

# Iranians on Orkut: Trends and Characteristics



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## Abstract

Orkut is an online community of friends, which hosts over 300000 Iranians, as the third most common nationality on this community. This research analyzes the trends of Orkut membership by Iranians and examines their characteristics as a window into learning more about the youth population of Iran and their connection with the Internet.

This research suggests that Iranian membership in Orkut rose sharply during the second half of year 2004, but stopped its fast growth after the filtering of network inside Iran and emergence of competing social networks in early 2005.

The demographic data gathered through random sampling of Iranian members of Orkut suggests that the average age of this population is 26 years old, and only 20% of which are married. This population is comprised of 68% male and 32% female. About half (52%) of the population declare themselves as Muslim and 8% declare to have other religions, including being spiritual but not religious. Also the data suggests that 19% of the population smoke and 43% drink alcohol with different frequencies. The statistics on the usage and linkage on the Orkut network suggest that individuals have an average of 34 friends on the network and have about 10 fans and 19 scraps on their file.

The regression analysis provides a window into smoking, drinking, popularity, and friendship patterns of individuals. Beyond expected relationships, such as lower drinking among Muslims, one can see that older and married people have more friends in Orkut, women and those who don't smoke have more fans, people with children tend to drink more, drinking and smoking are closely related, and finally, people of other religions tend to smoke and drink more than non-religious people.

## Introduction

Orkut is an online community that connects people through a network of friends. It provides an online meeting place where people can socialize, make new acquaintances and find others who share their interests.

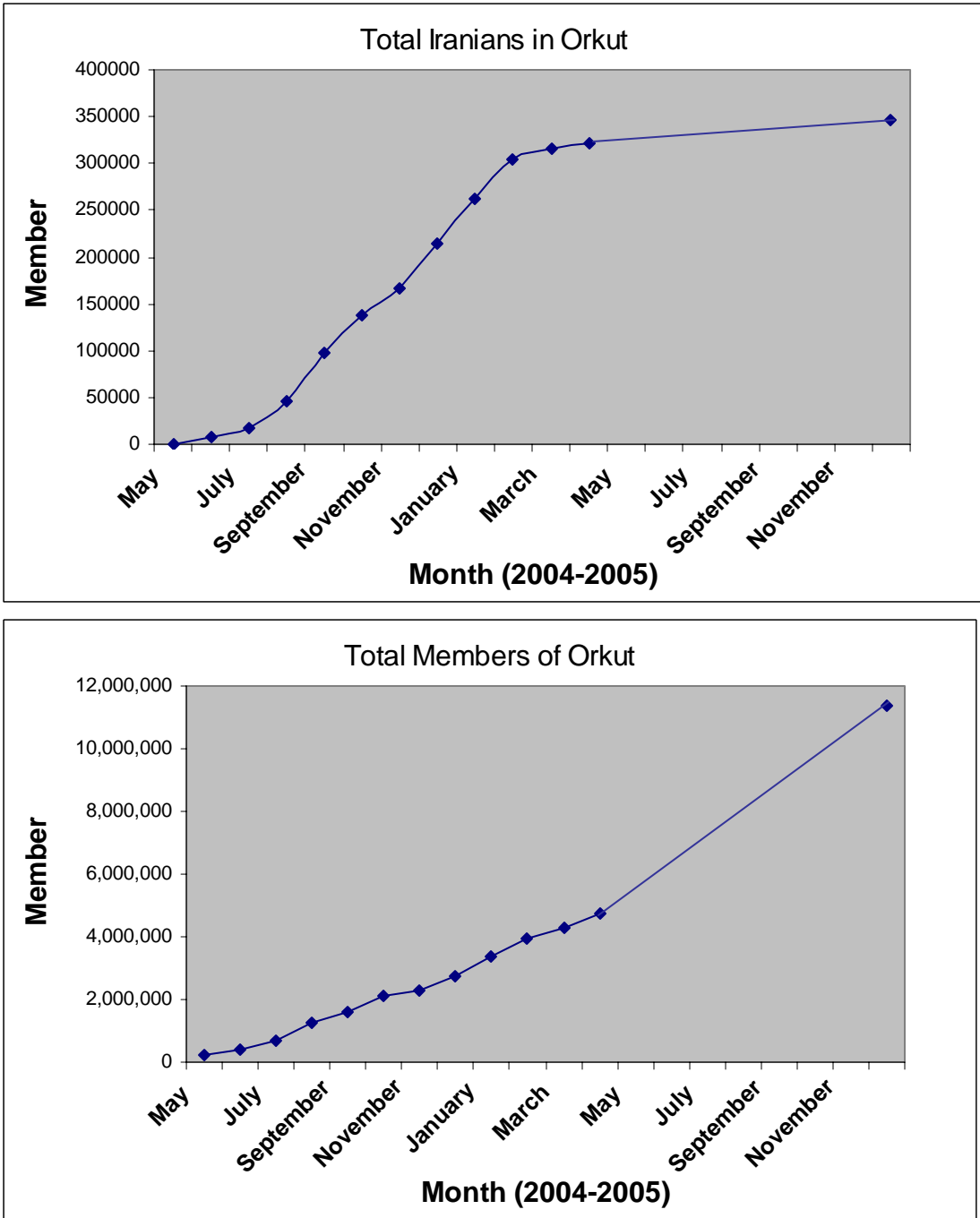
As of December 2005, about 11.4 Million people are connected to this network. With about 0.34 Million users, Iranians are the third common nationality after Brazilians and Americans. Most of Iranians connected to this site are among youth under age 30.

