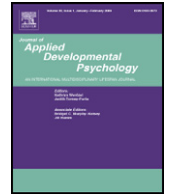




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## College students' social networking experiences on Facebook<sup>☆</sup>

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### ABSTRACT

Millions of contemporary young adults use social networking sites. However, little is known about how much, why, and how they use these sites. In this study, 92 undergraduates completed a diary-like measure each day for a week, reporting daily time use and responding to an activities checklist to assess their use of the popular social networking site, Facebook. At the end of the week, they also completed a follow-up survey. Results indicated that students use Facebook approximately 30 min throughout the day as part of their daily routine. Students communicated on Facebook using a one-to-many style, in which they were the creators disseminating content to their friends. Even so, they spent more time observing content on Facebook than actually posting content. Facebook was used most often for social interaction, primarily with friends with whom the students had a pre-established relationship offline. In addition to classic identity markers of emerging adulthood, such as religion, political ideology, and work, young adults also used media preferences to express their identity. Implications of social networking site use for the development of identity and peer relationships are discussed.

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### 1. Introduction

Media use provides an important backdrop for the social, emotional, and cognitive development of youth, accounting for a large portion of their time (Roberts, Foehr, & Rideout, 2005). One type of online application that has grown rapidly in prevalence and popularity in recent years is social networking on the Internet. Social networking websites, such as Facebook, MySpace, Friendster, LiveJournal, and Bebo, are member-based Internet communities that allow users to post profile information, such as a username and photograph, and to communicate with others in innovative ways such as sending public or private online messages or sharing photos online. In the spring of 2006, Nielsen//NetRatings (2006) reported that the top 10 social networking sites in the U.S. grew in number of users from 46.8 million to 68.8 million during the previous year. These sites reveal important information about how adolescents and young adults are interacting with one another in the information age.

The purpose of this study was to provide descriptive information about the use of social networking sites by college students. Crucial questions for understanding the use of such applications address time commitment, why college students use these sites, how they interact on these sites, and the nature of their influence on the development of identity and friendship in emerging adulthood. Here we consider these questions with respect to Facebook, a popular social networking site.

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### 1.1. Prevalence and time spent on social networking sites

Media are a ubiquitous influence in youth development, with 8–18 year old U.S. youth investing approximately 6.5 h per day with media (Roberts et al., 2005). Social networking sites have captured the interest of many adolescents and young adults. Recent reports on the prevalence of online activities indicate that the majority of U.S. adolescents and young adults utilize social networking sites and that the number of memberships increases with age. For instance, a nationally representative survey of U.S. youth by the Pew Internet and American Life Project found that 41% of 12–13 year olds and 61% of 14–17 year olds use social networking sites (Lenhart & Madden, 2007). Among those surveyed in college, the use of such sites is nearly universal. For example, a large survey of college students from several universities in the Midwest U.S. found that 91% of respondents use the site Facebook.com (Wiley & Sisson, 2006).

Spending time on social networking sites appears to be part of most U.S. young adults' daily activities. In one study, U.S. college students reported using Facebook an average of 10 to 30 min daily (Ellison, Steinfield, & Lampe, 2007). Another study found that about half of 12–17 year olds with social networking site memberships log on daily: 22% logged on to social networking sites several times per day, 26% once a day, 17% three to five days per week, 15% one or two days per week, and only 20% every few weeks or less (Lenhart & Madden, 2007). In these studies, survey methods were used to assess how much time adolescents and young adults spend on social networking sites. The current study adds to this literature by asking why college-aged students invest their time and how they interact with each other at these sites.

### 1.2. Developmental considerations and Internet use

Although some of the ways that youth spend their time have changed in the information age, the central developmental tasks of adolescence and early adulthood have remained constant. Key characteristics of adolescent development include the formation of identity, the development of intimate relationships, and the power of the peer group. In Erikson's (1963) theory, identity development occurs through a series of conflicts that must be resolved at different stages throughout life. Early adolescence is marked by the conflict between identity and role confusion, in which the individual must work towards an integrated sense of self that considers the many facets of his or her life, particularly a sexual identity and a moral ideology. Late adolescence is characterized by the struggle between intimacy and isolation, in which the individual, who now presumably possesses a well-formulated sense of self, is able to "fuse" his or her identity with another person in the form of a mature relationship.

Arnett (2000) presents a new perspective on the period previously described as late adolescence or early adulthood in his conceptualization of "emerging adulthood". Unlike adolescence, emerging adulthood offers more freedom and independence; unlike adulthood, it offers a period of less responsibility. Whereas this time in development has traditionally been associated with settling into adult roles, Arnett argues that this is a period of change and exploration in which young adults are able to delve more deeply into issues that emerged during adolescence, including love, work, and general world views. Thus, in the period of emerging adulthood, young adults continue to progress through the identity exploration of adolescence but at a deeper and more meaningful level (Arnett, 2000).

One means by which the identity challenges of emerging adulthood may be addressed is through self-disclosure, particularly with peers. Buhrmester and Prager's (1995) model of self-disclosure suggests that adolescents can resolve issues through social input from others. Self-disclosure can serve the dual purpose of: 1) identity development, where external feedback from peers may help the individual to clarify his or her sense of self, and 2) intimacy development, where the relationship with the disclosure partner is strengthened. This theory is relevant to young adults as well because the issues of adolescence continue into emerging adulthood.

