

'Looking at', 'Looking up' or 'Keeping up with' People? Motives and Uses of Facebook

Adam N. Joinson
School of Management
University of Bath
Bath
United Kingdom
BA2 7AA
A.Joinson@Bath.ac.uk

ABSTRACT

This paper investigates the uses of social networking site Facebook, and the gratifications users derive from those uses. In the first study, 137 users generated words or phrases to describe how they used Facebook, and what they enjoyed about their use. These phrases were coded into 46 items which were completed by 241 Facebook users in Study 2. Factor analysis identified seven unique uses and gratifications: social connection, shared identities, content, social investigation, social network surfing and status updating. User demographics, site visit patterns and the use of privacy settings were associated with different uses and gratifications.

Author Keywords

Social networking sites, uses and gratifications, motivation

ACM Classification Keywords

H1. Models and Principles: User/Machine Systems; H5.m. Information interfaces and presentation: Miscellaneous.

INTRODUCTION

Social networking sites such as MySpace, LinkedIn and Facebook have become hugely popular in the last few years. In July 2007, social networking sites occupied five of the top fifteen visited websites according to Alexa.com. On July 10, 2007, Facebook.com reported signing up its 30 millionth user, with a year on year increase in unique users of 89% [12]. In the UK, use of Facebook increased by 500% between November 2006 and May 2007 [19]. MySpace is reported (although disputed [10]) to have over 100 million users [4].

Social networking sites typically provide users with a profile space, facilities for uploading content (e.g. photos, music), messaging in various forms and the ability to make connections to other people. These connections (or 'friends') are the core functionality of a social network site [5, 6] although most also provide opportunities for communication, the forming of groups, hosting of content and small applications.

Given the growth of social networking sites, it is perhaps unsurprising that their use has garnered media attention, including the seemingly now obligatory scare stories involving predatory child sex offenders [20], identity theft [1], workplace usage levels [9] and even addiction [8].

In many recent cases, this coverage has focused on Facebook.com, which was originally restricted to users with an '.edu' e-mail address. In September 2006, Facebook opened registration to non-college based users. This change led to rapid growth in the number of users, as well as almost viral growth within non-educational organizations. For instance, the British Broadcasting Corporation (BBC) network (which requires a BBC email address) has circa 10,000 members, approximately 50% of employees [21]. Since May 2007, Facebook has also allowed the development and implementation of third-party applications (see dev.facebook.com).

Before opening to non-academic (and non-US-based) users, Facebook.com was peculiar amongst social networking sites since many of the social networks its users built were based on offline, geographically confined groups (e.g. a campus). Termed 'networks' by the site (which have recently expanded to include non-university based geographic areas and workplaces), this reflection of the offline community in the online environment may have led to unique forms of use amongst users [17].

User motivation and social networking sites

Social networks serve a number of functions in offline life – for instance, providing social and emotional support, information resources and ties to other people [25]. Similar kinds of social networks have been identified in online

Permission to make digital or hard copies of all or part of this work for personal or classroom use is granted without fee provided that copies are not made or distributed for profit or commercial advantage and that copies bear this notice and the full citation on the first page. To copy otherwise, or republish, to post on servers or to redistribute to lists, requires prior specific permission and/or a fee.

CHI 2008, April 5–10, 2008, Florence, Italy.

Copyright 2008 ACM 978-1-60558-011-1/08/04...\$5.00.

communities [7, 25], with users turning online for both emotional support and as an information resource (e.g. via a mailing list). In both cases, an online social network may provide users with social capital [7].

Online social networking sites may also serve a number of other purposes [5, 16]. Lampe et al. [16] draw a distinction between the use of Facebook for ‘social searching’ – finding out information about offline contacts, and ‘social browsing’ – the use of the site to develop new connections, sometimes with the aim of offline interaction. A survey of over 2,000 students, found evidence that the primary use of Facebook was for ‘social searching’ – that is, using Facebook to find out more about people who they have met offline, or who they attend class or share a dormitory with [16]. The use of Facebook for ‘social browsing’, for instance, to meet someone via the site with the intention of a later offline meeting, or to attend an event organized online, scored relatively low amongst their sample. The main use reported by the sample studied by Lampe et al. [16, see also 7] was to, “keep in touch with an old friend or someone I knew from high school”, an activity that while expressing the offline aspects of social searching, also suggests a social capital function for Facebook. Golder et al. [11] report that while the vast majority of messages are sent to friends (90.6%), a large proportion (41.6%) is sent to friends outside of one’s local network. This suggests that messaging is used to maintain and build social ties across distances. In comparison, ‘pokes’ (a form of content-free messaging) were primarily exchanged within a network / school (98.3% of all pokes were within a network). Golder et al. [11] argue that friendship ties require little effort or investment to maintain, while messaging with geographically distant friends is used to build social capital [7].

According to Lampe et al. [16], social networking sites like Facebook may also serve a surveillance function, allowing users to “track the actions, beliefs and interests of the larger groups to which they belong” (p. 167). The surveillance and ‘social search’ functions of Facebook may, in part, explain why so many Facebook users leave their privacy settings relatively open [13]. If ‘social searching’ is a public good, then reciprocity rules would dictate that by enabling a degree of surveillance of oneself, one would should also be able to engage in reciprocal surveillance of others. For instance, Gross and Acquisti [13] report that only 1.2% of users changed the default ‘search’ privacy setting, and less than ½% of users changed the default ‘profile visibility’ privacy settings.