Internet access and use has been steadily growing in Iran with different sources putting the number of internet users in the country beyond 4 millions.<sup>1</sup> However, given the lack of data, there is little known about the profiles and characteristics of the Iranian Internet users. Given the wide penetration of Orkut in Iran (covering about 10% of the total potential internet users) this database is a great source of basic information about Iranians on the net. This report uses orkut data to uncover demographic and other characteristics about Iranian internet users. It also shows basic trends regarding the growth of Orkut usage among Iranians.

We followed the growth of the network among Iranins for a period of over one year (May 2004-April 2005) during which the usage of orkut diffused among the Iranian population. As shown in figure 1, Orkut membership by Iranians grew exponentially for the first few months (May 04- Oct04), then grew linearly until Feb 2004, and then sharply came to a stopped. Contrary to typical diffusion curves where diffusion stops as a result of saturating the potential target group, the reason for the cessation of the increase in the number Orkut users among Iranian is probably explained by other factors including the filtering of the Orkut website by Iranian govermemnt since early 2005, a rise of competing networks such as Gazzag, and the slow connection speed of Orkut which is worsened by the lack of high-speed internet access in Iran. Orkut network continues to grow today despite the fact that Iranian presence on the network has ceased to grow.

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<sup>1</sup> From Interntional Technology Unit, 5.5 million as of October 2005 (<http://www.opennetinitiative.net/studies/iran/#toc2a> and <http://www.internetworldstats.com/middle.htm> )  
From MESTEEL 4.3 million as of 2004 ([http://www.mesteel.com/cgi-bin/w3-msgl/goto.htm?url=http://www.mesteel.com/stats/statistics\\_arab\\_internet.htm](http://www.mesteel.com/cgi-bin/w3-msgl/goto.htm?url=http://www.mesteel.com/stats/statistics_arab_internet.htm) )



**Figure 1**

In this project, we collected data from 237 individuals randomly chosen, and applied some statistical analysis to observe potential correlations between different characteristics of individuals, including their sex, age, religion, social behavior, and family status. Selecting a random sample of users of Orkut database is a challenging task. We use a novel sampling method in which we searched for 120 common Iranian family names on Orkut among members residing in Iran and then randomly selected 2 individuals out of

the retrieved records and included them in our sample. Throwing out those datapoints which had little data or were bogus (did not appear to be real people or were not Iranian). The remaining 237 random samples allows us to make inferences about the larger population of Iranians on Orkut, which is a reasonable approximation for the population in Iran who is activity using the Internet.

For each individual we collected the following information. However, note that not every individual reported all the characteristics. Below we describe each item and the potential answers that existed for that item (when items are coded numerically, the numerical value is also reported):

- Sex (Male=1, female=0)
- Number of friends
  - o An integer number showing how many links on this database the individual has. It can be a proxy of how social somebody is, eventhough that approximation is distorted by the level of activity on Orkut.
- Reason to join Orkut (Business, Dating men, Dating women, Dating men and women, looking for friends)
- Relationship status (Single=0, married=1)
  - o Note that under this item other categories such as committed and widowed also existed which, given the few numbers, we coded under the same categories of single and married (any type of relationship other than married has been considered as single).
- Number of scraps
  - o Number of scraps other friends have written for an individual, is a proxy for how active an individual is in using Orkut for his/her social relations.
- Cool
  - o A number that correlates with how cool the friends of an individual find him/her to be. This data is gathered based on anonymous rating of friends by friends on 3 dimensions of coolness, trustworthines, and hotness (how sexy/attractive an individual is).
- Hot
  - o Ratings of friends on how attractive somebody is.
- Trust
  - o Ratings of friends on how trustworthy an individual is.
- Number of fans
  - o How many of the friends of this person declare themselves to be fans of the individaul. A proxy for how popular a person is among her/his friends.
- Number of communities intereted
  - o Each individual on Orkut can join multiple communities which have discussion forums and information for members interested in a specific topic. The number of these communities is a proxy of how widespread the interests of the person are and how active s/he is in using Orkut to pursue those topics.
- Age
- Drinking ( No=0, socially or occasionaly=2,Regularly=3)

- We coded these into numerical variables in order to be able to run them in regressions
- Smoking ( No=0, quit=0, socially or occasionally=2, Regularly=3, heavily=4, trying to quit=4)
- Children
  - If no child 0 and if one has children we coded it as 1.
- Religion (2 variables: Muslim=1, Other religion=1. The original data includes several religion categories however given the few numbers for most of these we coded all non-muslim religions as other religion. If somebody had mentioned agnostic or atheist or spiritual but not religious, we coded him/her as not-religious, therefore giving values of 0 for both these variables.)

The following table reports the mean, standard deviation, and the number of data-points for each of the above-mentioned variables across our sample. These data suggest a few interesting observations:

Average age of the population is 26 years old, only 20% of which are married. This population is comprised of 68% male and 32% female. About half (52%) of the population declare themselves as muslim and 8% declare to have other religions, including being spritual but not religious. Also the data suggests that 19% of the population smoke and 43% drink with different frequencies. The statsitics on the usage and linkage on the Orkut network suggest that individuals have an average of 34 friends on the network and have about 10 fans and 19 scraps on their file.

