

Effects of Social Media on Human Emotion

A Senior Project Presented to  
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## Introduction

How many times do people engage in self- description? Through college applications, Match.com dating, resumes sent to prospective employers and of course, Facebook, in today's world almost every day. The profile page of every Facebook user has an info tab, giving the opportunity to demonstrate one's ideals and beliefs. This section offers a general introduction to the topics of Facebook and its uses and effects on people throughout their daily lives.

Since 2007 social networking sites have become immensely popular and are still continuing to grow based on the Facebook Information and History website. What exactly is a social networking site? A social networking site is a place online where users can go to create a profile, build a personal network and connect to other users. Growth of these sites has even generated concerns with businesses, government leaders, and potential risks to the younger generation and their openness about personal information as "55% of online teens have created a personal profile online, and 55% have used social networking sites like MySpace or Facebook," stated Amanda Madden Pew Internet and American Life Project.

Since February 5, 2010, Facebook boasts its 400 millionth user, says Jeremiah Owyang. Facebook is a fairly new social networking site, released in February of 2004. Hampton and Wellman did a study (e.g., Hampton, 2002; Hampton & Wellman, 2003), suggesting, "that information technology may enhance place-based community and facilitate the generation of social capital" (e.g., Hampton, 2002; Hampton & Wellman, 2003, 1), which can help get down to the real reason why people actually use Facebook and gain insight on its effects.

Since 2007 social networking sites have become immensely popular and are still continuing to grow based on the Facebook Information and History website. What exactly is a

social networking site? A social networking site is a place online where users can go to create a profile, build a personal network and connect to other users. In the past years these sites have become extremely popular in our society. Growth of these sites has even generated concerns with businesses, government leaders, and potential risks to the younger generation and their openness about personal information as “55% of online teens have created a personal profile online, and 55% have used social networking sites like MySpace or Facebook,” stated Pew Internet and American Life Project.

Facebook is now the second largest social networking site on the web running behind Myspace which is currently number one, stated the Facebook Information and History website. Facebook is a fairly new social networking site, released in February of 2004, only seven years ago, and is already the second most popular social networking site today. Hampton and Wellman did a study (e.g., Hampton, 2002; Hampton & Wellman, 2003), suggesting, “that information technology may enhance place-based community and facilitate the generation of social capital” (1). This can help get down to the real reason why people actually use Facebook and help gain insight on its effects.

One factor in past Facebook studies is the importance of Facebook to the participants, which can aid in the understanding of Facebook’s effects. A study done by Mills (1965) indicated that the subject’s desirability of the topic or product would affect the interest in reading about the product. Not only is the subject’s interest of the topic important, but also how the subject communicates. Some findings also suggest there are very few positive relationships existing online over an elongated period of time due to the fiery, direct, and impersonal behavior that Computer Mediated Communication (CMC) tends to cause in people’s behavior (Parks,

1996). “Current research has even concluded to some that CMC’s technological advancements will impact human relationships in the negative and create conflicts that could leak into the everyday FTF interactions” (Williams, 2008).

A study done by Ellison, Charles, Steinfield, and Lampe at the Department of Telecommunication, Information Studies, and Media at Michigan State University examined the benefits of Facebook. Their study, *Friends: Social Capital and College Students’ Use of Online Social Network Sites* revealed there is a “positive relationship between certain kinds of Facebook use and the maintenance and creation of social capital” (1). The unfriending factor on Facebook has also been looked at as a past study. An undergraduate study done at the University of Colorado, Denver, Business school discovered two main reasons people get unfriended online, being annoying and being offensive, especially about religious or political things or posting excessive uninteresting information to clog of people’s Facebook news feeds.

A study done by Rob Nyland, Raquel Marvez and Jason Beck reports that Facebook users use Facebook 4.636 times out of 5 to meet new people. They reported that Facebook was instrumented to meet people that they would not have met without the social networking site. Facebook has become a modern phenomenon in that it is a new way to meet people, without ever seeing them. This research will help our study by determining if our subjects will be negatively affected by the people they are meeting online.

