Systematic Review of The Relationship between Trust in Government and Rumor-related Behavior during The Covid-19

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ABSTRACT
This paper conducts a systematic review of articles on trust in government and rumor-related behavior published during the Covid-19 pandemic (2020-2022). This systematic review seeks to answer two questions: first, whether there is a link between trust in government and rumor-related behavior; and second, whether there are any recommendations for the government to reduce the negative impact of rumors and improve government reputation. According to the PRISMA guideline, we chose 11 articles for discussion from the Scopus, PubMed, and Web of Science databases. According to the findings, increased trust in government can promote positive health behaviors. Furthermore, we found some suggestions for the government to reduce the negative impact of rumors while maintaining trust levels.

Contribution/Originality: This article fills a gap in a systematic review of the relationship between trust in government and rumors. Our study investigates the significance of trust in government in responding to Covid-19 rumors and makes suggestions by summarizing previous research.

1. Introduction

Many catastrophic health crises have occurred and been documented throughout modern human history. In addition to previous debilitating health crises such as SARS in 2002, H1N1 in 2009, and Ebola in 2013, the current Covid-19 outbreak has had a tremendous negative impact on individuals and has contributed to structural socioeconomic and cultural changes around the world. The current Covid-19 outbreak is the largest, and possibly the deadliest, since the 1918 Spanish flu, which killed more than 50 million people worldwide (Centers for Disease Control and Prevention, 2018). And the threat posed by Covid-19 is still present, with over 500 million people worldwide infected with it (World Health Organization, 2022).
In ambiguous cases, claims about things, people, or events that are not supported by evidence are rumors (Allport & Postman, 1947). During a public health emergency, rumors spread quickly. Some rumors about the outbreak impede healthy behaviors that the public should be aware of (e.g.: hand washing and social distance) and encourage the wrong behaviors (Roozenbeek et al., 2020; Tasnim et al., 2020). Vaccine hesitation, on the other hand, is one of the health behaviors most affected by rumors. When people heard negative rumors about vaccines, the number of respondents who "strongly agreed" they would get vaccinated dropped by 6.2 percentage points in the UK, while the same response dropped by 6.4 percentage points among US respondents (Pertwee et al., 2022). However, rumors about the Covid-19 period do not only cause wrong health behaviors, but also make people engage in behaviors that are detrimental to social stability. In early 2020, those who believed rumors that 5G mobile phone towers could spread viruses assaulted service personnel working at multiple 5G towers (Osborne, 2020; Bruns et al., 2020). This rumor-driven dangerous behavior often causes great harm to human society along with the health crisis (Tanaka et al., 2012).

1.1. Trust in Government and Rumor Behavior

A public health crisis is a significant, unanticipated, and unexpected event that threatens the future of the organization if it is not handled effectively (Coombs, 2015; Bakos et al., 2019). During a health crisis, widespread rumors pose a risk to public confidence in the government. Consequently, it is crucial to employ appropriate safeguards to protect the government’s reputation from potential or apparent rumor threats during a crisis. As a result, the government must manage health-related rumors among the public with care, as improper management could result in reputational damage (Zimand-Sheiner et al., 2021). This, in turn, will heighten public perceptions of crisis and erode public confidence in government (Veil et al., 2016). This attack on the government's reputation can have many negative effects, beginning with a loss of confidence in the individual, government, or institution (Meuer & Imhoff, 2021). Moreover, this decrease in trust can lead to a decline in support for government policies aimed at preventing epidemics and a decline in intentions to engage in healthy behaviour (Han et al., 2021). In order for the government to successfully implement its own epidemic prevention policies, it must also maintain a positive reputation.

1.2. Objectives of The Systematic Review

While there are a number of extant research articles that examine the relationship between trust in government and rumor-related behaviour, there is still a lack of systematic reviews of this field. Following the outbreak of Covid-19 in 2020, scholars have begun to examine the many health rumors that have emerged. By analysing rumor studies conducted during Covid-19, the purpose of this systematic review is to investigate the research gap regarding how government reputation and trust in government influence rumor related behavior during a health crisis and to develop a comprehensive understanding of the existing relevant research. By investigating the collected literature, we discuss the mechanisms by which government reputation influences the rumor-related behavior and whether people’s trust in government can be used to curb the negative impact by rumor. In addition, by summarising the above studies, we will summarise the current findings and future prospects in this research field.
2. Method