Because Internet use is a pervasive presence in the lives of U.S. adolescents and young adults (e.g., Lenhart & Madden, 2007; Wiley & Sisson, 2006), online interactions may influence developmental outcomes through peer feedback. For example, in a content analysis of adolescents' personal webpages, youth were often found to express themselves by posting information about their interests and their identity (Stern, 2004). Stern argues that the inclusion of various channels for reader feedback (e.g., online guest books) suggests that youth desire responses to the content posted, perhaps for self-validation or the formation of relationships. Another study found that 50% of Dutch adolescents who experimented with identity through instant messaging had three primary reasons for doing so: to explore themselves through feedback from others, to compensate for social limitations of shyness, and to facilitate social relationships (Valkenburg, Schouten, & Peter, 2005).

Like personal websites and instant messaging, social networking sites provide an easy, accessible way to interact with peers and gather feedback. These opportunities may be particularly significant since peers are readily available online at almost any time, and the tools provided make communication easy to accomplish. Such contacts may foster the development of identity and intimate relationships, including friendships as well as romantic relationships.

### 1.3. Why youth use social networking sites

Social networking sites are designed to foster social interaction in a virtual environment. In general, communication is facilitated through information posted in the profile (i.e., the user's personal page), which often includes a photograph of the member and personal information describing his or her interests, both of which provide information about one's identity. Members can view one another's profiles and can communicate through various applications similar to email or online message boards. Such interactions can potentially address many concerns of adolescence and emerging adulthood, such as the need for friendship and peer feedback.

A recent survey of college students in the U.S. showed that social networking sites are used for social interaction with offline acquaintances in order to maintain friendships rather than to make new friends (Ellison et al., 2007). In fact, these authors found a strong positive relationship between Facebook use and social capital, or the resources gained through social interactions. Surveys of teens and college students with social networking site memberships reveal that youth primarily use these sites to stay in touch with friends they see often and those whom they see rarely (Lenhart & Madden, 2007; Wiley & Sisson, 2006). In addition, about half of teens use social networking sites to make new friends (Lenhart & Madden, 2007) and about half of college students use them to let others “know about me” (Wiley & Sisson, 2006).

Consistent with Buhrmester and Prager's (1995) model of self-disclosure, peer feedback influences the user's self esteem. For example, a study of Dutch social networking site members between 10 and 19 years found that users' self-esteem was directly related to the tone of responses received about information posted on their personal page (i.e., profile) and that self-esteem, in turn, was related to their overall well-being (Valkenburg, Peter, & Schouten, 2006). Not surprisingly, positive feedback was related to positive self-esteem and negative feedback to negative self-esteem. The findings suggest that adolescents use social networking sites as a way to gauge peer opinions about themselves, which may consequently influence identity formation.

#### 1.4. How youth use social networking sites

Limited research is available about how adolescents and young adults interact on social networking sites. Online sites are often considered innovative and different from traditional media such as television, film, and radio because they allow direct interaction with others. However, one study of online teen bulletin boards found that many visitors spend considerable time “lurking,” or reading others' posts without posting any reply (Suzuki & Calzo, 2004). Social networking sites, like bulletin boards, also allow users to look at what others have posted without requiring any specific response. These sites facilitate interaction with others and feedback from others, as well as input from the user in creating a profile. However, they also make it easy for users to lurk while looking at others' content. We were interested here in how users socially interact on Facebook.

#### 1.5. Purpose and hypotheses of this study

The primary goals of this study were to describe: 1) how much time college students use social networking websites, 2) why they use them, and 3) how they use them (i.e., to observe/lurk, create, or interact). This study adds to the literature in several important ways. First, it measures time use and activities performed across a 7-day period using a diary-like method in an attempt to provide a more accurate and detailed assessment of time use. Second, we analyzed a rich set of responses to open-ended questions in order to clarify why students use Facebook, which is supplemented with survey information on what activities they perform. Third, the nature of social exchanges that take place on Facebook is described. Based primarily on initial assessments by Lenhart and Madden (2007) and Wiley and Sisson (2006), and the theoretical framework of Arnett (2000), the following hypotheses were made:

**H1.** Young adults would use Facebook daily;

**H2.** Young adults would use Facebook primarily for social interaction;

**H3.** Young adults would interact with their peers that they know offline rather than searching for new friends on Facebook or contacting family members;

**H4.** Profile information, which is clearly intended for others to read, would be used to express identity;

**H5.** As these students are young adults, their profile would involve information about religion, political ideology, and work, topics that are germane to identity development during emerging adulthood;

**H6.** Young adults would interact with one another by posting messages in public forums.

## 2. Method

### 2.1. Participants

Ninety-two undergraduate students (60 females; mean age = 20.59 years,  $SD = 1.07$ ) from two psychology classes at a private university in a large metropolitan area participated in this study for extra credit. First year students comprised 20.65% of the sample, sophomores 23.91%, juniors 35.87%, and seniors 18.48%. The sample was 75% Anglo/Euro-American, 6.52% African-American, 6.52% Asian-American or Pacific Islander, 4.35% Hispanic-American, and 7.60% of an ethnicity other than those listed or of a mixed background.

Most students originally activated their Facebook account during the summer before college (53.26%), though some did so after they began college (38.04%). On average, respondents had been using Facebook for about 2 years ( $M = 24.32$  months,  $SD = 9.93$ ). Only students who had a Facebook account participated in this study, but almost all of the students in the classes were members of Facebook. Previous studies have found that more than 90% of college students use Facebook (Ellison et al., 2007; Wiley & Sisson, 2006).

## 2.2. Description of Facebook

Facebook.com originated in 2004 to facilitate social interaction exclusively among college students. The site now includes more than 49 million users and is available for use by anyone with a valid email address (Facebook, nd/no date). Facebook operates by allowing users to select one or more “networks” to which they will belong, such as a specific high school or university, a geographical area or city, or a company. Some networks, such as a university or a metropolitan area, may include thousands of members. Each user maintains a “profile,” which is a webpage containing basic information such as the individual's year of graduation and home town, as well as personal information, such as his or her name and whether he or she is single or in a relationship (i.e., “relationship status”). Users may inform others about what they are doing by changing the “current status” message that appears at the top of the profile.