This project is necessary for the field of communication studies, as these new social networking sites have recently become a phenomenon within our society. It is important to look at how people are using the sites and for what purposes so we can better understand the networking culture, which has become so popular in the past couple of years. It is important to

see how it is affecting communication studies and whether the past theories can still be applied to this new form of communication and media. This further research applies specifically to our study and will be used in order to help develop and conduct our experiment.

These studies are all supporting different realms of the communication media world, but none really look into whether Facebook is doing more harm than good when dealing with communication and people's emotions. Facebook is something that most people check daily, some even sinking hours into the site, clicking from profile to profile, looking at pictures, and adding people as 'friends.' According to a Harvard study and survey of students, they found that Facebook may be doing more harm than good, as it allows people to believe they can see themselves through the eyes of others. People have the ability to portray their "best selves" allowing people to post only what they want people to see. People are able to then use other's responses to their likes and dislikes and "about me's" to gauge how others see them. "Women have stated that they feel crestfallen when the number of 'happy birthdays' posted on their Facebook wall is not sufficient enough to make them feel important," according to an article by Forbes about the site and its emotional side effects. When we look at how these little things have such a drastic effect on others, it is important for people to better understand these negative or positive effects on Facebook's users and how it relates to the world of communication studies.

According to a report by O'Brien, David Smallwood an addiction expert from the British Medical Journal, Priority says "that social networking sites are fueling insecurity and creating an unhealthy obsession with building large friend lists among certain vulnerable groups." In addition they may also foster "an unhealthy competitive spirit about popularity, social networks may augment feelings of rejection when friend requests are denied." Another study from The

Daily Mail says that being “addicted to social networking sites like Facebook or MySpace can be harmful to health because it triggers people to isolate themselves”(1) and that the users are being drawn into an artificial world, increasing the risk of serious negative health effects.

A study posted on WHEC news in New York revealed that research in Scotland “says that the more Facebook friends you have, the more stressed you are likely to become”(1).

Psychologists are even comparing Facebook to a gambling addiction. They say this is due to the fact that the average person only has the emotional energy for two or three close friends. A conflicting study at Cornell University has said that Facebook “may actually boost your self-esteem,”(1) because everyone is portraying the most positive image possible of themselves. In the Cornell study, which was reported on WHEC.com, participants “who spent a few minutes on Facebook gave higher marks in a questionnaire about their self esteem than those who did not log on to Facebook.”

Considering all of these different aspects, the hypotheses are as follows:

H1a: Subjects who spend more time on Facebook will have more negative emotions afterwards than subjects who spend less time on Facebook.

H1b: Subjects who spend more time on Facebook will have an increase in anxiety and sadness than subjects who spend less time on Facebook.

## Method

The previous studies examined only some aspects of social networking, but did not examine how Facebook directly effects a subject's emotions due to the amount of time spent on the social networking site. This study tested the use of Facebook and its emotional effects, based on time constraints and the subjects' changes in emotion. There are three different groups of subjects. The first group was the control, and only took the sixteen emotional ranking survey one time. The second group took the emotional ranking survey and then was asked to look at five friends and fill out a questionnaire about each profile they viewed. The third group was asked to do the same with ten profiles. The second and third group were then asked to fill out a second survey, identical to the first emotional ranking survey, after viewing Facebook for their allotted time. The control group only filled out one emotional ranking survey.

## Sample

The population we are interested in is Communication Studies Major students who use Facebook and are attending California Polytechnic State University. The sample size is 78 random participants who all have an account on Facebook. We gathered participants by sending out an email through the Cal Poly Communication Studies department with the guidelines the subjects followed in order to participate in the experiment. As an incentive to participate, subjects will be entered into a random draw of three \$15 Starbucks gift certificates. The subjects were then randomly placed into a specific group. These subjects will be ranging from the age of 17 to 26.