The purpose of this systematic review is to investigate the role of government reputation or trust in government in rumor behavior during the Covid-19 in accordance with the PRISMA guidelines (Moher, 2009). In terms of database selection, we refer to the research of Gusenbauer and Haddaway (2020) for an analysis of 28 databases before selecting three of them. Due to the global and threatening nature of Covid-19, researchers in various countries have studied the health rumors during the period in depth and enough new knowledge has been provided for reference. This study searched PubMed, Scopus, and Web of Science (WoS) for records published from 2020 to 2022, using the following search terms in the title and abstract:

(i) [rumor* OR misinformation* OR fake news]

AND

(ii) [reputation OR trust OR image]

AND

(iii) [government]

AND

(iv) [Covid-19]

This yielded 65 records from PubMed, 116 records from the Web of Science, and 124 records from Scopus, for a total of 305 articles. Following the review of the articles, a total of 163 articles made it to the title and abstract review after removing duplicates. First, by checking the titles and abstracts from previous research, we retrieved whether they were about rumor issues, covid-19 issues, trust issues and whether they were original articles. After excluding 113 articles, 50 articles were selected for full-text screening that met the eligibility criteria outlined below (Table 1).

Table 1: Criteria for systematic review

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Inclusion</th>
<th>Exclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scientific, peer reviewed journal and conference proceedings</td>
<td>√</td>
<td></td>
</tr>
<tr>
<td>Quantitative and qualitative study</td>
<td>√</td>
<td></td>
</tr>
<tr>
<td>The relationship between trust in government and rumor-related behaviors is discussed.</td>
<td>√</td>
<td></td>
</tr>
<tr>
<td>Trust in government and rumor-related behaviors were included in the study, but no relationship was examined.</td>
<td>√</td>
<td></td>
</tr>
<tr>
<td>Theoretical and conceptual papers</td>
<td>√</td>
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</tbody>
</table>

Following the compilation of the aforementioned data (Figure 1), 11 papers were chosen for a systematic literature review. These articles describe the trust that people in different countries had in their governments during the COVID-19 period, and how the level of trust was affected by rumors or by rumor-related behavior.
3. Findings

After a detailed analysis of the 11 articles included in this review, the discussion in this section will focus on the study settings, the purpose of the study, sample and methodology, rumor-related terms used in research, and rumor-related behavioral intention used in research (Table 2).

Table 2: Description of Included Articles

<table>
<thead>
<tr>
<th>Authors</th>
<th>Date of publication</th>
<th>Geographic focus</th>
<th>Study design</th>
<th>Rumor Issue</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wonodi et al. (2022)</td>
<td>2022</td>
<td>Nigeria</td>
<td>Qualitative (Group Discussion and Interview)</td>
<td>Comprehensive</td>
</tr>
<tr>
<td>Butler et al. (2022)</td>
<td>2022</td>
<td>United States</td>
<td>Qualitative (Focus Groups and Interview)</td>
<td>Vaccine</td>
</tr>
</tbody>
</table>
3.1. Study Settings

After reviewing 11 articles, in the case of single geographic focus. The geographic focus of the summarized articles was highly dispersed, with no country or region appearing three times or more, and Australia and the United Kingdom appearing the most, twice each. Nigeria, the United States, Taiwan, Singapore, Lebanon, and Bangladesh have all been studied only once. Moreover, one article conducted a cross-national survey that included six countries or regions (Hong Kong, Japan, South Korea, Singapore, the UK, and the US).

The types of rumors/fake news studied in these 11 articles are also divided into two main categories, the first category is mainly for the study of vaccine-related rumors, with 4 articles. The other category is a comprehensive study of multiple rumors that do not focus on a specific type of rumor, with 7 articles.

3.2. Analysis of Study Purpose

This systematic review analyzes the objectives set in the reviewed studies, mainly to explore the relationship between trust in government and rumors and to find a good way to mitigate the negative effects of rumors. In terms of how these studies described the research objectives: test, examine, identify, explore were used twice. In addition, elicit, understand, and investigate that were used once. Most studies have used a quantitative approach, with trust being used as an independent variable in some studies and as a moderating variable in others. On the other hand, rumor-related behaviors were sometimes used as mediating variables in the studies, but they were also sometimes used as dependent variables in the studies.
3.3. Sample and Methodology

In terms of the choice of research methods, most of the articles classified for review chose quantitative research methods and recruited volunteers to ensure the study was conducted. Eight quantitative studies all chose online survey as the method of data collection. Two articles chose to use qualitative research methods to achieve their research objectives, one of which chose interview and group discussion, while the other chose focus group and interview. Only one article used a mixed-methods approach, and they used both a survey and a focus group approach for qualitative analysis in their study.