In addition, Facebook allows users to designate “friends.” An individual who is invited to be a member's Facebook friend may either accept or reject the offer, thus providing individual control over one's list of friends. The user can control how much information to post and who can view this information by editing their privacy settings. Specific groups of people (a network or friends) may be granted limited access to specific parts of the profile.

Facebook members can upload digital pictures into virtual photo albums. A user can be “tagged” in these pictures so that his or her name appears in the caption as a link to his or her profile. If the individual does not want to be associated with the picture, he or she can “untag” it, thereby removing the name and the link (though this does not remove the picture). Members are able to post comments on photos, which appear as messages below the picture. Similarly, it is possible to post links to videos.

Facebook offers several options for communicating with others. Users can interact by sending private messages, similar to emailing. Members who are “friends” may post public messages on each other's “walls,” which are personal message boards on their profiles. Communication may also occur in groups, which Facebook members can create and join. Groups may be formed on any topic (e.g., Procrastinators Unite...Tomorrow; Indian Classical Dancers; I am a Carnivore). Offline social interactions can be facilitated through Facebook by creating invitations to events, or online notifications for meetings, parties, and other gatherings. Users may also post “notes” or blog-like entries that are linked to their profile pages.

The “headline” news in one's Facebook account is captured by “news feed” and “mini-feed” functions. The news feed, which appears on the user's homepage upon log-in, provides a list of actions that friends have recently undertaken, such as posting on walls or changing their relationship status. In addition, each user's personal list of actions appears in his or her own profile as the mini-feed. A user's mini-feed tracks “stories” that will appear about him or her in friends' news feeds. Users may restrict the types of stories broadcast about them by these applications.

## 2.3. Procedure

Upon completing an informed consent form, participants were given a diary-like measure containing 7 time use questions (one per day) and a 7-day activities checklist to document their Facebook use, which they were asked to take with them to complete each evening. When they returned this form one week later, they were given a survey about their Facebook use which they completed overnight.

### 2.3.1. Diary measure

The amount of time spent using Facebook was assessed daily using a diary-like measure in which each undergraduate student 1) reported the total amount of time (in minutes) that he or she spent on Facebook each day for a one week period and 2) checked off the specific activities that he or she did each day for that one week period. The 25 typical Facebook activities included in the checklist (e.g., posting photos, looking at photos, posting on walls, reading posts on one's own wall, reading posts on others' walls) were selected from input with several undergraduate research assistants who were familiar with Facebook. Daily time use questions were used rather than global estimates for a “typical” week because global estimates tend to overestimate the amount of time spent in an activity, e.g., television viewing (see Anderson, Field, Collins, Lorch, & Nathan, 1985).

The diary measure also included open-ended questions about social networking sites that were completed at the end of the 7-day period: 1) “Why do you use Facebook?” and 2) “What do you think is the most interesting thing about social network websites (i.e., Facebook, MySpace, Friendster, etc.)?” Participants were also asked to respond to a multiple-choice question that asked how representative the week in question was of a typical week for them (i.e., typical, busier than usual, less busy than usual, out of town or traveling for some portion of the time).

### 2.3.2. Survey

After turning in the diary measure, students were given 24 h to complete a survey. This paper-and-pencil measure consisted of 54 questions, divided into two parts. In the first part, students answered 31 questions about their activity on Facebook “during the past week” (i.e., the week for which diary data were collected). Most of these questions used a four-point Likert scale of “not much,” “some,” “quite a bit,” and “a whole lot.” The following examples were among questions in this section of the survey: “During the past week, how much of the time that you were on Facebook was spent reading or observing what other people are doing (e.g., looking at people's walls, looking at pictures, reading profile information)?” “During the past week, how much of the time you were on Facebook was spent doing activities (e.g., posting on people's walls, posting photos, writing messages, etc.)?” “How much does each piece of profile information below help you to express who you are to others on Facebook?” (There was a list of 16 specific profile items for each Likert response for this question). Another question was “How often did you log on to Facebook in the past week?” Here the response options were: “not at all,” “a few times,” “several times,” and “a whole lot.”

**Table 1**Percent of types of student responses regarding why they use Facebook ( $N = 92$ ).

Coding category	Percent responses
Communicating with friends (general category including friends from home, friends on campus, friends seen rarely, etc.) <sup>a</sup>	84.78
Communicating with friends not on campus (old friends, friends at other schools, etc.)	50.00
Communicating with friends on campus	17.39
Communicating with friends seen rarely	13.04
Looking at or posting photos	35.87
Entertainment (to pass time, to fight boredom, to procrastinate, etc.)	25.00
Finding out about or planning events	25.00
Sending or receiving messages	13.04
Making or reading wall posts	11.96
Getting to know people better (friends or people recently met)	11.96
Getting contact information (email address, phone number, etc.)	8.70
Presenting oneself to others through the content in one's profile	4.35

<sup>a</sup> A small number (4.35%) of students who responded that they use Facebook to communicate with friends provided a general rather than a specific reason which resulted in slightly fewer scored responses for the three subcategories of communicating with friends than for the main category.

In the second part of this survey, students answered 23 questions where they provided demographic information (e.g., sex, ethnicity, year in college) and provided specific information from their profile that the students recorded while actually looking at their profile page. Examples of questions for which students were asked to check their profiles included: "How many photos posted by other Facebook users are you tagged in? To find this information, click on the 'View more Photos of Me' link under your profile picture." "How many friends do you have on Facebook? To find this information select 'My Friends' from the left column of your profile and then select 'Show: All Friends.'"