Enabling Facebook users who are not currently linked as friends to view personal aspects of one’s profile may also be a strategy to increase the size of one’s social network. In support of this view, [17] report that users completion of profile fields that share a common referent (e.g. class, hometown) is positively associated with more friends, perhaps because such information encourages the development of ties based on shared experiences. Profile

elements that focused on individual likes and dislikes did not have an association with the number of friends.

As noted earlier, Facebook.com has undergone radical change over the last twelve months. By moving outside of the US-academic environment and embracing users globally and outside of academia, it has not only changed the profile of its users, but also the potential motivations for their use. While tightly controlled, geographically bounded networks based on university affiliation still exist, they are dwarfed by networks based outside of academia – for instance, as of September 2007, the ‘London’ network has over 1 million members, New York over 355,000 and Toronto over 800,000. The present paper examines the motivations of Facebook users using a ‘uses and gratifications’ framework.

Uses and gratifications refer to the ‘how and why’ of media use [23]. Specifically, ‘uses and gratifications’ refer to the motivations of specific uses, and the satisfaction people gain from such use. These gratifications can be divided into those based on the content of the media (content gratifications) and those based on the actual experience of using the media (process gratifications). Typically, content gratifications are held to be related to the repeated use of a media [18] which for the designers of such systems relates to a site’s ‘stickiness’. However, the Internet, and social networking sites in particular, also provide communication and interaction, unlike many ‘old media’ (e.g. television). This led Stafford et al. [23] to propose a third form of gratification arising from Internet use: as a social environment.

In the present study, the usual two stage approach to studying uses and gratification is adopted [3]. In Study 1, Facebook users are asked to generate lists of words or phrases that describe their uses and gratifications in an exploratory way. In Study 2, these terms are subjected to factor analysis in order to form grouped profiles of specific uses and gratifications.

STUDY 1: EXPLORATORY STAGE

Participants

Participants were 137 Facebook users who responded to a request to complete a short online study. The sample comprised 53 males and 88 females (Mean age = 26.3 years). Participants were recruited through a number of different methods: postings to the ‘wall’ of three network homepages on Facebook (two universities, one regional), a paid flyer shown 10,000 times across all networks, and links on academic survey websites. The survey was open during the first two weeks of July 2007.

Materials

The online survey comprised a series of basic demographic questions (e.g. age, gender, occupation, location), alongside some measures of use of Facebook (time spent on site each week, number of friends linked on site, history of use).

Following this, participants were asked to respond to the following questions adapted from [23] using free text entry:

- What is the first thing that comes to mind when you think about what you enjoy most when using Facebook?
- What other words describe what you enjoy about using Facebook?
- Using single, easy-to-understand terms, what do you use Facebook for?
- What uses of Facebook are most important to you?

Results

Two raters clustered the descriptive items and phrases developed by Facebook users in response to the first question. The raters worked collaboratively to develop the clusters, and were instructed to ‘*identify responses that are related*’. The author then discussed the themes with the raters, and named them accordingly. The main themes identified are outlined in Table 1.

Theme (<i>sample user generated items</i>)	Number of mentions
‘Keeping in touch’ <i>Contacting friends who are away from home</i> <i>Chatting to people I otherwise would have lost contact with</i>	52
Passive contact, social surveillance <i>Virtual people-watching.</i>	19
‘Re-acquiring lost contacts’ <i>Reconnecting with people I’ve lost contact with</i> <i>Finding people you haven’t seen for a while</i>	15
‘Communication’ <i>Being poked</i> <i>Private messages</i> <i>Writing on walls</i>	15
Photographs <i>Tagged in picture</i> <i>Posting pictures</i> <i>Sharing pictures</i>	11
Design related <i>Ease of use</i>	4
Perpetual contact <i>Seeing what people have put as their ‘status’</i> <i>The continuous updates</i> <i>Seeing what my friends have been up to today</i>	4
‘Making new contacts’ <i>Talking to singles</i> <i>Getting new friends</i> <i>Joining groups</i>	5

Table 1: Frequency of mentions (Question 1)

In keeping with previous research [e.g. 16], the use of Facebook to ‘keep in touch’ received the largest number of mentions, with the use of the site to make new contacts receiving a small number of mentions.

STUDY 2: IDENTIFYING USES AND GRATIFICATIONS

Item generation

A sample of items from each use and gratification proposed by users was extracted from the exploratory list developed in Study 1. Participants’ responses to items 2–4 were examined, and any occurrences of other uses or gratifications not mentioned in response to the first item were added to the list. This led to a total of 46 items. Where possible, the item was taken word for word from participant responses to Study 1.

Participants

Participants were 241 Facebook users recruited using the same methods outlined in Study 1. In addition, e-mails were sent to selected mailing lists with a request for participation (e.g. AIR-L). Participants were 80 males (33.2%) and 161 (66.8%) females (mean age = 25.97 years ($SD = 9.30$, range 15-66 years old). The majority of the sample were full time students ($n = 151$, 62.7%), 6.6% ($n = 16$) were part-time students and worked part- or full-time (or had carer responsibilities), and 30.7% were in full-time work and not studying ($n = 78$). The study was open during the final week in July, and throughout August.

Measures

The same demographic and Facebook use measures described in Study 1 were used in Study 2. Participants also completed an item related to their use of Facebook privacy settings, specifically if they had changed the default settings, and if so, the degree to which they had made them more private or more open.