| Variable                  | N   | Mean  | Std Dev | Minimum | Maximum |
|---------------------------|-----|-------|---------|---------|---------|
| Age                       | 48  | 26.13 | 10.43   | 18      | 84      |
| Children                  | 147 | 0.10  | 0.30    | 0       | 1       |
| Cool                      | 66  | 6.79  | 1.93    | 1       | 9       |
| Drinking                  | 145 | 0.95  | 1.14    | 0       | 4       |
| Fans                      | 128 | 10.38 | 14.41   | 2       | 71      |
| Friends                   | 210 | 34.62 | 45.73   | 1       | 247     |
| Here_for_activity         | 237 | 0.39  | 0.49    | 0       | 1       |
| Here_for_Business         | 237 | 0.34  | 0.48    | 0       | 1       |
| Here_for_dating_men       | 237 | 0.17  | 0.38    | 0       | 1       |
| Here_for_dating_men&women | 237 | 0.16  | 0.37    | 0       | 1       |
| Here_for_dating_women     | 237 | 0.05  | 0.22    | 0       | 1       |
| Here_for_friends          | 237 | 0.84  | 0.36    | 0       | 1       |
| Hot                       | 66  | 6.29  | 2.19    | 1       | 9       |
| Muslim                    | 236 | 0.52  | 0.50    | 0       | 1       |
| number_communities        | 147 | 19.24 | 31.45   | 1       | 260     |
| Other religion            | 236 | 0.08  | 0.24    | 0       | 1       |
| Married                   | 206 | 0.19  | 0.40    | 0       | 1       |
| Scraps                    | 120 | 18.64 | 23.38   | 2       | 156     |
| sex ( male=1, female=0)   | 210 | 0.68  | 0.47    | 0       | 1       |
| smoking                   | 162 | 0.48  | 1.05    | 0       | 4       |
| Trust                     | 66  | 6.58  | 2.08    | 1       | 9       |

## Analysis

Two sets of statistical analyses inform this study. First we conduct a correlation analysis which aims at finding out what characteristics of different individuals are correlated with each other, e.g. people who drink, also tend to smoke more often. In another set of analysis, we run regressions on different variables, trying to explain their variation based on other characteristics in the data. For example this type of analysis will allow us to answer questions like: what factors influence the number of friends somebody has on the Orkut?

Correlation analysis helps us understand what characteristics of an individual are associated with each other. For example a positive correlation between “smoking” and “drinking” variables suggests that people who smoke more also tend to drink more in our sample. Lack of such correlations suggest that our data does not suggest a significant association between the two variables. For example variable “Muslim” was not correlated with any of the other characteristics, which suggests religion of Iranians does not have a significant association with any other characteristics detailed on the Orkut sample data. It should be noted that correlations do not necessarily signify any causal relationship between the two variables. In our example, smoking and drinking may be both caused by another variable and the correlation does not suggest that either promotes the other.

A summary of the analysis is presented in figure 2. In this figure a line between two items identifies a statistically significant<sup>2</sup> correlation between those two characteristics. A positive sign (“+”) indicates a positive correlation (the two variables move in the same direction, e.g. more smoking is associated with more drinking) and a negative sign (“-“) a negative association (e.g. Males have in average fewer fans than females). Note that a few variables are reported in the graph even though they are not correlated, significantly, with any other characteristics. A complete correlation table is reported in Appendix 2.

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<sup>2</sup> Significance levels of 0.95% are used, i.e. there is only a maximum of 5% chance that a relationship is signified here as a result of pure luck rather than a real relationship between the two characteristics.