### 3. Results

#### 3.1. Time spent on Facebook

According to the diary-like measure, the amount of time that students reported spending on Facebook on a given day varied greatly. Facebook use ranged from 2.00 to 117.00 min per weekday and from 0.00 to 165.00 min per day on Saturday and Sunday.

Means were calculated with outliers removed to decrease the large degree of variability. An outlier was defined as any daily value falling more than two standard deviations above or below the mean for that day. There were a total of seven outliers for weekdays and four outliers for weekend days, all occurring at the high end of the distribution. With outliers removed, the mean amount of Facebook use during weekdays was 27.93 min per day ( $SD = 19.43$ ;  $Mdn = 25.00$ ) and weekend days was 28.44 min per day ( $SD = 23.69$ ;  $Mdn = 20.00$ ).

The total time spent on Facebook was dispersed throughout the day. In response to survey questions, most students reported logging on either "a few times" (55.43%) or "several times" (31.52%) the previous day. When presented with the day broken into six 3-hour increments from 6:00 a.m. to 12:00 a.m. and a 6-hour increment from 12:00 a.m. to 6:00 a.m., at least 50% of the students reported logging on to Facebook during any given time period over the past week other than 6:00 a.m. to 9:00 a.m. The most likely time for the majority of students to log on was during the evening hours from 9:00 p.m. to 12:00 a.m. (92.39% of students reported logging on) and from 6:00 p.m. to 9:00 p.m. (80.43%).

Facebook use was integrated into students' daily lives, regardless of how busy they were. Comparisons were made between students who reported that the week was not typical and those who stated that it was typical. The majority of students (66.30%) said that the week was typical, 15.22% said it was "much busier than usual," 13.04% said that it was "less busy than usual," and 2.17% said that they were out of town or traveling for a portion of the week. Because the data were not normally distributed, a Kruskal–Wallis nonparametric test was conducted. This test indicated that the amount of time spent using Facebook did not significantly differ for these groups.

#### 3.2. Why do students use Facebook?

##### 3.2.1. Communicating with friends

Students answered an open-ended question about their reasons for using Facebook. The frequency (%) of reports of nine reasons for using Facebook is presented in Table 1. As can be seen in the upper portion of Table 1, a large majority of students reported using Facebook to communicate with friends, most frequently friends who are not on campus. The following examples illustrate students' focus on social interaction with their peers:

"I use Facebook because it is a good way to keep me informed as far as who my friends are interacting and associating with as well as what they are up to."

"Through Facebook, I can communicate through messages, wall posts, and even events. I have been able to sustain so many friendships through Facebook, which is the biggest reason why I use it."

"Signing a Facebook wall is a lot easier and less time consuming than picking up the phone to call a friend. Not many in college have the time for that."

**Table 2**

Number of students reporting keeping in touch with friends not at their university through Facebook.

Class year <sup>a</sup>	No	Yes	Total
First years/sophomores	14	26	40
Juniors/seniors	32	20	52
Total	46	46	92

<sup>a</sup> Younger students were more likely than older students to use Facebook to keep up with friends not at their university,  $\chi^2(1, N = 92) = 6.37, p = .012$ .

Not surprisingly, more younger than older students used Facebook to keep in touch with friends not at their university (e.g., friends from their high school or their home town),  $\chi^2(1, N = 92) = 6.37, p = .012$ . In particular, 65% of first year students and sophomores used Facebook to keep up with high school friends or people at other schools compared to only 38.46% of juniors and seniors (see Table 2). One student commented,

"Facebook keeps me in contact with friends and classmates that I would have never talked to again after graduating from High School and I anticipate that once I graduate from [university name] Facebook will provide me with the same advantage."

Additional information about why students use Facebook came from survey responses. Using a four-point Likert scale with responses ranging from "not much" (1) to "a whole lot" (4), students rated 12 specific reasons they use this site. Consistent with their open-ended responses, keeping up with friends was the main reason that students reported using Facebook, with the majority of students reporting that this influenced their Facebook use "quite a bit" (36.96%) or "a whole lot" (48.91%). In addition, having fun (38.46% "quite a bit" and 41.30% "a whole lot"), taking a break from work (31.52% "quite a bit" and 39.13% "a whole lot"), and fighting boredom (31.52% "quite a bit" and 39.13% "a whole lot") were also frequently reported. In contrast, meeting new friends (7.61% "quite a bit" and 1.09% "a whole lot") and finding help with schoolwork (2.17% "quite a bit" and 0.00% "a whole lot") were rarely reported as reasons for using Facebook.

The role of friends in Facebook use is highlighted by the number of friends that students reported. In survey questions where students were asked to report information directly from the Facebook account, most students reported having a large number of friends, though this varied considerably ( $M = 357.97, SD = 167.20$ , after 3 outliers were removed from the high end of the distribution). Looking specifically at their own profiles, females reported having significantly more friends than males reported,  $t(73.99) = -4.17, p < .01$  ( $M = 401.56, SD = 169.77$  and  $M = 269.28, SD = 122.50$ , respectively). Most students (77.17%) reported that none of their Facebook friendships originated online. This pattern can also be seen in the rationale for accepting friend requests: 68.48% accept only people they know offline, 23.91% accept anyone who asks, 4.35% accept only people in their network, and 3.26% accept people based on the requester's profile information.

### 3.2.2. Establishing personal identity

We were especially interested in potential markers that might be used to express the user's identity, as this is an important developmental task during emerging adulthood. Contrary to prediction, expressing identity/opinions was rarely selected in responses to survey queries for reasons for using Facebook (26.37% reported "some" and 64.13% "not much"). Finding love, another facet of emerging adulthood, was also rarely selected (6.90% "some" and 91.95% "not much").