## Measurement

In order to collect information about our subjects, we sent a mass email out to all Communication Studies students at Cal Poly with a request to fill out a survey on SurveyMonkey.com. We collected information about Facebook usage and reasons for usage, such as how long they had been a user and how many friends they currently have. We also asked how much time they spend a day and whether they used it to meet new people or to establish an online connection to pre-existing connections. It is important to see whether people's friend's lists consist of people they met mostly on Facebook or is created of people they had been friends with prior to social networking. The Facebook usage measurement consists of 6 questions, based off of the scale developed by Ellison, Seinfeld, and Lampe in 2007. The scale is .83 percent accurate as it uses Cronbach's alpha, which is usually used for the reliability of a psychometric test scores. Cronbach's alpha was used in the development of the Facebook Intensity Scale created by Ellison, Seinfeld and Lampe, which we used in our study. See Appendix A. Subjects filled out this survey only once.

The second survey portion of this study was filled out once by the control group, and twice by the rest of the subjects; once before and once after viewing Facebook for their allotted time. The second survey portion is based off a Likert scale formula, which aims to capture the emotional state the subject is in before viewing Facebook, and their emotional response after viewing Facebook. The moods that we chose to measure are based off The Brief Mood Introspection Scale (BMIS). The BMIS is a mood adjective scale with a sample of 16 mood adjectives. According to Mayer and Gaschke (1988), the BMIS has good reliability for a study

using intermediate-length scales. Subjects were asked to rate each of the 16 adjectives on a 1-4 scale. 1- Definitely do not feel, 2- Do no feel, 3- Slightly feel, 4- Definitely feel. See Appendix B.

This study was conducted Spring Quarter 2011 on the Cal Poly campus in San Luis Obispo. This study gathered subjects by sending out an email to Cal Poly Communication Studies students. We randomly separated the subjects into the four groups, with at least thirty subjects in each group. We then gave them five or ten people's profiles to view based on the groups we put them in. Before they went onto Facebook they filled out a survey from the measurements section about their emotions. They spent their allotted time surfing their Facebook friend's sites and then filled out another identical survey.

### Results

The results of the study indicated that 44 out of 78 subjects, or 56%, have over 500 friends. This reveals a high interest and usage of Facebook. About one third of the subjects use Facebook 10-30 minutes a day, and one third use Facebook 31-60 minutes a day. Over a third of subjects said they strongly agree when they were asked if they have used Facebook to check out someone they met socially. When subjects were asked if Facebook has become part of their daily routine, the mean response was, they agree strongly with this statement. When subjects were asked if they feel out of touch when they have not logged onto Facebook for a while, the average response was a rating of six out of ten. This shows that subjects agree moderately with the statement. When subjects were asked if they felt as if they were part of a community on Facebook, the average response rating was six out of ten, showing subjects agree moderately

with this statement.

Our study is in agreement with the study “Social Networking or Social Isolation” done by Rob Nyland, Raquel Marvez and Jason Beck. Both support the idea that subjects use Facebook to check out someone they met socially. In our study it is obvious that people are not affected by befriending people online they met momentarily in a social setting, or not at all. This is a positive finding, since in today’s world we are meeting people constantly online.

We found that when comparing the mean rating for each emotion in both surveys, before and after results varied none to little.