Participants were finally asked to rate, using a 7-point Likert scale, the 46 uses and gratifications derived from Study 1 using the metric, ‘How important are the following uses of Facebook to you personally?’ The scale was anchored at 1 (very unimportant) and 7 (very important).

Results

Participants had an average of 124 friends linked to their Facebook profile (*Range* 1-1000, *Median* = 85, *SD* = 129.97). Around half of the participants had been registered on the site for less than six months (6.3% for less than one month, 9.6% for between one and two months and 29.2% for between two and six months). The remaining participants had been signed up for between six months and a year (21.7%), more than one year, but less than two (21.7%) or for more than two years (10.8%). The majority of participants visited the site either daily (38.8%) or more than once a day (27.5%). Almost a quarter visited Facebook several times a week (22.5%), with 6.7% visiting once a week on average, and 4.2% visiting less than once a week.

Amongst all respondents, the most common responses for the time spent on the site each week were between 1 and 2 hours (33.3%) and between 2 and 5 hours (32.5%). A relatively small proportion of users claimed to spend either less than 1 hour a week (16.9%) or between 5 and 10 hours (11.0%) on the site. The proportion of users claiming more than 10 hours Facebook use per week was small (5.4%).

Unlike previous research [13], the majority of users claimed to have changed the default privacy settings in Facebook, with 25.6% (n = 61) reporting making their profile ‘somewhat’ more private, 21% (n = 50) ‘much more’ private and 10.9% (n = 26) making it ‘as private as possible’. A smaller group claimed to have made their profile either more ‘open’ (9.2%, n = 22) or ‘as open to others as possible’ (9.2%, n = 22). The number of people making no changes to their profile (23.5%, n = 56) was substantially lower than that reported in previous studies [14].

The most important uses of Facebook tended to be related to the ‘social searching’ and surveillance functions (see Tables 2-8), identified by [16]. Specifically, the use of the site to learn about old friends and maintain or re-connect relations scored consistently highly. This pattern repeats previous findings from student samples [7, 16].

To investigate the nature of the various uses and gratifications of Facebook in more depth, exploratory factor analysis was conducted. The initial factor analysis (varimax rotation) yielded 9 components with eigenvalues over 1, explaining 64.8% of the variance. Examination of the scree plot and unique loadings suggested that seven components (explaining 59% of the variance) should be retained for further analysis. Only four items did not load on any of the factors: one was related to privacy settings, two about use of the ‘poke’ facility and one about leaving messages on the ‘wall’.

INTERPRETATION OF FACTORS AND SCALE DEVELOPMENT

To aid further analysis, scales were developed from each factor. As a preliminary check, score distributions on each item were examined to ensure that none suffered from restricted range (i.e., the full range of response options was being used). This was the case for all items. Items were identified as markers of each factor based on the commonly used benchmark of a loading greater than .5. Items that had significant loadings on other factors were discounted as marker items [22].

Application of these criteria led to identification of eight marker items for Factor 1, three for Factors 2, four for Factor 3, four each for Factor 4 and 5, and three each for Factor 6 and 7.

Factor 1 (Table 2) contains items predominantly concerned with ‘keeping in touch’ (the most often mentioned use of Facebook in Study 1, and by [16]). The items have a clear focus on re-connecting with lost contacts and maintaining

contact with existing friends. Some of the items loading on this factor also clearly relate to the ‘surveillance’ function identified by [16], for instance, ‘Finding out what old friends are doing now’. Others are more closely related to the creation or maintenance of ‘weak ties’ (e.g. ‘Maintaining relationships with people you may not get to see very often’). Because of the combination of surveillance and social capital functions, this factor and related scale is labeled ‘social connection’. Two items loaded on this factor, but did not meet the criteria for factor purity: ‘Reading messages on your wall’ and ‘Seeing how old acquaintances look’.

Factor 1: Social connection (Cronbach's Alpha = .89)	Item Mean (SD)	Loading
Finding out what old friends are doing now	5.08 (1.71)	.753
Reconnecting with people you've lost contact with	5.29 (1.79)	.783
Connecting with people you otherwise would have lost contact with	5.53 (1.61)	.842
Receiving a friend request	4.86 (1.68)	.601
Finding people you haven't seen for a while	5.41 (1.66)	.850
Maintaining relationships with people you may not get to see very often	5.71 (1.56)	.764
Contacting friends who are away from home	5.46 (1.83)	.522

Table 2: Items and loading (Factor 1)

The second factor is comprised of three items related to the joining of groups, organization of events and meeting of ‘like-minded people’ (see Table 3). These activities are akin to ‘social browsing’ identified by Lampe et al.; although there is no reason to assume that they are necessarily motivated by a desire to meet offline eventually. It also contains related to the discovery of new music and new groups via friends. As such, it seems to represent a ‘shared identities’ function. Two items (‘Seeing what kinds of networks and special interest groups your friends have’ and ‘Learning about new music’) loaded on the factor, but did not meet the factor purity criteria.