**Table 3**

Percent of students including each type of profile information and percent providing each type of reason.

Type of profile information	Percent students including info type	Reason for including information (% students)			
		To express who I am	Important for people to know	I have a strong opinion about it	Facebook had a place to insert it
Favorite music ( $n = 81$ )	64.20	65.38	7.69	0.00	26.92
"About me" (e.g., personal facts) ( $n = 76$ )	60.53	65.22	6.52	4.35	23.91
Favorite movie ( $n = 84$ )	71.43	65.00	5.00	1.67	28.33
Favorite books ( $n = 82$ )	62.20	62.75	5.88	1.96	29.41
Interests ( $n = 78$ )	70.51	61.82	14.55	0.00	23.64
Political views ( $n = 78$ )	51.28	42.50	7.50	17.50	32.50
Religion ( $n = 81$ )	20.99	41.18	17.65	5.88	35.29
Work ( $n = 82$ )	46.34	39.47	18.42	2.63	39.47
Hometown ( $n = 78$ )	91.03	33.80	22.54	4.23	39.44
Courses ( $n = 79$ )	37.97	26.67	0.00	20.00	53.33
Relationship status ( $n = 79$ )	62.03	18.37	46.94	2.04	32.65
School ( $n = 76$ )	93.42	15.49	52.11	2.82	29.58
Sexual orientation ( $n = 56$ )	74.67	7.14	25.00	1.79	66.07
Gender ( $n = 79$ )	93.67	5.41	17.57	0.00	77.03
Birthday ( $n = 81$ )	95.03	3.90	48.05	1.30	46.75

Note. Percent reported for each reason are based on the total number of respondents referring to that type of profile information ( $n$ ) rather than on all survey respondents.

**Table 4**Frequency of male and female respondents for each survey category about the number of instances of removing one's name from photographs on Facebook ( $N = 92$ ).

	Number of instances				Total
	None	Some	Quite a few	Almost all	
Males	10	16	6	0	32
Females	6	37	12	5	60
Total	16	53	18	5	92

Note. Females posted significantly more photos than males,  $p < .01$  and “untagged” photos more often than males,  $p < .05$ .

Because the profile is where students establish how they present themselves to others, which is a facet of identity, we presented students with questions about what types of personal information they posted or left out on the profile page. Of the categories of personal information that Facebook provides space to include on the profile page, those most often included were demographic types of information (e.g., hometown, birthday), interests, and media preferences (see Table 3).

For each possible category of information that can be included in the profile, students were asked a series of survey questions about why they included each item. Interestingly, students often posted media preferences – favorite books, music, and movies – as a way to express identity (see Table 3). The “About Me” category, which allows users to describe themselves in a sentence or two using any kind of information they desired, was also commonly chosen as an expression of their identity. In this section, college students sometimes write funny facts, clever statements, or provide links to pictures and websites that they like. Identity was also expressed through religion, political views, and work, which are classic indicators of ideology, but these identity markers were less often selected than were media preferences. Including information because it was important for people to know was a primary reason given for including school, birthday, and relationship status. In sum, traditional markers of identity, such as religion, political ideology, and work were important indicators of identity (Arnett, 2000; Erikson, 1963), but so were media preferences, which were selected more often than were the classic identity markers.

Who is able to view the profile may also play a role in how college students present themselves and what they chose to include. Profile information on Facebook can be made available to either one's friends or all members of one's network. Nearly every student (96.74%) reported that their college was their “primary” network. Only 25% belonged to more than one network, 52.17% of whom belonged to a geographical area network, 34.78% to a high school network, 13.04% to another college network, and 4.35% to a career or job network. Students varied with respect to who had access to their profile: 61.96% of respondents allowed their profile page to be seen by all of their networks and all of their “friends”, 34.78% allowed only their friends, and 3.26% allowed some of their networks and all of their friends. Put simply, most students provide open access to personal information.

The ability to instantaneously post numerous photos of oneself and one's friends, which can convey considerable information about the self, is made possible by newer digital media. In fact, the majority of student responses to the survey indicated that posting photos helped to express who they are to other Facebook users “a whole lot” (24.18%) or “quite a bit” (38.46%). Facebook members are given unlimited space to post photos on their profiles. In general, the number of pictures posted to the profile varied greatly, with a median value of 67.50 (range of 0–1095 after one outlier was removed from the high end of the distribution).

A Mann–Whitney nonparametric test revealed that females posted significantly more photos than males did,  $z = -3.43$ ,  $p < .01$  (Mdn = 104.50 for females and 8.00 for males). Females were more often tagged in photographs than were males ( $z = -3.15$ ,  $p < .01$ ; Mdn = 144.00 for females and 50.00 for males, with two outliers removed from the high end of the distribution). A test of responses on a four-point (“none” to “almost all”) Likert scale revealed that females were also more likely than were males to “untag” photos (remove their name from another member's photograph on which the member had added their name),  $\chi^2(3, N = 92) = 8.60$ ,  $p = .04$  (see Table 4). Specifically, more females reported that they untag “quite a few” (20.00%) or “almost all” (8.33%) photos compared to males (18.75% “quite a few” and 0% “almost all”). In addition, whereas the majority of students of both sexes reported untagging “some” photos (50.00% of males, 61.67% of females), far more males reported untagging no photos than did females (31.25% “none” for males, 10.00% for females). The most common reason for females to untag a photo was displeasure with their appearance in the photo (88.68% of females who untagged photos), indicating that how they looked was an important part of their self-presentation to others. Males untagged photos because they were displeased with their appearance (56.52%) and/or because the photos depicted them engaging in an act that they did not wish for others to see, such as underage drinking (34.78%).

