

Using Social Media to Reduce Health Impacts from Extreme Weathers: A Feasibility Study

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Abstract

Introduction: Extreme weathers due to climate change have exerted negative impacts on human health. Innovative knowledge dissemination strategies are necessary to reduce the negative impacts of extreme weathers.

Methods: We examined the feasibility of social media as a tool to disseminate scientific knowledge regarding extreme weathers to common people. For this purpose, we set up a Facebook (FB) community page, and analyzed various metrics to demonstrate its feasibility as a communication tool that can reach a large number of people in society rapidly.

Results: The FB community page was able to reach more than 12,000 viewers within a week. 78% of these viewers were females, and 63% of them aged between 18 and 24. Within New York State (NYS), we have reached viewers from more than 40 cities. Interestingly, we have also reached viewers from other states, and even countries beyond United States.


Discussion: Our results demonstrate that social media is a feasible technology to disseminate extreme weathers-related knowledge. However, the technology needs to be used properly for different social groups as target audience.

Keywords: Social media; Public health; Facebook; Twitter

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Introduction

In the face of climate change, people need to be adequately informed of the latest scientific knowledge to reduce the negative health impacts of extreme weathers [1]. Given the pervasiveness of social media in society, the technology may be utilized to disseminate knowledge related to extreme weathers [2]. This project aims to demonstrate the feasibility of using social media to disseminate extreme weathers-related knowledge.

Literature: Researchers have utilized social media for different public health purposes [3]. However, it remains unclear how social media may be used effectively to disseminate knowledge with respect to extreme weathers and climate change [4]. A feasible strategy is to translate academic publications into short messages in laymen language, coupled with pictures and/or graphical illustrations, and disseminate them in popular social media platforms such as Facebook (FB) and Twitter [5].

Methods

We developed a FB Community page, and tested the “Promote

Page” and “Boost Post” functions to push selected contents to FB users. Our target audience was residents in New York State (NYS). The posted contents were short messages developed by researchers at the New York State Department of Health (NYSDOH). These messages are scientifically valid, and culturally appropriate for general audience.

We examined the geographical coverage of engaged NY residents, and evaluate the effectiveness of boosting messages in comparison with “organic” dissemination (i.e. open the platform without deliberating pushing these messages). Based on the literature, we also tested the effects of including a picture.

Results

The FB community page reached more than 12,000 viewers within 1 week. Among them, 78% were females and 22% were

males. 63% of them aged between 18 and 24. The rest of them were from other age groups.

We focused on the New York State (NYS) for the dissemination effort. Within NYS, viewers came from more than 40 cities. Viewers came from outside NYS as well. Interestingly, some viewers were from other countries, including more than 20 countries outside United States.

Thus, while using FB's paid post boosting was very effective to reach a larger number of viewers, the posted contents could reach viewers "organically" (without being pushed by FB). Other than simply viewing the posted contents, some of these viewers had shown increased engagement by liking, reposting and/or commenting the posted contents.

To increase engagement, the use of well-designed pictures and videos was very effective.

Discussion

Our results suggest that social media is a useful platform to disseminate extreme weathers-related knowledge and engage the public. More specifically, our FB page reached more female than male users, and more younger than older users. If planning similar projects in the future, these results may serve as very useful building blocks for targeting different social groups. Based on the experience with this project, dedicated staffs and researchers are essential to ensuring that the knowledge and scientific information contained in these platforms are accurate.

Limitations

Although our FB community page was able to reach a large number of users, it was unable to show if there was any corresponding behavioral change among these users. Also, we could not ascertain what proportion of the users reached belonged to each specific group of interest. This adds a difficulty to formulate additional strategies to engage social media users to learn about extreme weathers.

Further Research

An intriguing follow-up study is to examine how different social media platforms are able to engage targeted users for specific purposes, such as increasing emergency preparedness [6]. It is possible that other social media platforms can reach more male and older users [7-10]. We are also interested in studying the effectiveness of different presentation modalities (e.g. pictures, videos, texts) for different knowledge dissemination purposes. Finally, in further research, we seek to collaborate with researchers from other countries suffering from extreme weathers (e.g. China) to tackle this significant public health topic.

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