

Peer Pressure and the Effects on Privacy Preferences in Social Media

Gloriane Tran, Emily Evan, Anna Squicciarini

Abstract

This paper reports on a study that analyzes the tendencies participants make when selecting privacy preferences. In total, there were roughly 90 participants in the study. Each participant was asked to upload an image from the given flickr album. Once the image was uploaded, the participant would see their “friends” privacy preference for the image, then they would be asked to select their own privacy preference. This process was repeated for about 20 content pages, and data was collected and entered into a mysql database. The results revealed that participants tended to choose a less private setting than the model recommendation.

Introduction

Social media is an important aspect of today’s culture. It has become an everyday routine for many people, and is even used for networking connections (e.g LinkedIn). Thus, it is important to keep in mind the security and safety of the networking site when uploaded personal information.

In the paper, we examine the privacy preferences participants select for images they upload on our fake social media site, “Update”. Before entering the actual social media aspect of the study, the participants are asking to fill out a survey. From the survey answers, our model generates an initial comfort level for the participant. This comfort level is later used to recommended privacy preferences for users to choose from in later contents. The 20 contents of the study are divided. The first 10 contents are static, with privacy preferences that list “Only Me, Select Friends, Friends, Public.” The last 10 contents contain privacy preferences generated by the model based on the participant’s initial comfort, and their previous answers on the contents 1-10.

In the content pages, participants are asked to upload images from a link given to them. In the study there are two different links, a link that leads to an album full of private images and a link that leads to an album full of public images. Depending on which content pages, participants were given certain links. This helped with data collection and also with the errors that occurred in the previous study.

Related Work

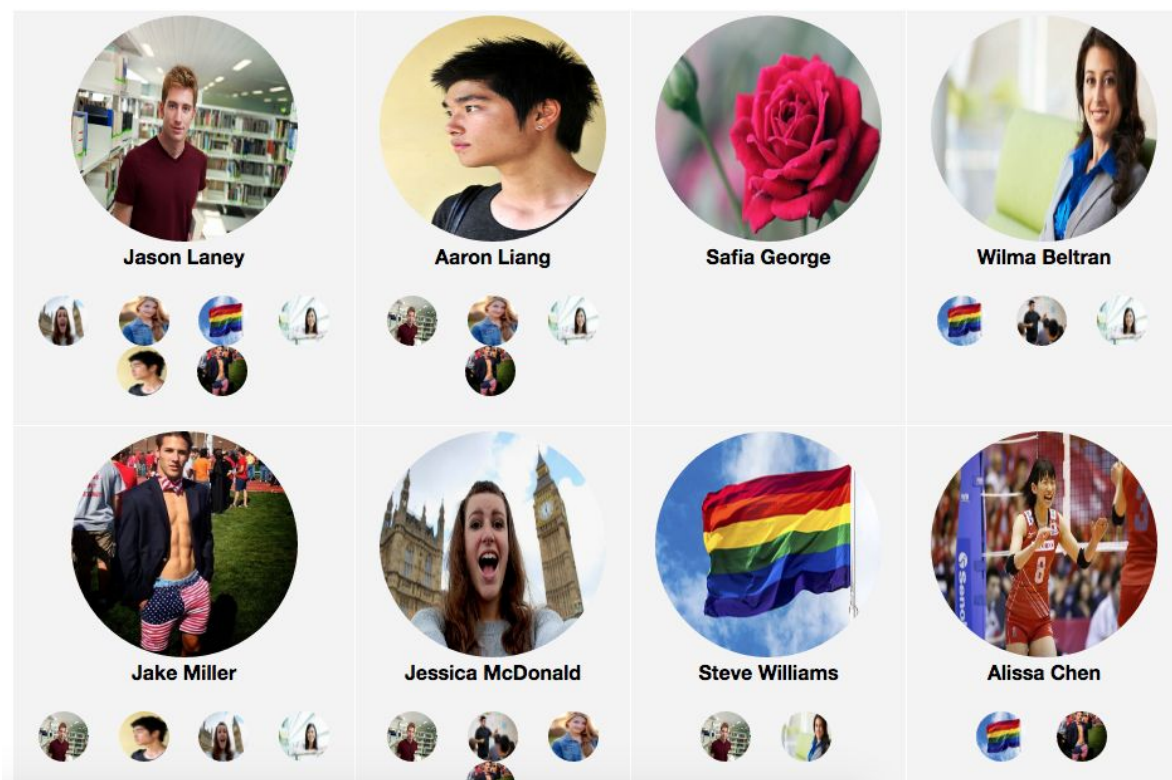
Before conducting the study mentioned in this report, there was another study that focused on privacy preferences and social media. This previous study was run under the same professor as the current study mentioned. In “An in-depth study of peer influence on collective decision making for multiparty access control” by Paolo Ienne, the study also included content pages

where users looked at images and then selected their privacy preference. The big difference is the display of “peer pressure”. In lenne’s paper, it is mentioned that participants in the middle of choosing privacy preferences on the content page were able to view other participant privacy preferences. This created the effect of peer pressure, a major issue with social media. The results of the study showed that there was no significant change in the the participants privacy preferences. This may be due to the user interface of the page. There might have been some confusion with how the study is run, thus, the results and effects of peer pressure were inaccurate. The newer study was created to eliminate errors made from this study.