Factor 2: Shared identities (Cronbach's alpha .74)	Item Mean (SD)	Loading
Organizing or joining events	3.42 (1.82)	.699
Joining groups	3.52 (1.63)	.727
Communication with likeminded people	3.82 (1.76)	.638

Table 3: Items and loading (Factor 2)

The third factor is related to the posting and viewing of photographs (see Table 4), although many of the items also had loadings in the .3 region on the first factor. This suggests that these activities within Facebook may fulfill a number of gratifications. Specifically, the social uses of photographs (e.g. sharing, tagging) may also play an important role in ‘social connection’. However, by forming a unique factor, they may also be a content gratification in their own right.

Factor 3: Photographs (Cronbach’s alpha = .89)	Item Mean (SD)	Loading
Viewing photos	5.03 (1.72)	.609
Being tagged in photos	4.24 (1.90)	.668
Tagging photos	3.96 (1.89)	.734
Sharing / posting photographs	4.58 (1.89)	.701

Table 4: Items and loading (Factor 3)

Factor four contains items related to content within Facebook – for instance, applications and quizzes (see Table 5). This relates to the usual ‘*content gratification*’ identified in previous media research. It is worthwhile noting that while these items form a unique factor, the mean scores are relatively low. A single item (‘Looking at posted items’) loaded on the factor, but did not meet factor purity criteria.

Factor 4: Content (Cronbach’s alpha = .74)	Item Mean (SD)	Loading
Applications within Facebook	2.85 (1.65)	.826
Playing games	1.86 (1.40)	.559
Discovering apps because you see friends have added them	2.64 (1.58)	.756
Quizzes	1.85 (1.30)	.638

Table 5: Items and loading (Factor 4)

Factor five contains items akin to both social searching and social browsing identified by Lampe et al [16]. The items comprising this factor cover both the use of Facebook to meet or view new people and to find out more about people who are met offline (see Table 6).

Factor 5: Social investigation (Cronbach’s alpha = .75)	Item Mean (SD)	Loading
Virtual people watching	3.31 (1.90)	.574
Using advanced search to look for specific types of people	2.56 (1.70)	.508
Meeting new people	2.91 (1.83)	.509
Stalking other people	2.13 (1.71)	.755

Table 6: Items and loading (Factor 5)

One item (‘Looking up the profile of people you meet offline’) loaded on the factor but did not meet the purity criteria. The items do share a targeted investigation of others, however. As such, the factor is termed ‘*social investigation*’.

Factor six comprises items related to a unique affordance of social networking sites – the ability to view other people’s social networks and friends (see Table 7). This ability to find out more about one’s acquaintances through their social networks forms another important surveillance function, and may also be a method for increasing the size of one’s own social network. This specific use is termed ‘*Social network surfing*’ here to signify the ability of users to move from one person to another via friend links, although it may also relate closely to a ‘process gratification’.

Factor 6: Social network surfing (Cronbach’s alpha = .79)	Item Mean (SD)	Loading
Looking at the profiles of people you don’t know	2.48 (1.53)	.719
Viewing other people’s friends	3.34 (1.74)	.785
Browsing your friends’ friends	3.89 (1.65)	.724

Table 7: Items and loading (Factor 6)

The final factor comprises items related to the newsfeed and status updates within Facebook. The newsfeed provides updates on both ‘friends’ status, alongside recent activity (e.g. the addition or removal of applications, changes in relationship status, addition of ‘friends’). Given the outcry when the newsfeed was introduced [2], the relative high scores for this use suggest an increasing degree of acceptance. Interestingly, a gratification (‘to keep up with the latest gossip’) also loaded on this factor (although only at the .4 level), suggesting a clear motivation for viewing the newsfeed.

Factor 7: Status updates (Cronbach’s alpha = .71)	Item Mean (SD)	Loading
Updating your own status	3.85 (1.77)	.568
The news feed	3.79 (1.83)	.531
Seeing what people have put as their status	3.84 (1.79)	.698

Table 8: Items and loading (Factor 7)

The pattern of loadings and internal reliability (Cronbach alpha scores) suggests that the seven factors should be considered suitable for use in further analysis, on the assumption that they are interpretable. Scales were developed for each factor by creating the mean score across the marker items.

Inter-relations of uses and gratifications

Despite the fact that these factors arise from an orthogonal rotation and are separable in terms of item loadings, they are correlated (see Table 9).

The Spearman correlations between the factors suggest that the uses and gratifications identified are related, in some cases relatively strongly.

	Social connection	Shared Identities	Photographs	Content	Social Investigation	Social network surfing
Shared Identities	.24**	1				
Photographs	.62**	.32**	1			
Content	.03	.31**	.06	1		
Social investigation	.37**	.43**	.42**	.37**	1	
Social network surfing	.28**	.33**	.29**	.29**	.54**	1
Status updates	.30**	.49**	.34**	.34**	.38**	.28**

Table 9: Spearman correlations between scales (n = 241)

User demographics and uses and gratifications

A MANOVA test found a significant difference between males and females on their scores across the seven uses and gratifications scales ($F(7, 233) = 2.662, p < 0.02$). Further analysis of the between-subjects effects on the dependent variables showed that scores were significantly different on the first factor – ‘social connection’ ($F(1, 239) = 16.16, p < 0.001, \eta^2 = .063$), with females scoring higher on the scale ($M = 5.40, SD = 1.22$) compared to males ($M = 4.70, SD = 1.37$), on the third factor – ‘photographs’ ($F(1, 239) = 8.95, p < 0.01, \eta^2 = .036$), with females again scoring higher on the scale ($M = 4.67, SD = 1.61$) compared to males ($M = 4.02, SD = 1.51$). There was a marginally significant difference across the seventh factor – ‘status updates’ ($F(1, 239) = 3.26, p = .072, \eta^2 = .013$), with females scoring higher on the scale ($M = 3.94, SD = 1.40$) compared to males ($M = 3.58, SD = 1.47$).