In these studies, for the selection of participants that seven articles did not have a specific setting, but only selected adults or citizens in a set geographic focus. In the study of Wonodi et al. (2022), participants included sub-national program managers, healthcare workers, and community members were purposefully selected. For the specific purpose of the study, Butler et al. (2022) selected multiple racial and ethnic groups as the population to be investigated. Tan et al. (2021) conducted data collection from 1011 low-wage migrant workers in order to investigate the relationship between migrants' trust in government and rumors. It is worth mentioning that to investigate the effect of rumor on vaccination, Pickles et al. (2022) conducted data collection from 2050 unvaccinated young adults.

3.4. Rumor-related Terms

As a concept, rumor has synonyms that represent false or inaccurate information, including misinformation and disinformation (Zhang et al., 2020). Although their precise meanings vary slightly, they will be discussed together in this systematic review. Since scholars may use two and more Rumor-related terms in their articles, misinformation was used most frequently, nine times, in the 11 articles included in the systematic review. Both conspiracy theory and rumor were used 3 times, the term fake news was used 2 times, and infodemic was used once.

3.5. Trust in Government

Among the 11 articles collected, the most frequent terms used by scholars in various countries for the factor of survey respondents' attitudes level toward governments were 'trust' and its derivative such as 'mistrust' and 'distrust' with 9 times, while the word 'confidence' appeared 3 times. In the article of Pickles et al. (2022) trust and confidence are used simultaneously as the factors under study.

3.6. Rumor-related Behavioral Intention

Rumor-related behavioral intentions mainly fall into three categories: 1) believing in rumors or misinformation; 2) intending to spread rumors or misinformation; and 3) rumor-related behavior such as willingness to get vaccinated after receiving false information. The most research was done on rumor beliefs, with nine articles examining the relationship between rumor beliefs and trust in government. On the other hand, six articles have examined the relationship between behavior related to being exposed to rumors and trust in government, and because rumor behavior varies across studies, the review will briefly describe which rumor behaviors have been examined in the systematic literature. There are four articles that describe the relationship between
trust in government and vaccine hesitancy. While two other articles one discusses citizens’ readiness to follow COVID-19 preventive measures and the other discusses hoarding behavior. The fewest studies examined rumor spreading behavior, with only one article examining the link between confidence in government and it.

4. Discussion

4.1. The Relationship between Trust in Government and Rumor-related Behavior

According to the results of the systematic review, most of the quantitative studies concluded that a higher degree of trust in government presents a positive effect on the belief in Covid-19 rumors or misinformation (Pickles et al., 2022; Juanchich et al., 2021; Pickles et al., 2021; Jennings et al., 2021). And Melki et al.’s (2021) findings further illustrate the role of trust in government in reducing rumor beliefs. In their study, they argue that the severe economic and political crisis in Lebanon has reduced the level of trust in the government, while trust in the information provided by the government can help reduce the belief in rumors and misinformation. This finding confirms a positive relationship between trust in government and better health. While a longitudinal study by Islam et al. (2021) found that trust in government at a specific time in the early stages of the Covid-19 will become a predisposition for future stages of the epidemic. In other words, if the public has better trust in government at earlier stages, then the more likely it is to have less beliefs in misinformation at later times.

In terms of qualitative research, there are similar findings regarding rumor beliefs as quantitative research. According to the findings of Wonodi et al. (2022), the Igbo of Southeast Nigeria have the highest level of skepticism about COVID-19 from the rumor, which is due to mistrust of the current government. In addition, a study by Butler et al. (2022) revealed that misinformation and knowledge gaps interacted with communities of color’s long-standing justified skepticism about the trustworthiness of health and government institutions rooted in systemic racism and anti-immigrant policies.

As for the relationship between trust in government and spreading rumors, only the study by Tan et al. (2021) is discussed about this section in this systematic review. High trust in the government was reported among workers who migrated to Singapore and spread rumors, in contrast to previous findings that 1) low trust in the government leads to rumor spreading (Paek & Hove, 2019) and 2) immigrant groups reported low trust in the government after the outbreak of COVID-19 (Segrave et al., 2021). They assume this may be due to the fact that the Singapore government was excellent in its response to Covid-19, and that this has boosted the migrant workers’ confidence.