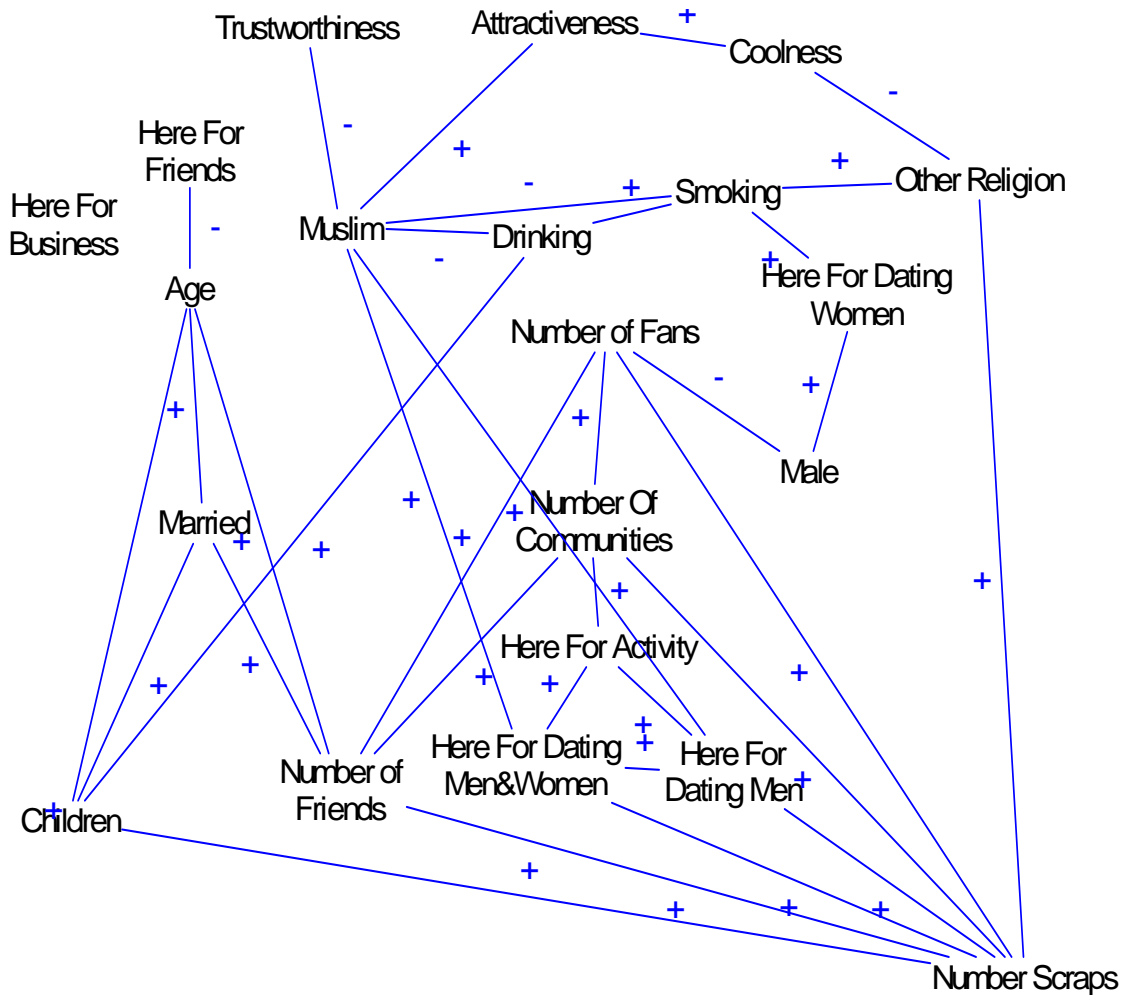


Figure 2

The second set of analysis aims at explaining the drivers of a few different characteristics, using linear regression analysis. While correlation tells us what characteristics occur more together, regression allows us to say whether, keeping everything else constant, we can still observe a positive/negative relationship between the two variables. An example will make it more clear: In the correlation analysis both married status and age are positively correlated with age. The correlation can not tell us if older people have more friends because they tend to be married, or if married people have more friends because they are older. A regression with the dependent variable (the variable we are trying to explain) of “number of friends” and including the independent variables (variables we are testing to see if they have impact on the dependent variable) of age and married will allow us to answer the above question. If “Age” is highlighted by regression as a contributing variable, it means that despite their marital status, older people tend to have more friends on Orkut. Similarly a statistically significant positive coefficient for “married” suggest that despite the effect of age, married people tend to have more friends.

In the following section we answer a few specific questions through this statistical technique<sup>3</sup>. The main results about important observable relationships are reported in simple words. Detailed regression tables are reported in appendix 1.

### What factors determine how many friends a person has on Orkut?

Below are the list of variables which are significant in determining the number of friends one has:

- 1- Sex : The analysis shows that men have slightly more friends than women.
- 2- Number of communities: Increase in number of communities suggest and increase in the number of friends. When someone is involved with more communities, it is possible that he'll meet more people and as a result will have more friends. Alternatively, more social people may tend to join more communities. Another potential explanation for this observation is that people who are more active on Orkut tend to both gather more friends and join more communities.
- 3- Relationship status: The result shows that married people have more friends than singles. It can be because married people have their spouse's friends in addition to their own friend.
- 4- Age: Older people tend to have more friends, even though only marginally so. This can be the result of the fact that older people have had more time to find friends and have a larger social network.
- 5- Joining orkut for business: those who have joined orkut for business seem to have fewer friends on the network, probably highlighting the low value of this forum for business networking.

### What factors determine the number of fans a person has on Orkut?

- 1- Sex: Being a woman increases the chances of having fans.
- 2- Here for dating men and women: People who mention they are on Orkut for dating both men and women seem to have more fans. It is important to note that the word dating is probably not used with the exact same connotations here as it is typically used in English language. Iranian boys and girls commonly describe themselves to be on Orkut for dating both other sexes, eventhough they are often not bisexual. One potential explanation for the observation above is that people who describe their purpose to be dating both men and women are considered to be more open to regular friendships and potentially more interested in a friend.
- 3- Smoking: those who smoke have slightly fewer number of fans.

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<sup>3</sup> We use linear multivariate regression. We augment the data by using the means of the variables for the whole sampel for missing data-points. Eventhough this practice may reduce the significance level of some of the observations, it is required for meaningful results given the sparseness of data on some of the varaibles.



4- Number of friends: As it is expected number of friends is a determining factor in number of fans.

#### What determines people joining orkut for meeting new friends?

1- Age: the younger a person is the more possible that he/she is here for meeting new friends.

#### What determines people joining orkut to date men?

- 1- Number of scraps : the more the number of scraps, slightly higher is the chance that the person is here for dating men.
- 2- sex : contrary to expectation, men are slightly more inclined to express their purpose to be dating men. This observation suggests that 1- Many people don't know the exact meaning of the word "dating" 2- Iranian girls are culturally inclined not to mention their interest in dating men on open, online forums.
- 3- Muslim: people who have indicated themselves as muslims are slightly more possible to be interested in dating men, compared to non-muslim or non-religious individuals.

#### What determines people joining orkut to date women?

- 1- Sex: Men are slightly more interested in dating women, than women are. The effect is however smaller than expected, suggesting that people on Orkut have a different interpretation of dating.

#### What variables determine the level of drinking alcohol?

- 1- Here for dating women: People who have joined orkut for dating women seem to be drinking more.
- 2- Children: people who have children are more possible to drink. It is interesting to observe the significance of this variable despite controlling for marital status and age. In other words, the reason that people with children drink more alcohol is not that they are older or are married.
- 3-Religion: Religion has an impact on drinking. As expected people who explicitly declare themselves as muslim drink less. Moreover, those who count themselves to be a believer in another religion appear to drink more than those who profess to have no religion.
- 4- smoking: Those who smoke also have a significantly higher probability of drinking

#### What variables determine the level of smoking?

- 1- Other religion: Those who declare to have religions other than Islam appear to smoke slightly more than non-religious or muslim individuals.
- 2- Drinking: People who drink also tend to smoke more than non-drinkers.