Control	Before 5 Friends	Before 10 Friends	After 5 Friends	After 10 Friends
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Lively	3	2.57	2.61	2.52	2.74
Happy	3.6	3.19	3.33	3.15	3
Sad	1.43	1.76	1.43	1.57	1.53
Tired	2.93	2.86	2.67	2.48	2.53
Caring	3.14	3.19	3.23	2.86	2.79
Content	3.25	3.05	2.96	3.05	3.32
Gloomy	1.46	1.81	1.46	1.48	1.53
Jittery	1.71	1.76	1.48	1.62	1.74
Drowsy	2.29	2.1	2.07	2.05	1.39
Grouchy	1.36	1.43	1.26	1.52	1.37
Peppy	2.21	1.67	2.19	2.05	1.74
Nervous	1.57	1.48	1.48	1.75	1.37
Calm	2.93	2.95	2.95	2.9	3.05
Loving	3.32	3.19	3.19	3	2.89
Fed Up	1.68	1.62	1.62	1.67	1.58
Active	2.93	2.48	2.48	1.9	2.37

Emotions that had the most variance were caring, loving and active, but the variances were not large enough to be significant. As seen on the table shown above, when viewing five friends' pages, caring dropped from a mean of 3.19 to 2.86. When viewing ten friends' pages, caring

dropped from a mean of 2.48 to 2.37. Results show that these three emotions had the most changes before and after viewing Facebook, however they do not support our hypotheses that viewers will experience more negative feelings after viewing Facebook.

Hypothesis 1a is not supported. Data does not show any significant drop in emotion when subjects look at more of their friends' pages, spending a longer time on Facebook. Hypothesis 1b is not supported either. Subjects did not show a significant drop in anxiety or sadness after viewing Facebook. From the survey results we can learn that Facebook causes little to no change in emotional levels when people view up to ten people's Facebook pages. We can conclude that Facebook does not have any significant negative side effects when users view up to ten people's profiles.

When assessing our literature reviews, we found that the Harvard study reported by Forbes magazine did not support our survey results. Their belief that Facebook is more harmful than beneficial is false according to our study. Their reports that women will feel negatively when not receiving "enough" Happy Birthday postings on their wall do not coincide with our data, as we discovered that Facebook does not have a significant impact on one's emotions.

O'Brien's article from the British Medical Journal, Priority stated that social networking sites "are fueling insecurity and creating an unhealthy obsession with building large friend lists." In our study data showed that Facebook did not affect subjects negatively, even when browsing other's pages and seeing how many friends they had. Obtaining "enough" friends does not actually seem to be an "unhealthy obsession" among Cal Poly Communication Studies Major students. The study from the Daily Mail also stated that Facebook has a negative effect on users

stating “social networking sties like Facebook or MySpace can be harmful to health because it triggers people to isolate themselves.” This can once again be disproved by our study.

### Limitations

The population of subjects that took our survey was college students. This isolated group of people may give different results than an older or younger population would give. As shown by the results of the survey question, “In the past week, on average approximately how many minutes per day have you spent of Facebook”, most college students spend a significant amount of time on Facebook everyday, 10-60 minutes. Because we are so conditioned to using this Social Networking site, our emotional level may be more stable than an older subject who uses Facebook less frequently.

A second limitation of our study is the limited data Surveymonkey.com provides us. The results are limited to aggregates, not specific ratings each subject gave. With this limited data we are only able to look at the results as a whole, instead of being able to follow a single subjects’ progression through the survey.

A future study that could build on our Facebook study could look at other social media websites such as Myspace, Twitter and LinkedIn. It is possible that these social media websites could have a different effect on the emotional responses of subjects.

Appendix A

Please fill out the following 14 questions. When asked to score your answer from a 1-10,



a score of 1 indicates never, 5 indicates sometimes, and 10 indicates always, unless instructed otherwise.