**Table 5**Percent of student responses about interesting aspects of social networking sites ( $N = 92$ ).

Social networking category	Percent
Ability to reconnect with people (e.g., finding friends from summer programs, high school, elementary school)	21.74
Ability to learn new information (e.g., getting to know friends or people one does not know better)	17.39
Time spent on Facebook (e.g., it has become a necessary part of daily life, with a number of people “addicted” to it)	14.13
Networking ability (e.g., the number of connections formed between people worldwide)	14.13
Self presentation (e.g., the ability to control what image one projects through the information that one puts in a profile)	13.04
Lack of care about privacy (e.g., users put up a lot of information about themselves, even though this information is not necessarily private)	8.70
Popularity of Facebook (e.g., the site has become so popular that it can be seen as a part of culture)	4.35

**Table 6**Percent of respondents performing each activity during the week ( $N = 92$ ).

Activity performed	Percent performing the activity			
	Often	Sometimes	Rarely	Never
Looking at/reading other people's profiles	69.57	11.96	14.13	4.35
Looking at photos	58.70	21.74	14.13	5.43
Reading your news feed	54.35	13.04	9.78	22.83
Reading posts on your wall	44.57	26.09	23.91	5.43
Reading posts on others' walls	32.61	31.52	20.65	15.22
Posting on walls	25.00	38.04	25.00	11.96
Reading your mini-feed	23.91	14.13	15.22	46.74
Reading private messages from others	7.61	14.13	45.65	32.61
Sending private messages	7.61	7.61	50.00	34.78
Looking at groups	6.52	10.87	47.83	34.78
Responding to/reviewing events/invitations	5.43	23.91	54.35	16.30
Adding or removing friends	2.17	17.39	53.26	27.17
Changing current status	1.09	4.35	19.57	75.00
Looking at video links in others' profiles	1.09	2.17	15.22	81.52
Tagging or untagging photos	1.09	5.43	33.70	59.78
Adding or removing groups	0.00	4.35	33.70	61.96
Commenting on photos	0.00	5.43	28.26	66.30
Creating events and sending invitations	0.00	1.09	4.35	94.57
Creating groups	0.00	2.17	2.17	95.65
Getting info from others about a course	0.00	1.09	7.61	91.30
Interacting with groups	0.00	1.09	6.52	92.39
Posting notes	0.00	1.09	7.61	91.30
Posting photos	0.00	0.00	18.48	81.52
Posting links to YouTube.com	0.00	1.09	5.43	93.48
Updating or editing profile	0.00	3.26	41.30	55.43

Note. Activities performed "often" were done 5–7 days during the week in question; those performed "sometimes" were done 3–4 days that week; those performed "rarely" were done 1–2 days that week; those performed "never" were done 0 days that week.

### 3.2.3. What do students find interesting about Facebook?

A second open-ended question asked students what they found most interesting about social networking sites. There was a great deal of variability in responses to this question. As seen in Table 5, popular topics included staying in touch or reconnecting with friends, learning information about others, spending too much time on Facebook or the possibility of "Facebook addiction," the breadth of the network between people, and self-presentation. The following examples highlight their insights:

*Reconnecting with friends and the breadth of the network:* "The most interesting thing about social network websites is that they allow people to get back in touch. I receive friend requests from people I went to grade school, summer camp, or high school with. It is amazing how connected it has made me with my past."

*Learning information about others:* "You're able to see who your friends are friends with and what they have been doing when not spending time with you."

*The possibility of Facebook addiction:* "That people are obsessed with using these sites and check them more than their email."

*Self-presentation:* "I think the most interesting thing about social network websites is the way in which people present themselves as how they want others to perceive them."

While Facebook use is currently ubiquitous on U.S. college campuses, some students indicated via survey response options that they could "live without it" (46.74%) and nearly a quarter said that Facebook is something to do when they are bored (23.91%). By contrast, some said it is one of their favorite things to do when they have time (16.30%) or they like it so much that they find it "addicting" (9.78%). Most students reported that Facebook had a "somewhat positive" (82.61%) or a "very positive effect" (13.04%) on their social lives; only one person said that it had a "somewhat negative effect." In contrast, the majority of students said that Facebook had a "somewhat negative effect" (76.09%) or a "very negative" (3.26%) effect on their academic studies while a few thought that it had a "somewhat positive effect" (14.13%).

### 3.3. How are students interacting on Facebook?

Like traditional media such as television and film viewing, Facebook consists of a one-to-many communication style, where information presented reaches many "viewers" at a time. However, with social networking sites, users are now the creators of content, and they view one another's profiles and information rather than viewing mass-produced content made by large corporations. They also become the stars of their own productions. As students commented:

"I primarily use Facebook to maintain connections with people that I do not get to see or talk to that often. It has also been an easy form of mass communication to disseminate information or things such as pictures."



**Table 7**Percent of respondents receiving Facebook wall messages from each group of individuals during the target week ( $N = 92$ ).

Individuals posting	Response		
	Never	Once in a while	Often/ A whole lot
Friends seen regularly	11.96	39.13	48.91
Hometown friends not seen regularly	23.91	39.13	35.87
College friends not seen regularly	36.96	43.48	19.56
Acquaintances	50.00	44.57	5.43
Siblings, cousins	57.61	29.35	3.96
Strangers	93.48	6.52	0.00
Parents	100.00	0.00	0.00

“They are very helpful for networking, Myspace especially – where you can become an internet celebrity.”

This pattern of one-to-many communication is also revealed by what students do online (observe/lurk) and by wall posts (where many students can see what they are doing all at once) rather than sending private messages.