#### Discussion

The data provided in orkut database is not comprehensive, yet, it covers a few interesting characteristics and therefore opens up a view into the Iranian young population who are

avid internet users. Our analysis suggests that these individuals are young, often not married, and claim to join the online database for friendship, business, and activity partners, and secondarily for dating purposes. The regression analysis provided a window into smoking, drinking, popularity, and friendship patterns of individuals. Beyond expected relationships, such as lower drinking among muslims, one can see that older and married people have more friends in Orkut, women and those who don't smoke have more fans, people with children tend to drink more, drinking and smoking are closely related, and finally, people of other religions tend to smoke and drink more than non-religious people.

### Appendix 1- The detailed regression results

|   | Friends     |        | Trust       |        | Cool        |        | Hot         |        | fans        |        |
|---|-------------|--------|-------------|--------|-------------|--------|-------------|--------|-------------|--------|
| <b>F Value/Pr&gt;F</b>                  | 4.24        | <.0001 | 1.11        | 0.3458 | 6.72        | <.0001 | 1.2         | 0.2706 | 4.24        | <.0001 |
| <b>Root MSE/R-Sqr</b>                   | 37.216      | 0.316  | 1.089       | 0.070  | 0.869       | 0.313  | 1.142       | 0.076  | 9.627       | 0.224  |
|   | Coefficient | Pr> t  | Coefficient | Pr> t  | Coefficient | Pr> t  | Coefficient | Pr> t  | Coefficient | Pr> t  |
| Intercept                               | -17.671     | 0.542  | 6.099       | <.0001 | 6.576       | <.0001 | 5.090       | <.0001 | 15.533      | 0.001  |
| Friend                                  |             |        | 0.000       | 0.877  | 0.001       | 0.594  | 0.000       | 0.986  | 0.087       | <.0001 |
| <b>sex ( his=1, her=0)</b>              | 10.803      | 0.073  | -0.289      | 0.089  | -0.053      | 0.692  | -0.224      | 0.206  | -6.201      | <.0001 |
| <b>trust</b>                            | 0.142       | 0.953  |             |        |             |        |             |        |             |        |
| <b>cool</b>                             | -1.025      | 0.747  |             |        |             |        |             |        |             |        |
| <b>hot</b>                              | -0.597      | 0.798  |             |        |             |        |             |        |             |        |
| <b>fans</b>                             | 0.641       | 0.029  |             |        |             |        |             |        |             |        |
| <b>scraps</b>                           | 0.767       | <.0001 |             |        |             |        |             |        |             |        |
| <b>num_communities</b>                  | 0.294       | 0.012  |             |        |             |        |             |        |             |        |
| <b>relationship_status (single=0, 1</b> | 26.125      | 0.000  | 0.045       | 0.835  | -0.278      | 0.107  | -0.084      | 0.708  | -1.162      | 0.542  |
| <b>age</b>                              | 1.365       | 0.019  | 0.024       | 0.148  | 0.003       | 0.834  | 0.038       | 0.033  | -0.174      | 0.239  |
| <b>For_friends</b>                      | -1.071      | 0.879  | 0.149       | 0.467  | 0.233       | 0.152  | 0.221       | 0.301  | -0.811      | 0.653  |
| <b>For_activity</b>                     | -0.629      | 0.905  | -0.047      | 0.754  | -0.076      | 0.530  | -0.003      | 0.985  | 1.106       | 0.408  |
| <b>For_Business</b>                     | -10.862     | 0.038  | -0.058      | 0.701  | 0.070       | 0.564  | 0.080       | 0.614  | 0.916       | 0.495  |
| <b>For_dating_men</b>                   | -0.855      | 0.980  | 1.516       | 0.069  | -5.712      | <.0001 | -2.153      | 0.014  | -12.390     | 0.093  |
| <b>For_dating_women</b>                 | -12.627     | 0.283  | 0.159       | 0.640  | 0.132       | 0.627  | 0.187       | 0.600  | 0.343       | 0.909  |
| <b>For_dating_men&amp;women</b>         | -9.506      | 0.785  | -1.652      | 0.052  | 5.885       | <.0001 | 2.165       | 0.016  | 16.243      | 0.031  |
| <b>children</b>                         | -10.999     | 0.363  | -0.083      | 0.810  | 0.341       | 0.216  | -0.131      | 0.716  | -1.199      | 0.694  |
| <b>smoking</b>                          | 3.549       | 0.277  | 0.009       | 0.924  | 0.137       | 0.068  | -0.005      | 0.961  | -1.563      | 0.061  |
| <b>drinking</b>                         | -0.918      | 0.781  | 0.057       | 0.550  | -0.100      | 0.193  | -0.004      | 0.971  | 0.330       | 0.696  |
| <b>Muslim</b>                           | -8.566      | 0.114  | -0.229      | 0.144  | 0.035       | 0.779  | 0.327       | 0.047  | 0.767       | 0.579  |
| <b>Other religion</b>                   | -7.995      | 0.436  | 0.056       | 0.848  | 0.018       | 0.939  | 0.343       | 0.260  | 4.091       | 0.111  |