Methods

The study was designed on the content management website Drupal. Aside from Drupal, HTML, CSS, PHP, JavaScript and Ajax were the main programming languages used to create the study. When participants open our study, they are prompted to sign-in. This helps keep track of all the participant data. Once signing in, participants are asked to fill out a survey asking questions about their social media use and preferences. From the survey answers, a participant comfort level is generated and entered into our database.

The user is then asked to befriend 5 individuals to create the illusion of an actual social media site. The “friends” have profiles where participants can view the individual's’ posts,





Jake Miller

Hometown: Denver, Colorado
College: Arizona State University
Occupation: Student
Birthday: May 30th, 1995
Age: 21
Privacy: Public

[Click to Friend](#)

[Return to Friend Group](#)

[Pictures \(852\)](#)

[Posts \(754\)](#)

[Friends \(1078\)](#)




 784  906

Once the participants have selected 5 friends, they are redirected to the content pages. On contents 1-10 there are hardcoded friends. The amount of friends in content 1-5 increase with the number of friends. For instance, in content 1 there are 2 friends, content 2, 2 friends, content 3, 4 friends, content 4, 6 friends and finally content 5 with 8 friends. This order repeats itself for contents 6-10. The hard coded friends in contents 1-5 have privacy preferences that are more private. The participant in contents 1-5 are only given public images to upload however. This lets us view the effect of peer pressure. To add to the peer pressure, a check mark was added next to every friend in the participant's friend group. Contents 1-6 have hardcoded public preferences and private images.





Shared with...



✓ Friends

Jason shared the photo with friends.



✓ Friends

Select your privacy preference for this image.

- Only Me
- Select Friends
- Friends
- Public

Submit

In contents 11-20, the model takes the participant's initial comfort level and their preferences from contents 1-10, generating a choice for the participant. The model also generates random choices other than the generated choice for the participant, and the friend privacy preferences. Note that for contents 11-20 all images are private and for contents 11-15 and there are only two choices for the participant for their privacy preference.



Shared with...



✓ Friends

Wilma's selected security preference:

Visible only to me

Select your privacy preference for this image.

The italicized choice is recommended by our system.

- Visible only to me*
- Visible to all my friends

Submit

Then for the last contents there is one generated choice for the participant and the participant can select yes or no for the generated choice. “Yes” saying that they agree with the choice and submits the generated choice as their privacy preference, with “No” saying they disagree with the generated choice. By clicking No, all the other privacy preferences appear, and the user can select what privacy preference they prefer for the image they selected.

Do you agree with the generated choice?

If yes, please select the option and click "Yes". If no, press "No".

Visible only to me

Yes

No

Do you agree with the generated choice?

If yes, please select the option and click "Yes". If no, press "No".

Visible only to me

Visible to all my friends

Visible to select friends

Visible to public

Submit

Results

The results of the study showed that the participants tended to select lesser private settings (more friends and select friends) than the model recommendation in contents 11 - 20. Generally, for all the contents, participants selected different choices from their friends in the friend group for “Update”. For instance, when the participant’s friends selected private for a public photo, the participants would select a more public option. When a friend selected public for a private photo the participants would select a more private option.

Discussion and Conclusion

The results from the study did not highlight the effect of peer pressure that we were aiming to capture. This may be an effect from the design on the study. For instance, in contents 1-5 (and vice versa contents 6-10), the friends were hard coded to have private preferences for public photos. A logical person on the web today would probably make the image public if these “friends” that they selected were not actually their friends. The effect of peer pressure is thus a hard element to capture because it is difficult to generate a fake human relationship.

Ideally, it would be great if we could actually pull friends from the participants social media sites, but with restrictions and regulations that is a difficult thing to accomplish. By pulling from the actual friends of the participants, we use an already developed relationship. It holds a deeper meaning for the participant and the effect of peer pressure will be easier to capture.

Still, while the the results of the study showed that the participants tended not to follow their friends choices. It is a good observation on how people select their privacy preferences. If the effect of peer pressure is strong, there might be a hesitancy to select a privacy preference that contrasts with their own comfort levels. The peer pressure dilemma is an urgent concern for the fast-growing technological community. As the upcoming generation is continuously being integrated with tech, it is essential to create environments that limit peer pressure so that users can comfortably and safely enjoy the use of social media.