A one-way between subjects ANOVA found a significant effect of gender on profile privacy settings ($F(1, 236) = 12.29, p < .01$), with females more likely to report making their profile more private ($Mean = 4.83, SD = 1.60$) compared to males ($Mean = 4.01, SD = 1.86$).

A further MANOVA test was conducted to compare responses to the items in light of occupational status (i.e. full-time student, full-time employed, part-time student/employed). Given the relatively low number of people working part-time / studying part-time, this group was excluded from the analysis. The results showed a significant overall effect of occupational status on uses and

gratifications of Facebook ($F(7, 217) = 4.93, p < .001$), with significant effects for Factor 1 (*social connection* – $F(1, 223) = 7.31, p < .01$), Factor 2 (*shared identities* – $F(1, 223) = 4.90, p < .05$), and Factor 3 (*photographs* – $F(1, 223) = 7.85, p < .01$).

Full-time students scored higher on *social connection* and *photographs*, and lower on *shared identities*, compared to those in full-time work (Factor 1 *Mean* = 5.38 (*SD* = 1.16) for students, *Mean* = 4.89 (*SD* = 1.45) for full-time employment; Factor 2 *Mean* = 3.47 (*SD* = 1.37) for students, *Mean* = 3.90 (*SD* = 1.40) for full-time employment; Factor 3 *Mean* = 4.71 (*SD* = 1.53) for students, *Mean* = 4.09 (*SD* = 1.57) for full-time employment).

Age also correlated negatively with their scores on social connection ($r^{s(223)} = -.27, p < .001$), and photographs ($r^{s(223)} = -.32, p < .001$), with younger respondents scoring higher on both scales. Age did not correlate with the other factor-derived scales.

Age also correlated with the length of time users had been registered on Facebook ($r^{s(241)} = -.17, p < 0.01$), the regularity with which they visited the site ($r^{s(241)} = -.18, p < .01$), the number of hours they used the site in a week ($r^{s(241)} = -.22, p < .01$) and the number of friends they had linked to their profile ($r^{s(219)} = -.37, p < .001$). In all cases, a younger user was associated with higher usage levels, and a greater number of ‘friends’.

Age was also negatively correlated with the use of privacy settings ($r^{s(238)} = -.17, p < .01$), such that younger users report that they were more likely to have increased the privacy of their profile. In part this may be due to the higher number of friends amongst younger users.

Predicting Facebook use

A number of earlier researchers have predicted that certain uses and gratifications of Facebook may be associated with greater use of the site. For instance, [17] note that completion of certain profile elements is associated with a greater number of ‘friends’, while the findings of [16]) suggest that the use of Facebook for social searching and surveillance motivates use.

To examine possible motivators for use of Facebook, a series of multiple regression equations were calculated using scores on the seven factor-based scales to predict both the frequency of visits to the site and the time spent on Facebook during an average week. Age, occupation and gender were also entered as covariates (part-time excluded). The results of the regression analyses to predict the *frequency* of site use are shown in Table 10. The overall model was significant ($F(10, 213) = 4.77, p < 0.001, R^2 = .15$).

A second regression equation examined the same variables predicting the amount of *time spent* on the site (see Table

11). Again, the overall model was significant ($F(10, 210) = 3.85, p < 0.001, R^2 = .12$).

Variable	β	t	Sig
Sex	.179	2.638	.009
Age	.126	1.479	.141
Occupation	.036	.430	.667
F1 – ‘social connection’	-.055	-.619	.536
F2 – ‘shared identities’	.015	.200	.842
F3 – ‘photographs’	-.208	-2.295	.023
F4 – ‘content gratifications’	.032	.455	.649
F5 – ‘social investigation’	.156	1.819	.070
F6 – ‘social network surfing’	-.043	-.561	.576
F7 – ‘status updates’	-.296	-3.848	.000

Table 10: Predicting frequency of visits to Facebook

The regression equations show a differential pattern of uses and gratifications motivating frequency of visits to the site, and the time spent on the site. Gender (females visit more frequently) and scores on the ‘photographs’ and ‘status updates’ factors predict the frequency of visits to the site. Higher scores on both scales predicted more frequent visits. There was a marginally significant effect of ‘social investigation’ (higher scores related to *less frequent* visits).

However, participants age (younger spend more time) and scores on the *content gratification* scale predict the actual number of hours spent online. This suggests that surveillance gratifications motivate repeat visits, but that content gratifications motivate people to spend longer on the site when they do visit.

Variable	β	t	Sig
Sex	-.031	-.440	.660
Age	-.265	-3.029	.003
Occupation	.058	.669	.504
F1 – ‘social connection’	-.090	-.983	.327
F2 – ‘shared identities’	.011	.145	.885
F3 – ‘photographs’	.134	1.442	.151
F4 – ‘content gratifications’	.213	2.962	.003
F5 – ‘social investigation’	-.040	-.448	.655
F6 – ‘social network surfing’	.117	1.481	.140
F7 – ‘status updates’	.086	1.092	.276

Table 11: Predicting time spent (hours) on Facebook

A final regression equation was calculated to predict the number of ‘friends’ users reported on Facebook (see Table 12). Given that the number of friends should be related to the length of time users had been registered on Facebook, and the intensity of their use, the usage measures (length of time, frequency of visit, time spent on site) were entered alongside the remaining variables.