|                                   | scraps      |        | number of communities |        | here for friends |        | here for activity |       | here for business |        |
|-----------------------------------|-------------|--------|-----------------------|--------|------------------|--------|-------------------|-------|-------------------|--------|
| <b>F Value/Pr&gt;F</b>            | 6.29        | <.0001 | 3.21                  | <.0001 | 1.13             | 0.3298 | 0.93              | 0.528 | 0.67              | 0.8109 |
| <b>Root MSE/R-Sqr</b>             | 14.364      | 0.299  | 23.165                | 0.179  | 0.362            | 0.071  | 0.490             | 0.060 | 0.480             | 0.044  |
|                                   | Coefficient | Pr> t  | Coefficient           | Pr> t  | Coefficient      | Pr> t  | Coefficient       | Pr> t | Coefficient       | Pr> t  |
| Intercept                         | 11.013      | 0.110  | 24.250                | 0.030  | 0.849            | 0.001  | 0.599             | 0.094 | 0.484             | 0.167  |
| Friend                            | 0.157       | <.0001 | 0.200                 | <.0001 | 0.000            | 0.667  | 0.000             | 0.636 | -0.002            | 0.027  |
| <b>sex ( his=1, her=0)</b>        | -4.309      | 0.054  | -4.277                | 0.235  | -0.036           | 0.528  | -0.055            | 0.475 | -0.047            | 0.535  |
| trust                             |             |        |                       |        | 0.019            | 0.413  | -0.018            | 0.558 | -0.008            | 0.798  |
| cool                              |             |        |                       |        | 0.022            | 0.405  | -0.029            | 0.414 | -0.001            | 0.986  |
| hot                               |             |        |                       |        | 0.015            | 0.510  | 0.008             | 0.801 | 0.007             | 0.814  |
| fans                              |             |        |                       |        | -0.002           | 0.595  | 0.004             | 0.244 | -0.001            | 0.868  |
| scraps                            |             |        |                       |        | 0.001            | 0.558  | -0.003            | 0.193 | 0.004             | 0.110  |
| num_communities                   |             |        |                       |        | -0.001           | 0.532  | 0.003             | 0.092 | 0.002             | 0.288  |
| relationship_status (single=0, 1) | -8.316      | 0.004  | -6.015                | 0.190  | 0.041            | 0.576  | -0.005            | 0.959 | 0.049             | 0.609  |
| age                               | 0.035       | 0.872  | -0.435                | 0.221  | -0.015           | 0.008  | 0.001             | 0.942 | -0.003            | 0.697  |
| For_friends                       | -0.353      | 0.896  | -2.941                | 0.498  |                  |        |                   |       |                   |        |
| For_activity                      | -2.142      | 0.283  | 6.008                 | 0.062  |                  |        |                   |       |                   |        |
| For_Business                      | 3.912       | 0.052  | 5.012                 | 0.122  |                  |        |                   |       |                   |        |
| For_dating_men                    | -16.831     | 0.126  | -29.381               | 0.098  |                  |        |                   |       |                   |        |
| For_dating_women                  | 10.753      | 0.017  | 2.851                 | 0.693  |                  |        |                   |       |                   |        |
| For_dating_men&women              | 25.054      | 0.026  | 29.869                | 0.099  |                  |        |                   |       |                   |        |
| children                          | 11.844      | 0.010  | -7.748                | 0.291  | -0.056           | 0.633  | 0.048             | 0.763 | 0.000             | 0.998  |
| smoking                           | -1.265      | 0.307  | -1.950                | 0.329  | -0.027           | 0.389  | -0.047            | 0.267 | -0.006            | 0.886  |
| drinking                          | 0.189       | 0.881  | 2.265                 | 0.267  | 0.017            | 0.602  | 0.045             | 0.298 | -0.029            | 0.494  |
| Muslim                            | 3.618       | 0.081  | 1.072                 | 0.747  | 0.084            | 0.109  | 0.050             | 0.477 | -0.052            | 0.457  |
| Other religion                    | 14.521      | 0.000  | 11.070                | 0.074  | 0.114            | 0.238  | 0.184             | 0.160 | -0.084            | 0.510  |