**1. About how many total Facebook friends do you have?**

1-100

101-300

301-500

501 +

**2. In the past week, on average approximately how many minutes per day have you spent on Facebook?**

Less than 10

10-30

31-60

1-2 hours

2-3 hours

More than 3 hours

**3. I have used Facebook to check out someone I met socially**

1 2 3 4 5 6 7 8 9 10

rate

**4. Facebook has become part of my daily routine**

1    2    3    4    5    6    7    8    9    10

Rate

**5. I feel out of touch when I haven't logged onto Facebook for a while**

1    2    3    4    5    6    7    8    9    10

Rate

**6. I feel I am part of a community on Facebook**

1    2    3    4    5    6    7    8    9    10

Rate

Appendix B

Check the response on the scale below that indicates  how well each adjective or phrase describes your present mood.  1= Definitely do not feel  2= Do not feel  3= Slightly feel  4= Definitely feel

1

2

3

4

Lively

Happy

Sad

Tired

Caring

Content

Gloomy

Jittery

Drowsy

Grouchy

Peppy

Nervous

Calm

Loving

Fed Up

Active

## APPENDIX C

### INFORMED CONSENT TO PARTICIPATE IN Effects of Social Media on Human Emotion.

A research project on the effects of facebook on viewers is being conducted by Megan Potmesil and Jackie Woods in the Department of Communication Studies at Cal Poly, San Luis Obispo. The purpose of the study is to expose subjects to Facebook and then investigate their experience.

You are being asked to take part in this study by viewing Facebook for an allotted period of time and completing the survey provided. Your participation will take approximately fifteen minutes. Please be aware that you are not required to participate in this research and you may discontinue your participation at any time without penalty.

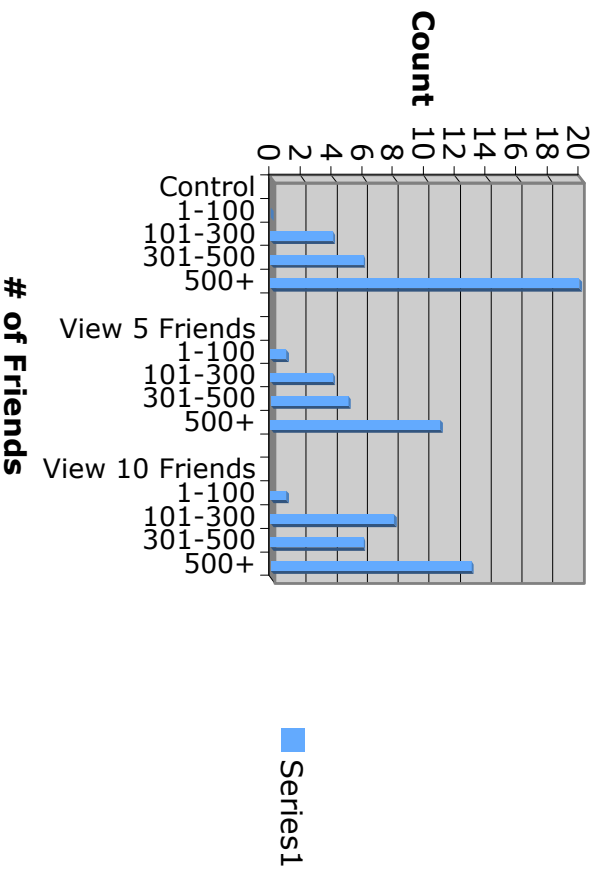
There is a minor psychological risk of participating in this study. If answering questions about your current mood is upsetting, please be aware that you may contact Cal Poly Counseling Services, at (805) 756-2511, for assistance.

Your responses will be provided anonymously to protect your privacy. Potential benefits associated with the study include a better understanding of the effects that Facebook has upon its viewers. In addition, you may also be entered into a drawing to win one of three \$15 Starbucks gift certificates if you participate in this study.