The overall model was significant ($F(15, 196) = 8.48, p < .001, R^2 = .31$).

As might be expected, age was associated with the number of ‘friends’ (younger have more ‘friends’), as was the amount of time users had been registered on the site and the frequency of their site visits (longer time registered, and more frequent visits, associated with more friends). Interestingly, scores on the ‘social connection’ scale were not associated with ‘friend’ numbers, while scores on the ‘content gratification’ scale were negatively associated with the number of ‘friends’ (i.e. higher scores associated with smaller number of ‘friends’). Scores on the ‘social investigation’ scale were positively associated with the number of friends, while scores on the ‘photographs’ scale were marginally significantly associated with an increased number of friends.

Variable	β	T	Sig
Sex	.036	.584	.560
Age	-.213	-2.936	.004
Occupation	-.041	-.584	.560
Time registered on site	.289	4.725	.000
Frequency of visit	-.184	-2.805	.006
Time spent on site	.062	.909	.364
F1 – ‘social connection’	-.081	-.978	.329
F2 – ‘shared identities’	.090	1.286	.200
F3 – ‘photographs’	.138	1.610	.109
F4 – ‘content gratifications’	-.139	-2.058	.041
F5 – ‘social investigation’	.169	2.123	.035
F6 – ‘social network surfing’	-.048	-.679	.498
F7 – ‘status updates’	-.047	-.641	.523

Table 12: Predicting number of ‘friends’ on Facebook

Use of Facebook Privacy Settings and meeting new people

A final set of analyses were conducted to examine the relationship between specific uses and respondents’ reported privacy profile settings. The privacy settings of users were grouped, according to their responses, into those who reported making their profile less private ($n=44$), those

who reported leaving it at the default setting ($n = 56$), and those who reported making it more private ($n = 137$). In the main, privacy settings in Facebook allow users to hide their profile from people who are neither listed as ‘friends’ or members of the user’s own network. However, if the motive for using Facebook is to meet new people, then such privacy settings would be somewhat counter productive. To test this proposition, a MANOVA was conducted with privacy settings as the independent variable, and the responses to items related to meeting new people set as the dependent variables. The results showed a significant link between privacy settings and the responses to the items ($F(8, 454) = 2.11, p < .05$). Analysis of the between subjects effects found no difference in responses to the ‘joining groups’ or ‘joining events’ items and privacy settings ($p > .3$), but a significant effect of reported privacy settings on responses to the item ‘meeting new people’ ($F(2, 229) = 4.16, p < .02$), and a marginally significant effect on the item ‘using advanced search to look for specific types of people’ ($F(2, 229) = 2.48, p = .08$). The means for the ‘meeting new people’ item across the three privacy groups are shown in Figure 1.

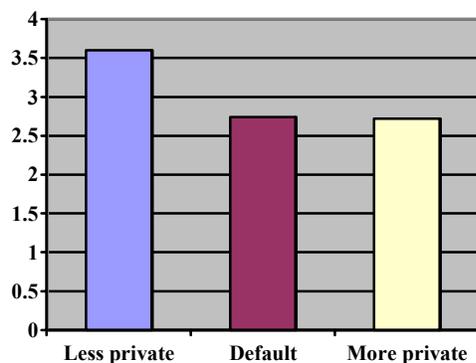


Figure 1: Scores on ‘meeting new people’ by privacy settings

These results suggest that for users wishing to use Facebook to meet new people, the privacy settings may be set at too stringent a level. Further analyses confirmed no links between the social connection scales and privacy settings, suggesting that a primary motivation for making one’s profile less private is the desire to meet new people.

DISCUSSION

Social networking sites pose a number of challenges for HCI researchers and practitioners. First, the actual uses and gratifications of such sites are not well understood. The present paper presents the first study of a social networking site using a ‘uses and gratifications’ framework, and also provides an empirically developed measurement tool for future research.

Second, previous research that has been conducted has tended to focus on campus-based use of Facebook [e.g. 7,

13, 6, 11, 17], which may limit the generalizability of any findings. However, the results of the present research support many of the conclusions of earlier research conducted on student populations. For instance, the distinction previously drawn between ‘social searching’ and ‘social browsing’ uses of Facebook [16] was similarly evident in the present research. Moreover, in keeping with prior student-users research [e.g. 7, 16], the use of Facebook to ‘keep in touch’ was the most commonly mentioned term in Study 1, and formed a large proportion of the items comprising the first factor in Study 2.

However, the adoption of a uses and gratifications approach enables us to begin to probe in more depth the exact nature of ‘keeping in touch’ as both a use and a gratification. The results of the present study suggest that ‘keeping in touch’ comprises two main functions. The first is a surveillance function as identified by Lampe and colleagues [16]. Facebook is used to see what old contacts and friends are ‘up to’, how they look and how they behave. In keeping with this use, there is evidence that Facebook profiles serve an important self-presentation tool [26]. Associated with this use is the social capital building gratification, where Facebook is used to build, invest in and maintain ties with distant friends and contacts [7, 11].