|  | here for dating men |        | here for dating women |        | here for dating men and women |        | smoking     |        | drinking    |        |
|--|---------------------|--------|-----------------------|--------|-------------------------------|--------|-------------|--------|-------------|--------|
| <b>F Value/Pr&gt;F</b>                   | 1.7                 | 0.0522 | 1.38                  | 0.1572 | 1.9                           | 0.0245 | 4.05        | <.0001 | 5.18        | <.0001 |
| <b>Root MSE/R-Sqr</b>                    | 0.367               | 0.104  | 0.217                 | 0.086  | 0.358                         | 0.114  | 0.775       | 0.273  | 0.768       | 0.324  |
|  | Coefficient         | Pr> t  | Coefficient           | Pr> t  | Coefficient                   | Pr> t  | Coefficient | Pr> t  | Coefficient | Pr> t  |
| Intercept                                | 0.040               | 0.880  | -0.097                | 0.541  | -0.177                        | 0.495  | -0.436      | 0.470  | 1.218       | 0.041  |
| Friend                                   | -0.001              | 0.113  | 0.000                 | 0.423  | -0.001                        | 0.113  | 0.002       | 0.277  | 0.000       | 0.781  |
| <b>sex ( his=1, her=0)</b>               | 0.109               | 0.059  | 0.060                 | 0.081  | 0.126                         | 0.025  | 0.003       | 0.980  | 0.108       | 0.387  |
| <b>trust</b>                             | -0.004              | 0.863  | 0.014                 | 0.291  | -0.020                        | 0.369  | -0.011      | 0.824  | 0.043       | 0.395  |
| <b>cool</b>                              | -0.031              | 0.254  | -0.001                | 0.925  | 0.017                         | 0.527  | 0.142       | 0.031  | -0.097      | 0.140  |
| <b>hot</b>                               | -0.009              | 0.709  | 0.006                 | 0.651  | -0.010                        | 0.645  | -0.029      | 0.554  | 0.024       | 0.615  |
| <b>fans</b>                              | 0.004               | 0.138  | -0.002                | 0.239  | 0.004                         | 0.112  | -0.010      | 0.103  | 0.001       | 0.921  |
| <b>scraps</b>                            | 0.004               | 0.054  | 0.002                 | 0.029  | 0.003                         | 0.074  | -0.002      | 0.582  | 0.001       | 0.895  |
| <b>num_communities</b>                   | -0.001              | 0.384  | 0.000                 | 0.983  | -0.001                        | 0.612  | 0.000       | 0.931  | 0.002       | 0.401  |
| <b>relationship_status (single=0, 1)</b> | -0.056              | 0.446  | -0.057                | 0.191  | -0.046                        | 0.522  | 0.226       | 0.149  | -0.310      | 0.045  |
| <b>age</b>                               | 0.009               | 0.126  | -0.002                | 0.581  | 0.009                         | 0.121  | 0.002       | 0.851  | -0.014      | 0.255  |
| <b>For_friends</b>                       |                     |        |                       |        |                               |        | -0.144      | 0.325  | 0.038       | 0.795  |
| <b>For_activity</b>                      |                     |        |                       |        |                               |        | -0.110      | 0.312  | 0.078       | 0.471  |
| <b>For_Business</b>                      |                     |        |                       |        |                               |        | -0.001      | 0.994  | -0.082      | 0.447  |
| <b>For_dating_men</b>                    |                     |        |                       |        |                               |        | -0.014      | 0.984  | 0.229       | 0.745  |
| <b>For_dating_women</b>                  |                     |        |                       |        |                               |        | 0.385       | 0.116  | 0.266       | 0.274  |
| <b>For_dating_men&amp;women</b>          |                     |        |                       |        |                               |        | -0.034      | 0.963  | -0.037      | 0.959  |
| <b>children</b>                          | -0.124              | 0.300  | -0.002                | 0.979  | -0.114                        | 0.325  | -0.229      | 0.363  | 1.009       | <.0001 |
| <b>smoking</b>                           | -0.029              | 0.362  | 0.030                 | 0.115  | -0.028                        | 0.367  |             |        | 0.383       | <.0001 |
| <b>drinking</b>                          | 0.043               | 0.179  | 0.019                 | 0.317  | 0.041                         | 0.193  | 0.390       | <.0001 |             |        |
| <b>Muslim</b>                            | 0.104               | 0.050  | 0.002                 | 0.950  | 0.099                         | 0.055  | -0.074      | 0.516  | -0.248      | 0.026  |
| <b>Other religion</b>                    | 0.046               | 0.637  | -0.056                | 0.330  | -0.024                        | 0.803  | 0.462       | 0.030  | 0.270       | 0.202  |

Appendix 2- The correlation table between different variables. The variable definitions are discussed in the text. Those correlations significantly (at 0.05%) different from 0 are highlighted in bold letters.