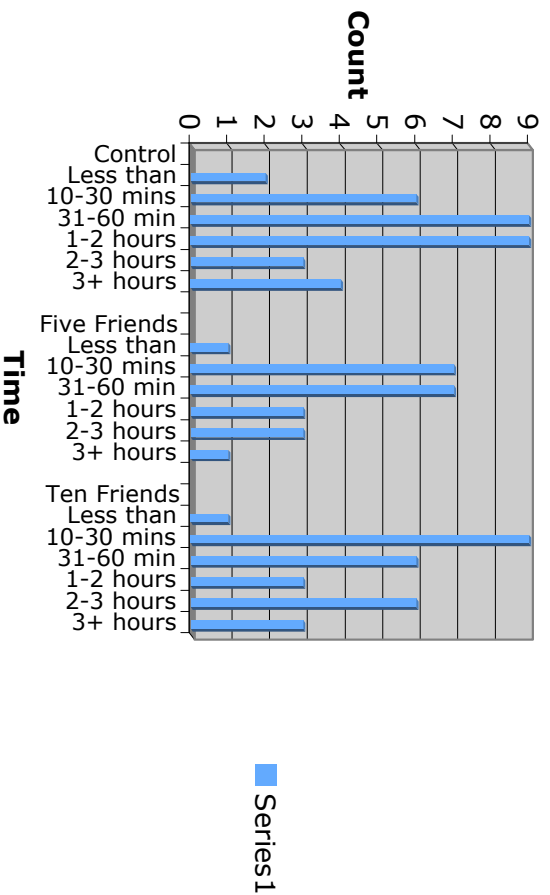
If you have questions regarding this study or would like to be informed of the results when the study is completed, please feel free to contact Megan Potmesil at 510-409-4505 or Jackie Woods at 530-919-0857 or Richard Besel at 805-756 2957. If you have questions or concerns regarding the manner in which the study is conducted, you may contact Dr. Steve Davis, Chair of the Cal Poly Human Subjects Committee, at 756-2754, sdavis@calpoly.edu, or Dr. Susan Opava, Dean of Research and Graduate Programs, at 756-1508, sopava@calpoly.edu.

If you agree to voluntarily participate in this research project as described, please indicate your agreement by signing below by completing the attached questionnaire. Please keep one copy of this form for your reference, and thank you for your participation in this research.

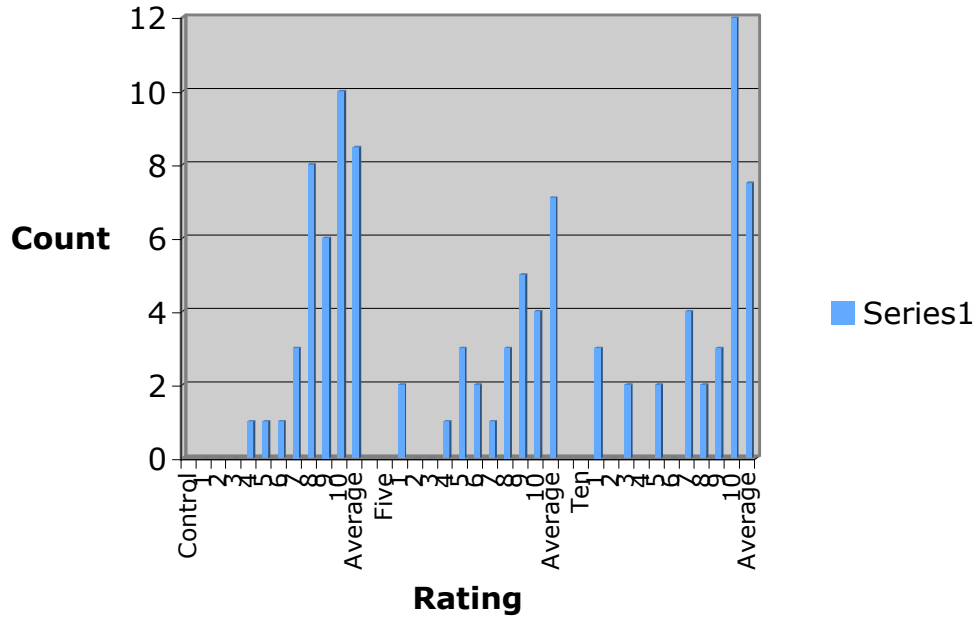
### How many friends do you have on Facebook?