The ‘social search’ and ‘social browsing’ uses of Facebook identified by Lampe and colleagues [16] were closely related in the present study. The use of Facebook to search for new people loaded on the same factor as the use of Facebook to research offline contacts. This ‘virtual people watching’ was represented in both Factors 5 and 6, with the important distinction that Factor 6 relied primarily on ‘friend of friend’ connections, while Factor 5 represented targeted investigation of people met offline, or searched for. Symptomatic of this distinction is the difference between ‘looking up’ (Factor 5) and ‘looking at’ (Factor 6) people. In the present study, only social investigation was associated with a higher number of ‘friends’, not social network browsing.

Interestingly, an increased score on the *content gratification* scale was negatively related to the number of ‘friends’ reported to be linked to one’s profile. This perhaps suggests a sub-set of users gain gratification through the use of applications within Facebook, rather than through the accrual of ‘friends’. However, many of the applications available in Facebook are social in nature (e.g. scrabble games, ways to rate friends). But, at present these applications tend to rely on existing contacts, rather than the accrual of new ‘friends’. As such, they may serve to strengthen social ties, rather than acting to increase the overall size of a social network. Thus, investment of time and effort in social applications within Facebook may be akin to messaging between friends [11] – it solidifies ties, rather than creating new links.

Users responses on the scales created from the factors also predicted their pattern of use of the site. In keeping with

earlier work on traditional media, *content gratification* predicted the amount of time spent on the site. However, the use of the site for social investigation, viewing and posting photographs and viewing status updates predicted the frequency of visits. It would seem from the present data that ‘keeping in touch’ may in actuality refer to ‘checking up on regularly’, while the ‘stickiness’ of the site (in terms of time spent on it) depends on use of the content and applications. This insight is clearly important for designers of social networking sites and associated content. If repeat visits are motivated by different uses and gratifications than the amount of time spent on the site, it is important to design content gratification alongside the ability to build and maintain social connections. It also suggests that the furor caused by the introduction of the newsfeed [2] has subsided, and been replaced by its new role as a ‘killer app’, at least in terms of repeat visits to the site. In many ways, this use of Facebook reflects the desire for ‘perpetual contact’ [15], and previously supplied by standalone services like Twitter [24]. While the social implications of this interest in perpetual contact and updates on ‘friends’ are beyond the remit of the present paper, it is worth noting that an increased awareness of others’ actions has potentially important implications for how we relate to others, and understand ourselves.

Design Implications

The designers of social networking sites should consider the varied uses and gratifications reported by users, and need to recognize that not all users have the same uses of a social networking site, nor derive the same gratifications from their use. For instance, there are clear distinctions between the use of Facebook to maintain and re-create connections with friends, its use as a surveillance tool and for content delivery. There were also differences in reported uses by age, gender and occupational status. It may be that different demographic groups are motivated to use social networking sites for different purposes, with social connectivity and perpetual contact motivating younger (and female) users more than older (and male) users.

The differing goals for the use of Facebook are reflected not only in usage patterns, but also in users’ privacy settings. People who have made their privacy settings more permissive are more likely to want to meet new people (they also score higher on the content gratifications scale). This is a designed aspect of the system – in both cases, to fulfill one’s goal often requires a more permissive approach to profile privacy. Many of the applications are social in nature (e.g. comparing oneself with others, asking questions to ‘friends’, viewing people from one’s neighborhood), and often circumvent elements of the default privacy settings. Similarly, if the goal is to meet new people, making one’s profile more open than by default allows others pursuing the same gratification to view your profile, and presumably increases the chances of an interaction. For these users, the profile within Facebook is likely to become a key self-

presentation tool, rather than simply a way to ‘keep in touch’ with others [6, 26].

Limitations and Further research

The present research is a ‘snap shot’ of Facebook users, and further work should consider the possibility of researching the development of use over time. In particular, it would be of interest to see how people’s uses and gratifications of Facebook develop, and if the frequency of visit is motivated by ‘perpetual contact’ over time. There is, for instance, considerable research in the field of habit formation that could inform the study of social network site use. HCI research should also consider ways in which the desire to meet new people, and to allow oneself to be viewed by strangers, can be accommodated in a privacy-protecting manner [14]. At present, Facebook has reasonably nuanced privacy controls. From the results of the present research, it would seem that users are changing the default privacy settings in a motivated manner. However, the present study only collected reported privacy settings. It would be prudent to complete research that actually examined settings via automated querying of the site [e.g. 13], or by studying a corpus of actual interactions [e.g. 11].

It should also be noted that the nature of the sampling method, and the self-selection of respondents, may have influenced the pattern of responses and overall levels of activity. Future research may wish to study a wider group of participants, or attempt to identify patterns of usage amongst non-respondents compared to respondents

CONCLUSIONS

Users derive a variety of uses and gratifications from social networking sites, including traditional content gratification alongside building social capital, communication, surveillance and social networking surfing. The different uses and gratifications relate differentially to patterns of usage, with social connection gratifications tending to lead to increased frequency of use, and content gratifications to increased time spent on the site. The variety of uses to which Facebook is put by its users identifies particular challenges for the designers of such sites. For instance, a default privacy setting may be *too restrictive* for users seeking to meet new people, or who wish to allow new people to discover them.

