

**Elimination of Shame, Embarrassment, and Fear Associated with COVID-19 Contact Tracing**  
(Technical Report)

**How Does the Information Individuals Digest on Social Media Amidst a Pandemic Correlate to Interactions with COVID-19 and Society?**  
(STS Research Paper)

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On my honor as a University Student, I have neither given nor received unauthorized aid on this assignment as defined by the Honor Guidelines for Thesis-Related Assignments

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## **Introduction**

The spread of COVID-19 has created a variety of emotions amongst society, one of those emotions being shame and embarrassment of sharing you have caught the virus with others. To allow for contact tracing while reducing the shame, I have proposed to create a website that anonymously notifies those close contacts that they have been in contact with someone who has tested positive for the virus. While researching about the current methods of notifying close contacts, I realized that there are no anonymous methods, which could reduce the amount of contact tracing. The only current methods were contacting the people directly or sharing on some form of social media, but as stated previously, neither method allowed for the patient to remain anonymous. COVID-19, although an unbiased virus, has created bias and changes within the feelings and behaviors of society. I looked into why is it that some people have created this shame of sharing they caught the disease and it led me to research how people have been digesting information on the virus through social media. After the emergence of COVID-19 came a frenzy of social media and technology constantly releasing updates on all factors of the virus, and it was up to each individual's interpretation on what information was deemed valid and useful. Furthermore, how does that digestion of information affect the way society interacts with the virus and how does society create a sense of distrust, shame, and anonymity, based on those interactions?

## **Technical Topic**

Shame and embarrassment are the main emotions people feel when notifying others they have contracted COVID-19. The challenge of contact tracing is overcoming those negative emotions, so how do we solve that challenge? Before we propose the solution, what exactly is

contact tracing? Contact tracing involves notifying close contacts, people who have been within six feet of the patient for 15 minutes or more, that the patient has tested positive (Redfield, 2020). Contact tracing is an important part of reducing the growth of cases, which is the main reason for the proposed solution. An individual, who is a close contact, may not even know they have the virus and could be spreading it to their group of close contacts. Notifying close contacts is the moral and responsible action to take when confirmed positive for COVID-19, however, it is not being done often because of the problem of feeling shame and embarrassment. Research needs to be done on these behaviors to change the way infected individuals handle notifying others, and to prevent the spread of the virus. The key to the solution is anonymity. The object of the proposed solution is to create a website where COVID-19 patients can anonymously notify those close contacts. To do so, the patient would provide the phone number or email address of those they want to notify and the website would handle sending them the message. This solution reduces the shame and embarrassment of directly contacting the person. The technical aspects of the website are a front-end framework, the proposed frameworks are Django, React, or Angular, and Amazon Web Services (AWS) to handle the notification system using the Simple Queue Service (SQS) or Simple Notification Service (SNS). To help aid the implementation, guidance will be provided by a technical advisor versed in Cloud Computing. To accomplish this project, the overall requirements are to create a readable and easy to use website that is fully functional. It is important to create an aesthetically pleasing website that users will want to use and will have minimal issues using. Readability will come with the design of the website, it will clearly describe instructions and display functionality taking into consideration the variety of users. A main requirement is to successfully send the emails and texts to the correct individuals. With these requirements in mind, success is found in the use and functionality of the website. To

measure success, I would measure if people are actually using the website or would want to if they tested positive. Additionally, other metrics would be for the messages to be successfully sent and received by the correct person and for the amount of contact tracing to improve. If the project is successfully implemented, the issue of shame and embarrassment would be reduced and individuals would be more likely to contact trace.

The problem of shame and embarrassment does not come alone, at times they may be combined with other emotions. In California, people are reluctant to contact trace due to fear and embarrassment caused by various factors (Kingkade, 2020). Cases range from people unwilling to participate due to distrust in the government, as they are fearful that the information they share may not truly be confidential, embarrassment, and fear of losing their housing, jobs, and relationships. Furthermore, if the individual decides to participate in contact tracing they may not share an accurate list of close contacts. California found that almost half of the patients who tested positive would not share their close contacts. Specifically, in San Bernardino County, only about 25% of people shared their close contacts. After realizing this issue, officials in Los Angeles County started offering \$20 gift cards to those who participate (Kingkade, 2020). As seen in this article, people are reluctant to share their close contacts or even reach out to a contact tracer for a multitude of reasons. The proposed solution by Los Angeles County may be intriguing to those of lower income, but may not be enough to overcome the shame, fear, and embarrassment. Another proposed solution to a similar problem is anonymous test notification, as implemented by STDcheck.com. On their website, people are able to anonymously notify their sexual partners of their sexually transmitted disease (STD) by text or email for free (Martin, 2019). In the same way people feel negative emotions with having COVID-19, people with

STDs are also reluctant to share their test results. However, both boast the same benefits of anonymous notifications. Those benefits being the moral and responsible action to take, allowing the person in contact to be self-aware and take precautions such as getting tested, self-quarantining, and receiving medical attention and treatment, letting the person know as soon as possible to take preventative action, and possibly saving a life or many lives. With the spread of COVID-19 not slowing down, more research can be done to analyze the current pain points of patients sharing their close contacts and the solutions others have proposed.