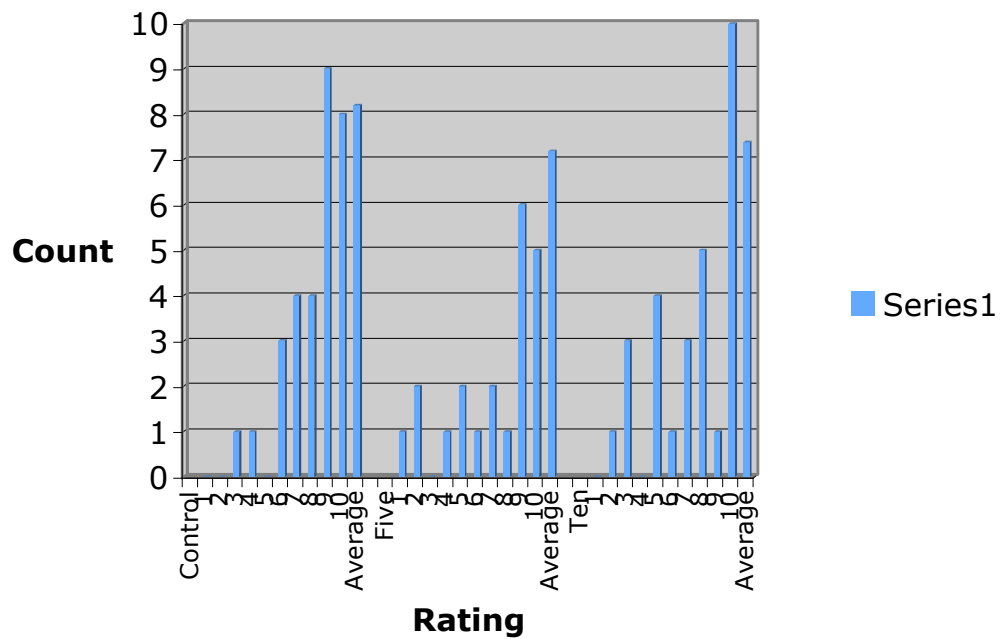
### In the past week, on average approximately how many minutes per day have you spent on Facebook?

