 hour, please answer with minutes).

Approximately _____ hours _____ minutes 0.No friends to spend time with.

2. Subjective evaluations of the Internet's impact on sociability

Q.3 Compared with before you started using the Internet, did your time use of the following activities change after you started using the Internet? Please answer each of the following Questions.

	1 Significantly Decreased	2 Somewhat Decreased	3 Same	4 Somewhat Increased	5 Significantly Increased
(a) Spending time with family who live together	1	2	3	4	5
(b) Spending time with friends	1	2	3	4	5
(c) Talking to family members in person	1	2	3	4	5
(d) Talking to friends in person	1	2	3	4	5
(e) Going out with family for leisure	1	2	3	4	5
(f) Frequency of communication with those who share hobbies and recreations	1	2	3	4	5