### **STS Topic**

As most of society has experienced, social media and other technological outlets are a source of information. People have resources that they trust every single thing broadcasted and others they deem invalid or "fake news". With the emergence of the pandemic, all resources were releasing COVID-19 information, some valid and others later debunked, but importantly how do they digest it? With a range of statements being made the way people absorb the information affects their emotions and behaviors toward the virus. Furthermore, with information constantly being released, the way society interacts with the virus can change frequently. These interactions, influenced by our behaviors and emotions, create a sense of shame, distrust, and fear. COVID-19 has created shame for those positive with the virus or do not participate in virus precautions, distrust in others in society, and fear of contracting the virus and the wellbeing of their future. How does anonymity play in reducing shame? It is crucial to analyze the way people absorb information as it can give insight into how the separation of society based on their chosen resource may cause the shame, distrust, and fear.

The main topics of exploration are social media digestion, interaction with the virus, and emotional outcome. The phenomenon of social media has grown with the rise of modern technology as people now have access to many different resources. During the pandemic, social media was used as a source of information about COVID-19, however, social media is not the same for all. It personalizes what a person sees based on their interactions with the app, age, gender, level of education, and various other factors. Due to this personalization, the emotions and actions created by the virus differ (Ahmad & Murad, 2020). Moreover, social media is not the only form of information digestion, with the rise of uncertainty from scientists, society has also turned to political figures for guidance. The issue is that these political figures, although more reassuring, may lack the transparency and evidence-based knowledge provided by scientists (MacGregor, 2020). As is seen from these two forms of information, the type and way society digests information affect their interaction with COVID-19, which then affects their emotional and behavioral outcome.

As stated previously, the essential concepts of exploration are social media and information digestion, interaction with the virus based on the digestion, and how those interactions create specific emotions. Social media platforms have evolved to contain individual personalization and provides varying types of content. These platforms come with advantage of quickly spreading information and a major disadvantage of alarmist, erroneous, and exaggerated information (González-Padilla & Tortolero-Blanco, 2020). The main issue is, although technological resources contain valid and invalid statements, most commonly those being spread and seen are false. No matter the validity, society is absorbing the information they see on technology and it is producing various interactions with the virus. An individual absorbing

inaccurate or inappropriate content may not participate in COVID-19 precautions and guidelines (Sahni & Sharma, 2020). These different interactions and the constant spread of pandemic updates causes fear, stress, and anxiety in people. In China, researchers found that 53.8% of respondents were moderately or severely impacted psychologically by the pandemic to the extent that the researchers even created a " Fear of Covid-19 scale" (González-Padilla & Tortolero-Blanco, 2020). Amidst the virus, people have grown shame in themselves for not following health guidelines and precautions, fear in the wellbeing of their future caused by the unknown virus, and distrust in others around them due to the different interactions with the virus.

In this topic, I will be specifically analyzing how these emotions and behaviors can help create a more trusted opinion. A trusted opinion will be essential in aiding those who are uneducated about the virus and the individuals feeling fear, shame, and distrust. Specifically, in the United States, varying content is spread on all resources. Due to the large range of COVID-19 information, each individual is digesting different content, interacting with the virus differently, and have different emotions and actions towards the pandemic. If we were able to understand the social interaction between content consumption and all social media and technological platforms, it may aid in designing more efficient and effective communication strategies in times of crisis (Cinelli et al., 2020). If I am able to analyze their interactions with social media and absorbing information, it would give insight to their different behaviors and actions. Research still needs to be done on the emotions and behaviors of those absorbing only false information. In contrast, I want to create a clearer picture of those who absorb mixed or completely accurate information and how their emotions and behaviors about the virus are created to hopefully devise a strategy to address those factors in future unknowing times.

Additionally, a group to take note of is those who already incorporated COVID-19 safety procedures into their lives before the pandemic and were more willing to participate, compared to those where these procedures were completely new, as their lives before impacted their actions and emotions during COVID-19 (Will, 2020). To conduct my research, I will consider research and scientific articles backed by evidence as empirical evidence resources, as these are what I deem valid. For the future, I plan to continue researching the effects of social media and technological platforms on the emotions and behaviors of society.

### **Next Steps**

The next steps of this project include accomplishing more research on the topic to aid implementation of the website and fully understand each group in the population. The main users of the website will be those who are fearful, shameful, and embarrassed. However, research can be done on the different types of individuals during the COVID-19 pandemic, to tailor the website to other as well. Moreover, this research will give insight to root of how these emotions and behaviors are created specifically by each individual's information content consumption. Tailoring the website to these specific groups can help users find a reliable place of accurate COVID-19 information and be a place to aid reducing the negative emotions and behaviors. In terms of the implementation of the website, many more steps need to be done. Currently, the website is a conceptual idea, but as research is solidified the website's work flow and aesthetic will be solidified. By the end, a fully functional and easy to use website will be created.



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