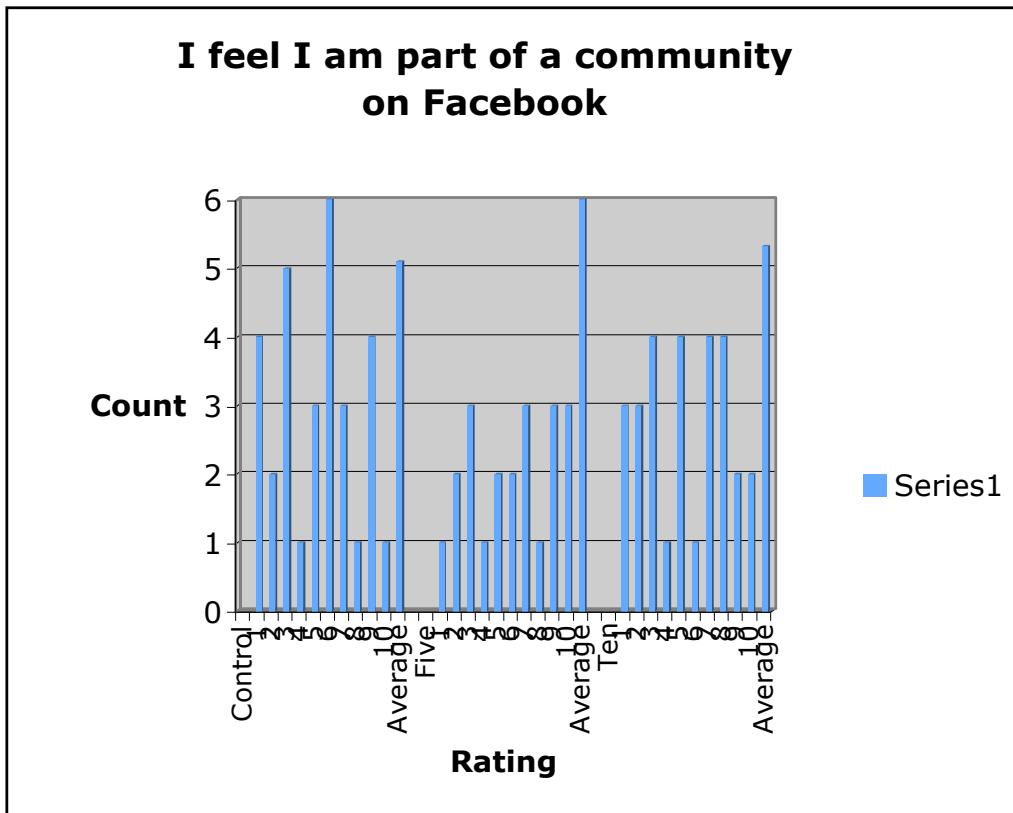
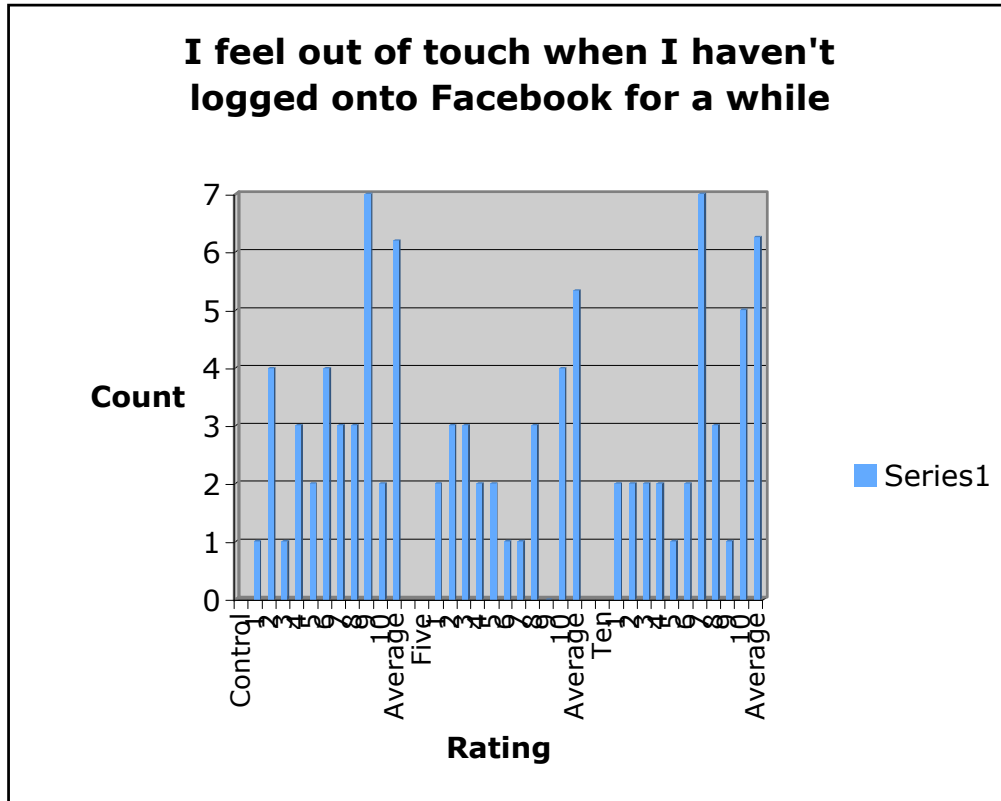


### I have used Facebook to check out someone I met socially



### Facebook has become part of my daily routine







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