Understanding the Psychological Motives Behind Microblogging

Lin QIU[a, 1], Angela K-y. LEUNG[b], Jun Hao HO[a], Qi Min YEUNG[a], Kevin Joseph FRANCIS[a] and Pei Fen CHUA[a]
[a] Division of Psychology, Nanyang technological University
[b] School of Social Sciences, Singapore Management University

Abstract. This research aims to understand the psychological motives behind microblogging. We conducted two studies to investigate if social exclusion and existential anxiety would lead to a high tendency to microblog. Our results show that participants did not use microblogging to satisfy their needs for social connection and affiliation, but highly extraverted participants did use it to relieve their existential anxiety.

Keywords. Microblogging, motive, ostracism, social exclusion, existential anxiety

Introduction

Microblogging has recently become a new form of communication that is rapidly changing everyone's life. Through services such as Twitter, millions of people can broadcast short messages to their followers via instant messaging, SMS, or web interfaces. Recent research has been trying to understand this phenomenon. For example, Java, Song, Finin, and Tseng [1] found that the majority of messages posted on Twitter are "pointless babbles" such as "I am eating a salad" or "I am going to dinner with my parents tonight." These mundane messages describe day-to-day routines and are often meaningless to others. However, they appear much more often than messages for other purposes such as replying to others' posts, sharing information (URL), or reporting news. While celebrities who have millions of followers may post these messages to interact with fans, why do average people want to post them? In this study, we aim to understand the psychological motives behind microblogging. We hypothesize that when one faces social exclusion or existential anxiety, one is more likely to microblog. We conducted two controlled lab studies using the popular microblogging website Twitter to verify our hypotheses.

1. Study 1

Previous research has shown that social exclusion has immediate negative impact on psychological well-being [2]. It depletes one's primary needs of belonging, control, self-esteem, and meaningful existence[3]. In response to exclusion, the ostracized

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[1] Corresponding Author: Division of Psychology, 14 Nanyang Drive, Singapore; Email: linqiu@ntu.edu.sg

individual often acts to increase the chance of inclusion by being more socially attentive and pliable [4, 5, 6, 7]. In this study, we put subjects in a situation where they were ostracized so that they would have a need for social connection and inclusion. We then observed if the subjects would microblog more due to their need for connection and inclusion.

We created the situation of social exclusion by using the Cyberball game [8]: Participants were asked to play a web-based ball tossing game on the computer. They were led to believe that two other players in other rooms were playing with them. Participants could indicate which player they wished to throw the ball to by clicking the player's avatar in the game. The game was set so that participants only received two out of thirty throws. This would make participants feel ostracized. For the non-exclusion condition, the game was set so that the participants received the ball 10 out of 30 throws from others.

1.1 Procedure

We recruited 74 undergraduates and randomly assigned them to the control and experimental group. During the study, the participants was first introduced to Twitter and given an existing Twitter account. The participant was told that there were 30 followers in the account and his/her posts in Twitter (i.e., tweets) could be seen by these followers if they were online. Then, the participant was instructed to play the Cyberball game for five minutes. After the game, the participant was told to wait for the next task and the experimenter left the room. The participant was left alone in the room for four minutes. We used the four-minute break to give the participant opportunities to tweet. (There were a total of three four-minute breaks in the study for the participant to tweet.) After the four-minute break, the experimenter came back to the room and asked the participant to perform two trivial tasks each followed by a four-minute break (the same as the one described above where the experimenter left the room and the participant stayed alone). The first task was to slot 20 pictures into 20 envelopes and the second task was to sort the envelopes into three trays according to their colors (white, red, and yellow). During each four-minute break, the experiment posted two tweets (e.g., "helping my friend with her work" or "feeling pretty random right now") from different followers' accounts. These tweets were randomly chosen from a collection of typical tweets generated by college students. This was to show the participant that there were other users online and they could see each other's tweets in real time.

During the study, we administered a number of surveys to access the participants' personality and emotional state. The participant filled out the Big Five Personality Test [9] at the beginning of the study before the Cyberball priming task, and the Positive and Negative Affect (PANAS) scale [10], and the Need for Affiliation scale [11] at the end of the study.

1.2 Results

Our analysis showed that while participants in the social exclusion condition ($M = 3.48$, $SD = .49$) had higher needs for affiliation than those in the control condition ($M = 3.19$, $SD = .53$; $F(1, 72) = 5.82$, $p = .02$), they did not tweet significantly more ($M = 4.19$, $SD = 2.77$ and $M = 3.38$, $SD = 2.53$, respectively; $F(1, 72) = 1.73$, $p = .19$). This suggests that one does not use microblogging to satisfy the needs for social connection and

inclusion. It is reasonable to argue that as microblogging usually only involves publishing messages to be read by strangers, it would not serve as a means to satisfy the affiliation need of ostracized participants who would actually be looking for opportunities to reassert social connection with friends or acquaintances.
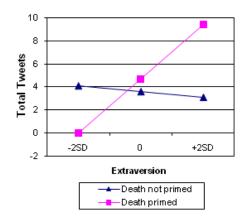
2. Study 2

In study 2, we tested the effect of existential anxiety on microblogging. We hypothesize that existential anxiety will lead to higher tendency to microblog, because microblogging allows one to tell others about one's current activity or status, and therefore convey a message of existence. We manipulated existential anxiety by making mortality salient [12]: The experimental group was asked to write a short essay about death whereas the control group was asked to write about dental pain.