Since user’s desire to engage in surveillance of their peers also motivates the frequency of site visit, this also poses a unique challenge in balancing user’s privacy concerns and controls with a key *raison d’être* of social networking sites like Facebook. At present, Facebook allows users to manage their ‘feed’, removing ‘stories’ as they wish. This solution not only provides a degree of privacy control to users, but it also enables users to engage with the site as a self-presentation tool [26] at numerous levels – not only via their profile and network, but also through their activity (and the removal of specific ‘stories’). As perpetual contact continues to develop, designers will need to face the

challenges of providing continual feeds between users, and the desire of users to control their self-representation via such sites.

ACKNOWLEDGEMENTS

Jeff Hancock, Mina Vasalou, Pam Briggs and Martin Weller are thanked for their advice and comments on an earlier draft of this paper, as are three anonymous reviewers and the associate chair.

REFERENCES

1. BBC News. *Web Networkers at risk of fraud*. 27 July 2007. <http://news.bbc.co.uk/1/hi/uk/6910826.stm>
2. Boyd, D. Facebook's Privacy Trainwreck: Exposure, Invasion, and Social Convergence. *Convergence* 14, 1 (2008).
3. Churchill, G. A paradigm for development of better measures of marketing constructs. *Journal of Marketing Research*, 16 (1979), 64-73.
4. Cashmore, P. MySpace hits 100 Million Accounts. Mashable Social Networking News, (2006). Available at: <http://mashable.com/2006/08/09/myspace-hits-100-million-accounts/>
5. Donath, J. and Boyd, D. Public displays of connection". *BT Technology Journal*, 2, 4 (2004), 71-82.
6. Ellison, N., Heino, R. and Gibbs, J. Managing Impressions Online: Self-Presentation Processes in the Online Dating Environment. *Journal of Computer-Mediated Communication*, 11, 2 (2006).
7. Ellison, N., Steinfield, C. and Lampe, C. Spatially Bounded Online Social Networks and Social Capital: The Role of Facebook. Paper presented at the annual meeting of the *International Communication Association*, Dresden, June 2006.
8. Facebook Addiction. <http://www.facebookaddiction.com/>
9. Flavelle, D. Worries follow rise of Facebook: Employers not happy with time spent on site. *Toronto Star*, May 04, 2007. Available at: <http://www.thestar.com/Business/article/210313>
10. ForeverGeek. Debunking the MySpace Myth of 100 Million Users. http://forevergeek.com/articles/debunking_the_myspace_myth_of_100_million_users.php
11. Golder, S. A., Wilkinson, D. and Huberman, B.A. Rhythms of Social Interaction: Messaging within a Massive Online Network *3rd International Conference on Communities and Technologies*, (2007).
12. Gonzalez, N. Facebook users up 89% over last year; Demographic shift (2007). <http://www.techcrunch.com/2007/07/06/facebook-users-up-89-over-last-year-demographic-shift/>
13. Gross, R. and Acquisti, A. Information Revelation and Privacy in Online Social Networks. In *Workshop on Privacy in the Electronic Society*, ACM Press (2005).
14. Joinson, A.N. & Paine, C.B. Self-Disclosure, Privacy and the Internet. In A.N. Joinson, K.Y.A. McKenna, T. Postmes and U-D. Reips (Eds). *Oxford Handbook of Internet Psychology* (pp. 237-252). Oxford University Press (2007).
15. Katz, J.E., and Aakhus, M.A. (Eds.). *Perpetual contact: mobile communication, private talk, public performance*. New York: Cambridge University Press (2002).
16. Lampe, C., Ellison, N. and Steinfield, C. A Face(book) in the Crowd: Social Searching vs. Social Browsing. In proceedings of *ACM Special Interest Group on Computer-Supported Cooperative Work*, ACM Press (2006), 167 – 170.
17. Lampe, C., Ellison, N. and Steinfield, C. A Familiar Face(book): Profile Elements as Signals in an Online Social Network. In *Proc. CHI 2007*, ACM Press (2007), 435-444.
18. McGuire, W.J. Psychological motives and communication gratification (pp. 167-196). In J.Blunder & E. Katz (Eds.), *The uses of mass communications: Current perspectives on gratifications research*. Beverly Hills, CA: Sage (1974).
19. Nielsen//NetRatings. Facebook and Bebo: The assault on MySpace. Available from: http://www.nielsen-netratings.com/pr/pr_070628_UK.pdf
20. Rawstorne, T. How paedophiles prey on MySpace children. *Daily Mail (UK)*, 21 July 2006. Available at: [http://www.dailymail.co.uk/pages/live/femail/article.ht ml?in_article_id=397026&in_page_id=1879](http://www.dailymail.co.uk/pages/live/femail/article.html?in_article_id=397026&in_page_id=1879)
21. <http://sambrook.typepad.com/sacredfacts/2007/06/facebook.html>
22. Saucier, G. Mini-markers: A brief version of Goldberg's unipolar big-five markers. *Journal of Personality Assessment*, 63, (1994), 506–516.
23. Stafford, T.F., Stafford, M.R., & Schkade, L.L. Determining uses and gratifications for the internet. *Decision Sciences*, 35, (2004), 259–288.
24. Twitter. <http://www.twitter.com>
25. Wellman B and Gulia M. The network basis of social support: A network is more than the sum of its ties, in Wellman B (Ed): *'Networks in the Global Village'*, Boulder, CO, Westview Press (1999).
26. Walther, J.B., Van Der Heide, B., Kim, S-Y., Westerman, D., Tong, S.T. The role of friends' appearance and behavior on evaluations of individuals on Facebook: Are we known by the company we keep? *Human Communication Research*, (in press).