|                           | age         | children    | cool  | drinking     | fans        | friends     | Here_for_activity | Here_for_Business | Here_for_dating_men | Here_for_dating_men&women | Here_for_dating_women | Here_for_friends | hot   | Muslim       | num_communities | Other religion | relationship_status | scraps      | sex   | smoking     | trust |
|---------------------------|-------------|-------------|-------|--------------|-------------|-------------|-------------------|-------------------|---------------------|---------------------------|-----------------------|------------------|-------|--------------|-----------------|----------------|---------------------|-------------|-------|-------------|-------|
| age                       | 1.00        | <b>0.59</b> | -0.02 | -0.01        | -0.08       | <b>0.33</b> | -0.06             | -0.12             | 0.13                | 0.13                      | -0.04                 | <b>-0.38</b>     | 0.21  | 0.06         | -0.17           | -0.07          | <b>0.61</b>         | 0.14        | 0.19  | 0.04        | 0.16  |
| children                  | 0.59        | 1.00        | 0.10  | 0.31         | -0.09       | 0.12        | -0.01             | -0.02             | -0.05               | -0.04                     | 0.02                  | -0.11            | -0.01 | -0.11        | -0.11           | 0.03           | <b>0.45</b>         | 0.22        | 0.08  | 0.13        | 0.05  |
| cool                      | -0.02       | 0.10        | 1.00  | -0.16        | 0.15        | 0.05        | -0.18             | 0.04              | -0.09               | 0.16                      | 0.09                  | 0.11             | 0.33  | 0.15         | -0.04           | -0.25          | -0.13               | 0.24        | 0.11  | 0.14        | 0.09  |
| drinking                  | -0.01       | 0.31        | -0.16 | 1.00         | -0.05       | 0.05        | 0.07              | -0.07             | 0.05                | 0.02                      | 0.15                  | -0.01            | -0.12 | <b>-0.35</b> | 0.09            | 0.27           | -0.03               | 0.10        | 0.11  | <b>0.46</b> | 0.16  |
| fans                      | -0.08       | -0.09       | 0.15  | -0.05        | 1.00        | <b>0.35</b> | 0.14              | 0.05              | 0.14                | 0.16                      | -0.09                 | 0.00             | 0.08  | 0.02         | <b>0.45</b>     | 0.10           | -0.04               | <b>0.48</b> | -0.29 | -0.17       | 0.14  |
| friends                   | 0.33        | 0.12        | 0.05  | 0.05         | <b>0.35</b> | 1.00        | -0.01             | -0.11             | -0.06               | -0.05                     | -0.04                 | -0.08            | 0.00  | -0.12        | <b>0.33</b>     | 0.09           | 0.26                | <b>0.42</b> | 0.07  | 0.10        | 0.05  |
| Here_for_activity         | -0.06       | -0.01       | -0.18 | 0.07         | 0.14        | -0.01       | 1.00              | 0.02              | 0.21                | 0.19                      | -0.03                 | -0.01            | -0.01 | 0.01         | 0.17            | 0.10           | -0.02               | -0.01       | -0.09 | -0.08       | -0.02 |
| Here_for_Business         | -0.12       | -0.02       | 0.04  | -0.07        | 0.05        | -0.11       | 0.02              | 1.00              | 0.10                | 0.10                      | -0.04                 | 0.02             | 0.05  | 0.00         | 0.08            | -0.03          | -0.03               | 0.12        | -0.07 | -0.06       | -0.06 |
| Here_for_dating_men       | 0.13        | -0.05       | -0.09 | 0.05         | 0.14        | -0.06       | 0.21              | 0.10              | 1.00                | <b>0.97</b>               | -0.10                 | 0.10             | 0.01  | 0.14         | 0.01            | 0.03           | -0.11               | 0.22        | 0.09  | -0.08       | -0.07 |
| Here_for_dating_men&women | 0.13        | -0.04       | 0.16  | 0.02         | 0.16        | -0.05       | 0.19              | 0.10              | <b>0.97</b>         | 1.00                      | -0.10                 | 0.09             | 0.08  | 0.17         | 0.03            | -0.05          | -0.11               | 0.25        | 0.13  | -0.08       | -0.16 |
| Here_for_dating_women     | -0.04       | 0.02        | 0.09  | 0.15         | -0.09       | -0.04       | -0.03             | -0.04             | -0.10               | -0.10                     | 1.00                  | 0.10             | 0.05  | -0.01        | 0.01            | 0.00           | -0.12               | 0.15        | 0.15  | 0.17        | 0.05  |
| Here_for_friends          | -0.38       | -0.11       | 0.11  | -0.01        | 0.00        | -0.08       | -0.01             | 0.02              | 0.10                | 0.09                      | 0.10                  | 1.00             | 0.12  | 0.10         | -0.04           | 0.05           | -0.03               | 0.02        | -0.06 | -0.07       | 0.06  |
| hot                       | 0.21        | -0.01       | 0.33  | -0.12        | 0.08        | 0.00        | -0.01             | 0.05              | 0.01                | 0.08                      | 0.05                  | 0.12             | 1.00  | 0.28         | -0.06           | -0.03          | -0.06               | 0.18        | -0.10 | -0.07       | -0.05 |
| Muslim                    | 0.06        | -0.11       | 0.15  | <b>-0.35</b> | 0.02        | -0.12       | 0.01              | 0.00              | 0.14                | 0.17                      | -0.01                 | 0.10             | 0.28  | 1.00         | -0.06           | <b>-0.32</b>   | -0.05               | 0.04        | 0.00  | -0.26       | -0.26 |
| num_communities           | -0.17       | -0.11       | -0.04 | 0.09         | <b>0.45</b> | <b>0.33</b> | 0.17              | 0.08              | 0.01                | 0.03                      | 0.01                  | -0.04            | -0.06 | -0.06        | 1.00            | 0.15           | -0.08               | 0.37        | -0.08 | -0.02       | 0.05  |
| Other religion            | -0.07       | 0.03        | -0.25 | 0.27         | 0.10        | 0.09        | 0.10              | -0.03             | 0.03                | -0.05                     | 0.00                  | 0.05             | -0.03 | <b>-0.32</b> | 0.15            | 1.00           | 0.01                | 0.24        | -0.03 | 0.24        | 0.17  |
| relationship_status       | <b>0.61</b> | <b>0.45</b> | -0.13 | -0.03        | -0.04       | 0.26        | -0.02             | -0.03             | -0.11               | -0.11                     | -0.12                 | -0.03            | -0.06 | -0.05        | -0.08           | 0.01           | 1.00                | -0.12       | 0.09  | 0.11        | 0.04  |
| scraps                    | 0.14        | 0.22        | 0.24  | 0.10         | <b>0.48</b> | <b>0.42</b> | -0.01             | 0.12              | 0.22                | 0.25                      | 0.15                  | 0.02             | 0.18  | 0.04         | 0.37            | 0.24           | -0.12               | 1.00        | -0.06 | 0.00        | -0.07 |
| sex                       | 0.19        | 0.08        | 0.11  | 0.11         | -0.29       | 0.07        | -0.09             | -0.07             | 0.09                | 0.13                      | 0.15                  | -0.06            | -0.10 | 0.00         | -0.08           | -0.03          | 0.09                | -0.06       | 1.00  | 0.13        | -0.22 |
| smoking                   | 0.04        | 0.13        | 0.14  | <b>0.46</b>  | -0.17       | 0.10        | -0.08             | -0.06             | -0.08               | -0.08                     | 0.17                  | -0.07            | -0.07 | -0.26        | -0.02           | 0.24           | 0.11                | 0.00        | 0.13  | 1.00        | 0.09  |