1.1 Procedure

We recruited 70 undergraduates and randomly assigned them to the control and experimental group. We follow the exact same procedure as described in Study 1 except that the Cyberball game priming task was replaced with existential anxiety priming.

1.2 Results

In examining the interactions between condition (2 levels: death primed vs. not primed) and the individual difference variables, we found a significant Condition X Extraversion (mean centered) interaction on the number of tweets generated by the participants, $F(1, 66) = 4.87$, $p = .03$. Simple slopes analyses examined this effect at 2 standard deviations above and below the mean extraversion score and revealed that highly and lowly extraverted participants did not differ in the number of tweets when death was not primed; however, highly extraverted participants tweeted significantly more than their lowly extraverted counterparts when mortality were made salient (see Figure 1).

Figure 1. Total number of tweets generated by participants, as a function of extraversion (2 *SD* above and below the mean) and condition (death primed vs. not primed).

3. Conclusion

Microblogging has recently become a fast-growing phenomenon that has affected millions of people. While studies have been conducted to understand why and how people participate in micrblogging, they mostly rely on interviews, surveys, or the analysis of the existing content produced on microblogging websites. Our studies employed a between-subjects design to understand the psychological motivation behind microblogging. Our results show that participants did not use microblogging to satisfy their needs for social connection and affiliation, but highly extraverted participants did use it to relieve their existential anxiety.

References

[1]   A. Java, X. Song, T. Finin, & B. Tseng, Why we twitter: Understanding microblogging usage and communities. *Proc. of the Knowledge Discovery and Data Mining (KDD)*, San Jose, CA, 2007.

[2]   K. D. Williams, Ostracism. *Annual Review of Psychology*, **58** (2007), 425– 452.

[3]   K. D. Williams, & L. Zadro, Ostracism: On being ignored, excluded and rejected. In M. R. Leary (Ed.), *Interpersonal rejection,* New York: Oxford University Press, 2001.

[4]   J. L. Lakin, & T. L. Chartrand, Exclusion and nonconscious behavioral mimicry. In K. D. Williams, J. P. Forgas, & W. von Hippel (Eds.), *The social outcast: Ostracism, social exclusion, rejection, and bullying* (pp. 279 –296). Psychology Press, New York, 2005.

[5]   C.L. Pickett, W.L. Gardner, & M. Knowles, Getting a cue: The need to belong and enhanced sensitivity to *social cues, Personality and Social Psychology Bulletin*, **30** (2004), 1095–1107.

[6]   J.W. Ouwerkerk, N.L. Kerr, M. Gallucci, & P.A.M. Van Lange, Avoiding the social death penalty: Ostra*cism and cooperation in social dilemmas. In* K**.** D. Williams, J. P. Forgas, & W. von Hippel (Eds.), *The social outcast: Ostracism, social exclusion, rejection, and bullying* (pp. 321–332), Psychology Press, New York, 2005.

[7]   K.D. Williams*, & K.L. Sommer, Social ostracism by one's coworkers: Does rejection lea*d to loafing or compensation? *Personality and Social Psychology Bulletin*, **23** (1997), 693–706.

[8]   K.D. Williams, C.K.T. Cheung, & W. Choi, CyberOstracism: Effects of being ignored over the Internet. *Journal of Personality and Social Psychology*, **79** (2000), 748 –762.

[9]   L.R. Goldberg, The development of markers for the Big-Five factor structure. *Psychological Assessment*, **49** (1992), 26-42.

[10] D. Watson, L.A. Clark, & A. Tellegen, Development and validation of brief measures of positive and negative affect: The PANAS scales. *Journal of Personality and Social Psychology*, **54**(6) (1988), 1063-1070.

[11] R.M. Steers, & D.N. Braunstein, A behaviorally-based measure of manifest needs in work settings. *Journal of Vocational Behavior*, **9** (1976), 251-266.

[12] B.J. Schmeichel, M.T. Gailliot, E. Filardo, I. McGregor, S. Gitter, & R.F. Baumeister, Terror management theory and s*elf-esteem revisited: The role*s **o**f implicit and explicit self-esteem in mortality salience effects. *Journal of Personality and Social Psychology*, **96** (2009), 1077-1087.