In terms of rumor-related behaviors, most studies report that lower confidence in government leads to more negative health behaviors (Pickles et al., 2022; Chen et al., 2022; Juanchich et al., 2021; Jennings et al., 2021). A different result was found in the study by Dutta et al. (2022), who investigated and found that the relationship between citizens’ trust in the government and their readiness for COVID-19 precautionary measures was insignificant, possibly due to the sudden implementation of a strict embargo and citizens’ psychological and physical unpreparedness to cope with the new regulations. This is because it further worsens the willingness of citizens to follow COVID-19 precautions. However, an interesting finding was found in the study of Dutta et al. (2022), who found that Health Infodemic was a moderating variable between trust in government and related behaviors. Rather than being a determinant of citizens’
readiness to adhere to COVID-19 preventive measures, they believe that health Infodemic has a relatively varying modifier power on citizens' readiness, specifically practical inspirations.

4.2. Limitation

Among the 11 studies collected in this literature review, the main research limitations are divided into two categories: spatial aspect and temporal aspect. In spatial terms, studies such as Wonodi et al. (2022), Dutta et al. (2022) mentioned that their studies focused mainly on participants from one region, which may lead to findings that are not generalizable, and future studies should pay attention to the inclusion of different ethnic groups to improve the representativeness of the study. While in terms of temporal aspects, Pickles et al. (2022), Tan et al. (2021), Chen et al. (2022) concluded that their study only focused on one time point during Covid-19, which may lead to some limitations. Due to high situational variability involving Covid-19, more research is needed to understand the changing environment. And as more valid information becomes available, the level of trust in government may change. Furthermore, Pickle et al. (2021) believed that the group identified in their study was characterized by these attributes i.e.: younger age, males, lower education, scant knowledge on health, whereby such groups may be more susceptible to rumors or misinformation.

4.3. Suggestions and Prospects

Some studies have given different recommendations for governments to combat misinformation and improve their reputation. Pickles et al. (2022) argue that in order to strengthen broader trust in government, public trust in science, information literacy and interventions to combat misinformation need to be enhanced. While Chen et al. (2022) argue that from the information provider side, the government and media should disseminate evidence-based and transparent information quickly and widely among the public. In addition, public education and training are needed to improve the information literacy of individuals and equip them with the skills to examine the credibility of information. Islam et al. (2021) suggest that during the Covid-19 rumor situation, public administrators and policy makers need to recognize that governments should focus on overall public management so that their performance does not contribute to the creation of distrustful tendencies. Moreover, some studies also provide some recommendations for government management of specific groups. For multiple racial and ethnic groups, governments can take three approaches: 1) recognize a history of mistrust and build connections; 2) develop consistent messages and provide multilingual FAQs hotlines; and 3) assign relevant advocacy efforts to their respective communities for organization (Butler et al., 2022).

5. Conclusion

This systematic review focuses on the impact of public trust in government on rumor beliefs and related behaviors during Covid-19. From the mass communication perspective, we examined 11 articles that provide an overview of the current state of research on rumors and misinformation and trust in government by researchers in different countries and regions. The findings suggest that, in most studies, higher levels of trust in government do favor more positive health behaviors after being influenced by rumors.
These results have implications for academics and practitioners alike. From an academic perspective, the factors identified in this systematic review can serve as a starting point when considering the mechanisms of rumor transmission during a health crisis from a governmental perspective. Researchers can use the findings identified in this study to continue to examine the trust-rumor mechanism. In practice, these factors provide governments with ideas on how to reduce the negative impact of rumors by enhancing their own reputation as a start.

The database search was conducted based on the inclusion and exclusion criteria developed for this study. This systematic review selected relevant literature on Covid-19, which was deemed sufficient for analysis of the topic. Although sufficient care was taken in the selection of the literature, the search may not have captured all relevant articles dealing with this issue. In addition, some relevant articles may have been missed because they were published outside of the selected period. Future research could consider expanding the number of databases searched in the literature, including additional literature that could be generalized to explore the relationship between misinformation correction, government reputation, and rumor-related behavior. For example, whether different rumor response strategies lead to different levels of trust in the government and behavioral intentions when the government responds to relevant rumors. In addition, future research could also quantitatively or qualitatively analyze the recommendations made by the researchers in this systematic review to verify whether they are effective in helping the government to increase trust and reduce the negative effects of rumors.

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Conflict of Interests

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