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Emotional Contagion Within Social Media

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Abstract

Social networking sites have been growing in popularity over the last decade or so, and there have been many previous studies that have analyzed the possible consequences of these communication and interaction sites. Emotional contagion is the phenomenon of having one person's emotions and behaviors directly trigger similar emotions or behaviors in other people. On social media, emotional contagion would mean that the emotions in the posts and content the viewer is exposed to are transferred to themselves without their knowledge. The purpose of this current experiment is to analyze how the exposure to positive affective pictures and messages on an Instagram feed could influence the people viewing them. I created a simple experiment with twenty participants total, 11 females and 9 males, that were separated into the experimental and control group through block randomization. My prediction was that the experimental group that is being exposed to the positive feed will have a higher positive affect score on the PANAS than the control group. My results found a strong effect size and significant p-value which supported my hypothesis as well as the research done previously on this topic.

Keywords: social media, emotional contagion, positive affect

Emotional Contagion Within Social Media

Social networking sites, such as Instagram, Facebook, and Twitter, have been growing in popularity over the last decade or so. There have been many previous studies that have analyzed the possible consequences of these communication and interaction sites, whether positive or negative. Much of this recent research has looked at the consequences from the social comparison aspect, however, there is another variable to consider which is emotional contagion. Emotional contagion is the phenomenon of having one person's emotions and behaviors directly trigger similar emotions or behaviors in other people; in regards to social media, it is how the content produced and consumed affects the emotional states and behavior on individuals (Ferrara & Yang, 2015). In other words, the emotional tone, wording, or content of others' posts may be passed along to others without their awareness through this idea of emotional contagion.

It has originally been believed that emotional contagion must occur with nonverbal cues typical of in-person interactions, but most prior studies have failed to analyze whether they are actually necessary for contagion to occur. One study that did look into this controversy was done by Kramer, Guillory, and Hancock (2014) where they manipulated the extent to which people (N=689,003) were exposed to emotional expression in their news feed. This tested whether exposure to emotional content led people to post content that was consistent with what they had been seeing. They found that when positive expressions were reduced on Facebook, people produced fewer positive posts and more negative posts; when negative expressions were reduced, the opposite pattern occurred. These results suggest that the emotions expressed by others via social networks can indeed influence our own emotions, even when lacking the in-person interaction.

Going off of a study performed on Facebook, where it was found that individuals are

more likely to adopt positive or negative emotions if these are over-expressed in their social network, Ferrara and Yang (2015) conducted an observational study on Twitter and found that on average a negative post follows an over-exposure to 4.34% more negative content than baseline, while positive posts occur after an average over-exposure to 4.50% more positive contents. This experiment revealed a small but significant correlation between the number of emotional words in users' posts and that of the feed they are exposed to. Another interesting aspect of emotional contagion is that it can affect more than just mood. An experiment done by Mayshak, Sharman, and Zinkiewicz (2016) had eighty participants complete baseline mood and cognitive measures before exposure to three control posts and one negative emotional post. For each post, participants wrote a free-text response. Afterwards, they completed the mood and cognitive measures a second time. After exposure to an emotionally negative post, participants' mood was lower and their executive functioning improved. They believed that certain emotions spark arousal causing their cognitive functioning to be higher. These studies suggest that emotional contagion is present among social networking sites, and that it can have consequences.

Not all evidence suggests that online interactions are detrimental to psychological health, and it is possible that the source of the information posted or the type of information viewed (i.e. positive messages vs. negative messages) might lead to a change in mood (Yuen, ...Mansour, 2018). Therefore, the purpose of this current experiment is to analyze how the exposure to happy and inspirational pictures and messages on an Instagram feed could potentially cause an elevated mood in people viewing them. My prediction is that the experimental group that is being exposed to the positive feed will have a higher positive affect score than the control group.

Methods

Design

This was an independent groups design, posttest-only experiment.

Participants

There were twenty participants total, 11 females and 9 males. They were all undergraduate students at the College of Saint Benedict/Saint John's University. Block randomization was used to split these twenty participants into two groups of ten in order to attain one experimental group and one control group.

Materials

In this experiment, a few different materials were used. Once the participant arrived, they were handed noise-cancelling headphones that in order to drown out any outside noise. The control group was asked simply to sit with the headphones for three minutes without checking their phone or doing any other tasks. The experimental group however was asked to scroll through an Instagram feed, created by myself, that has only happy, positive, and inspirational messages for the three minutes. This feed was on my own personal laptop. After the three minutes, all participants were asked to complete the Positive and Negative Affect Schedule (PANAS-SF) in order to analyze their mood. The PANAS allowed the participants to rate their emotions on twenty different emotions on a scale of 1= very slightly/not at all to 5= extremely. The experimental group was also given a manipulation check to confirm they had actually been looking at and paying attention to the feed content. This manipulation check consisted of three questions about the photos content and the photo captions.

Results

After calculating the participants' scores from the ten positive affect emotions on the PANAS, I found that the experimental group had a mean of 33.80 ($SD= 5.12$), and the control group had a mean of 27.30 ($SD= 6.67$). I then ran an independent samples t-test and did some further calculations to analyze the significance of these findings. I discovered a significant p-value and an extremely large effect size, which can be summarized as the following: $t(18)= 2.45$, $p= .025$, $d= 1.09$. The 95% CI ranged from .916 (lower) to 12.08 (upper). I also ran descriptive calculations on the manipulation checks that were given to the experimental participants and found an average of 2.90 ($SD=.316$).

Discussion

In this experiment, I found an extremely large effect size which means that the difference between the two groups was very large. I also found a significant p-value which helps to support my hypothesis that exposure to the positive content would influence the mood of the participants through emotional contagion.

Internal validity was present in this experiment due to the use of block randomization and the experimental group's completion of the manipulation check. Statistical validity was strong as there were no outliers present, the sample included twenty participants, and there was no restriction of range. Construct validity was also strong; the dependent variable, the participants' mood, was operationalized and measured by the PANAS-SF, and the manipulation check ensured that the experimental group was paying attention to what they saw on the Instagram feed. There was no external validity in this experiment.

The purpose of this experiment was to identify whether or not a feed on social media could influence a viewer's mood through the transference of emotions and content they are

exposed to. My results support the previous research done surrounding this topic, finding that the emotional tone, wording, or content of posts can indeed be passed along to others without their awareness. Therefore, my hypothesis was correct in predicting that the experimental group that is being exposed to the positive feed will have a higher positive affect score than the control group.

One thing I would do differently next time, would be to look at gender differences. I kept track of the number of males and females, as well as how many were in the experimental and control group, however I did not keep the scores tied with a gender. Therefore, if I were to redo this experiment, I would have the participants put their gender on the top of the PANAS when they complete it so I could look for differences. I also think it would be important to gather a larger sample size. There were a couple responses in each group that could not count as outliers but were much farther from the rest of the group which affected the group means. If the sample size is larger, these responses would not have as much power and I believe the group means would be even further apart. Lastly, I would like to have a more consistent environment so all the participants can do the study in the same place. I would choose one location that is quiet and free from distractions, maybe even without me in the room, so they can truly focus on the feed and their emotions.

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