### 3.3.1. Online lurking

Although students do communicate with friends by posting information on Facebook, they spend much of their time reading and/or viewing information without directly interacting in any way. In a survey question asking how much time was spent observing without posting (or “lurking”) during the previous week, 44.57% of respondents reported “quite a bit,” 19.57% reported “a whole lot,” 25% reported “some,” and 10.87% said “not much.” By contrast, when asked how much time on Facebook was spent performing activities (e.g., posting information) during the previous week, 19.57% answered “quite a bit,” 8.70% “a whole lot,” 51.09% “some,” and 20.65% “not much.”

This emphasis on “observing” rather than “doing” was reiterated in the daily activities checklist portion of the diary measure. The percentage of students who reported performing each of 26 activities during a sampled week is presented in Table 6. The frequency of participation in specific activities was measured by calculating the percent of respondents who used a specific Facebook function for each day that the checklist was completed. Three “lurking” activities were performed frequently by the majority of participants: 69.57% looked at or read others' profiles often (5–7 days) during the week they completed the diary, 58.70% often looked at photographs, and 54.35% often read their news feed about what their friends were doing on Facebook. One student's reaction underscores the general sentiments about observing peers on Facebook. She says:

“Facebook is extremely voyeuristic – there's something great, and at the same time, creepy, about knowing when someone you haven't talked to in 5 years broke up with their boyfriend who you never even met.”

### 3.3.2. Communicating on walls

Although students can communicate privately with one another on Facebook, they were twice as likely to post messages on each others' walls than to send private messages to each other. Put another way, Facebook involves public communication. As shown in Table 7, friends seen regularly at college and hometown friends not seen often were the most likely to be reported in survey responses as posting messages on walls. Communication on walls with parents never occurred, and communication with strangers was rare. And, as seen in Table 8, the content of wall posts, both messages received and posted, were most often written to refer to inside jokes or to “catch up.”

### 3.3.3. Group membership

Although Facebook users can create or join groups, and many of them reported that they did so, active participation in these groups was rare. In the survey, the mean number of groups that students reported belonging to was 24.58 ( $SD = 13.12$ ) and the median was 25.50 (six outliers were removed from the high end of the distribution). However, over half of all students (52.17%)

**Table 8**Percent of respondents in each activity category who reported receiving and posting wall messages during the target week ( $N = 92$ ).

Activity category	Messages received				Messages posted			
	Never	Once in a while	Often	A whole lot	Never	Once in a while	Often	A whole lot
Referring to inside jokes	22.83	35.87	25.00	16.30	27.17	35.87	25.00	11.96
Catching up	26.09	43.48	27.17	3.26	41.30	35.87	16.30	6.52
Making plans to get together	36.96	40.22	15.22	7.61	52.17	28.26	14.13	5.43
Commenting on profile or pictures	42.39	39.13	11.96	6.52	48.91	29.35	17.39	4.35
Just saying hello	25.00	56.52	15.22	3.26	43.48	40.22	15.22	1.09
Telling a friend about a past event	63.04	26.09	5.43	5.43	63.04	25.00	9.78	2.17
Talk about courses	78.26	17.39	3.26	0.00	89.13	7.61	2.17	1.09
Gossip about others	86.96	10.87	1.09	1.09	91.30	6.52	2.17	0.00

reported that they did not interact with groups in the week prior to completing the survey and they interacted on average less than one day a week with a group. The majority of students reported never using groups in ways that might be expected, including as a forum to discuss serious topics (79.55%), to talk to people with similar interests (75.00%), to express opinions or interests (61.36%), or to connect with others from a real world group (47.73%).

#### 4. Discussion

This study investigated how much time young adults spend using the social networking site Facebook, why they do so, and how they interact with each other on this website. Regardless of how busy students were during the week that they participated in our study, Facebook was part of their everyday experiences, with students reporting approximately 30 min of Facebook use each day. This amount of time is similar to the daily use of 10–30 min reported by Ellison and colleagues (2007) who used a multiple-choice question to index time use. Taken together, these results indicate that Facebook use has been integrated into the daily lives of young adults in the U.S.

Our second question focused on reasons why college students use Facebook. Consistent with previous research (Valkenburg et al., 2005), one way that young adults use online applications is to facilitate social relationships. In the present study, 85% of college students used Facebook to communicate with friends, both on campus and from their former high schools. Facebook is clearly a peer-to-peer communication network. College students did not use Facebook to keep up with parents, nor with strangers. Only about 9% of our young adult sample used Facebook to make new friends, a finding consistent with those reported by Ellison et al. (2007) for college students, but which differs from findings with teens, about half of whom use social networking sites to make new friends (Lenhart & Madden, 2007). These findings suggest that teens search for new friends on social networking sites more so than young adults do.

The breadth and importance of the peer group during early adulthood is magnified by the number of Facebook friends that students, particularly young women, reported. Overall, young adults reported an average of 358 Facebook friends, with young women reporting a staggering 401 friends while young men reported 269 friends. Offline, individuals report an average of 150 friends out of which only five friendships are considered close (Randerson, 2007). When asked what they thought was the most interesting part of using Facebook, students responded that they could stay in touch and reconnect with friends, which is facilitated by the far reaching networks made possible by the world-wide web. They were also interested in how people presented themselves, the latter being an indicator of identity.

A common task of emerging adulthood is to determine one's own identity with respect to romantic relationships, work, and world views (Arnett, 2000). Facebook provides a unique opportunity for students to display their identities. Religion, political ideology, and work, which are traditional markers of adolescent and young adult identity (Arnett, 2000; Erikson, 1963), were reported by college students as important in expressing who they were. Interestingly, however, they more often reported that media preferences such as favorite music, favorite movies, and favorite books were important in conveying their identity. Similarly, students reported that photos often helped them express who they were. In fact, posting photos was a major activity performed by college students and, as previously found for adolescents (Lenhart & Madden, 2007), young adult females posted more photographs than young adult males did in our study. When young adults untagged photos, both males and females did this because they did not like how they looked. Photos and their rapid dissemination to students' online profiles reflect the important role played by technology in the development of youth identity.

Gathering feedback from peers and strengthening the bonds of friendship are also part of the developmental challenges of emerging adulthood. In fact, some researchers argue that self-disclosure with peers may promote personal identity and intimacy (Buhrmester & Prager, 1995). Because students are using Facebook to facilitate pre-established relationships, they are interacting primarily with people they know and trust. In such cases, self-disclosure about important personal issues is probably more likely to occur than it is in conversations with strangers. If so, the communication with friends that occurs on Facebook may help young adults resolve key developmental issues that may be present during emerging adulthood, including both identity and intimacy development. To the extent that this is true, Facebook use may have a positive effect on development. This premise is supported by recent findings that college students with less clearly defined self-concepts were more likely to use the Internet, suggesting that young adults may turn to the Internet as a tool for identity development (Matsuba, 2006). It is likely that if youth are self-disclosing to peers on Facebook, it is probably in the form of personal profile information (see Valkenburg et al., 2006). Further research is necessary to determine if young adults are using social networking sites as a forum for self-disclosure, and, if so, what impact this has on development.

Our final question involved how students are interacting on Facebook. Wall posts were a preferred way of interacting with friends. Interacting with the groups that they had joined was an infrequent form of interaction, and even private exchanges with friends occurred only "sometimes." In fact, exchanges with friends in a public wall space were twice as frequent as one-on-one private exchanges with friends and considerably more frequent than interacting with the groups they had joined. Inside jokes and catching up with each other were the typical topics of wall posts. As one person noted, wall posts can be written quickly, which illustrates the fast-paced nature of online information exchanges. The public display of information is similar to those found on online bulletin boards and chat rooms where exchanges of information about a wide range of topics, including content that is relevant to identity construction, are taking place (Subramanyam, Greenfield, & Tynes, 2004; Suziki & Calzo, 2004).

Our findings also suggest that the communication exchanges of the past are expanding in the information age. Although interactions sometime take place, lurking and observing others' actions, such as reading the news feed about what friends are doing or looking at others' profiles or pictures, were far more common than posting information or even updating profiles. One

student described the experience as “creepy” when she had not seen or interacted with a friend for years, but she had read about a recent development in that friend’s personal life on her Facebook profile. Lurking has also been reported as a frequent activity on teen bulletin boards, with users expending more time looking at others’ posts than they do writing their own posts (Suzuki & Calzo, 2004). Although interactivity is touted as a hallmark of newer media, online users spend a considerable amount of time just watching others. Our findings highlight the powerful interest we have in observing others (Bandura, 1997).

In the past, we observed television and movie characters, but newer technologies and interfaces such as Facebook allow users to become the producers and stars of their productions as they create their own profiles and observe those of others. Put another way, adolescents and young adults are creating and disseminating material on social networking sites using a one-to-many communication style, similar to the way television and radio have been used in the past but with the novel capacity for personal control and creation of the content being “broadcast.” This unique communication style blends the interactive qualities of newer media with the observational ones of the past. Thus, social networking sites like Facebook allow a coming together of observational and interactive media, which may become even more pronounced as students create videos such as those found on Youtube.com.

At an applied level, the popularity of social networking applications could make them a powerful cognitive tool if adapted for academic pursuits and career goals. For example, colleges and universities could take advantage of the new ways that students are communicating with one another. Although interactive educational options such as Blackboard exist, social networking sites are rarely used for academic purposes. Websites could be established where students could interact on an academically-focused networking site, with students posting on walls and professors joining in on these discussions. Profiles could include favorite courses and career goals. Alumnae could visit these sites to help current students find appropriate internships, job placements, and information about postgraduate academic and job experiences. These kinds of experiences might be engaging for students and open new ways of academically-oriented interactions where professors and alumnae could discover more about the students’ interests, and students, in turn, might express and develop more intellectual facets of their lives.

There are several limitations of this study. First, only one type of social networking site was assessed here. It may be that other sites are used in different ways, particularly since Facebook originated as a college site and has attracted many college-age students. The developmental issues that young adults bring to bear during their college years may well be different from those of younger students and non-college young adults. Second, this study assesses a specific group, primarily students attending a private university, who may differ from other Internet users in important ways, such as their easy access to fast Internet connections. Uploading numerous pictures, for example, would take far more time with a slow computer connection. Third, this study was descriptive, rather than experimental. However, it is difficult to manipulate the use of social networking sites that are so commonplace in U.S. culture. Finally, a more typical diary research approach may have provided a broader measure of Facebook time use (see Anderson et al., 1985). Such a method was not used in the present study because some students appear to use Facebook for short periods of time several times a day, which would make an accurate minute-by-minute measure both tedious and difficult to answer accurately.

In conclusion, social networking sites like Facebook provide new venues for young adults to express themselves and to interact with one another. Although one might expect considerable interactive experiences, we found considerable lurking, with students being content to look at friends’ profiles and to have their own profiles examined as well. Posting to walls and posting pictures for others to observe highlight a public communication style. Social networking sites allow emerging adults to construct profiles and engage in activities that reflect identity markers. While friendships, romantic relationships, and ideology remain key facets of adolescent development, it is fitting that in the digital age individual media preferences have also emerged as playing an important role in students’ expressions of who they are. Researchers that examine theories of adolescence and emerging adulthood, such as those proposed by Arnett (2000) and Erikson (1963), now have an online space in which to study the evolution of identity development and friendship exchanges.

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