

Title: Risk Perception about COVID-19 and its Effect on Fact-Checking Intent in Social Media

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Background:

The COVID-19 pandemic has brought several uncertainties into society. In addition to previous years when a significant shift from traditional to digital media has been observed and manifested in the way people use news and which sources they rely on (Kalogeropoulos et al., 2019), the COVID-19 pandemic has changed these news-consuming habits even more. People heavily rely on social media when retrieving information about the disease, as only these media are able to fulfill audience needs due to the constant intensive news flow (Van Aelst et al., 2021). However, the novelty of the disease, “best available evidence” instead of established scientific facts (Krause, 2020) and changed patterns of social media use, have caused the spread of misinformation. Our study deems misinformation as false and inaccurate information that misleads people, and is created and disseminated intentionally or unintentionally. In contrast, when the main source of knowledge is an established media organization or similar trustful source, the opportunity for false information spread might be lower.

During the pandemic, social media users have developed diverse variations of perceiving COVID-19 as a risk. As they are exposed to news content shared by other users they have in their social media bubble, the opinion those users have about risk is much more relevant than the factual knowledge they personally have (Siegrist, 2000; Brossard & Nisbet, 2007). However, the literature reveals that when the new information they are exposed to contradicts their pre-existing values or beliefs, they are likely to defend what they already believed (Kunda, 1990). It may lead them to check information elsewhere, e.g., they may check other users' opinions, seek other sources of information, or use online tools to fact-check information (Ahn & Kahlor, 2020; Kahlor, 2010; Liu & Huang, 2020; Ștefăniță et al., 2018).

Objective(s):

Accordingly, the objective of our study is to propose a model on how users' perceptions of COVID-19 as a risk may affect their intention to check facts in the news about COVID-19 on social media. We considered news published by all types of users except news organizations, where the opportunity for false information spread might be lower. Namely, we focused on the social media content about COVID-19 manifested by creating the content, commenting, sharing, or liking it (*reference removed for blind review*). Based on the model, one central

research question was defined: **How does risk perception explain fact-checking intent in social media?**

Method:

An online survey questionnaire was circulated among Slovenian social media users in January 2021. The design and implementation of the study were confirmed by The Institutional Review Board (IRB) of <removed for blind review>. In the study, 433 persons participated. They were all Facebook users, while those using Instagram (72.7%) and Snapchat (37%) followed. The majority were female (62.4%), and 33.9% were 18-24 years old. Those aged 25-34 (25.9%) and 35-44 (19.4%) followed. Most participants (62.1%) have not had COVID-19 yet, while 18.2% of them revealed they already had.

The survey questionnaire consisted of two parts: The demographic part and the part about the variables of the model. While the first part included questions about the participants' ages, education and other relevant variables, the second part comprised questions about risk perception and fact-checking intent. Risk perception was measured through the cognitive dimension (people's knowledge and understanding of risk) and emotional dimension (their feelings about what they know) (Paek & Hove, 2017). Fact-checking intent was measured through 12 statements classified into three subdimensions: (1) Seeking sources, (2) Seeking others' opinions, and (3) Detecting misleading information with online tools for fact-checking (Ahn & Kahlor, 2020; Kahlor, 2010; Liu & Huang, 2020; Ștefăniță et al., 2018).

Results:

Data screening was conducted prior to the statistical analyses, followed by the confirmatory factor analysis. The results confirmed that the construct risk perception encompassed two variables (cognitive and emotional risk perception) and fact-checking intent three variables (fact-checking intent in seeking others' opinions, seeking sources and fact-checking intent in detecting misleading information).

The data validity analysis revealed some convergent validity issues. Based on the results, we excluded items with factor loadings that were lower than 0.5 (Hair et al., 2010). It occurred only in one variable – cognitive risk perception. We dropped out one item. Afterwards, we inspected the model fit and found it successful.

A validity and reliability analysis of the model followed. We calculated the Composite Reliability (CR), Average Variance Extracted (AVE) and the factor correlations matrix. No reliability and validity concerns were found. The CR and AVE values exceeded the recommended minimum values of $CR > 0.7$ and $AVE > 0.5$ (Hair et al., 2010). The common method bias was inspected with Harman's single factor test, where no concerns were found (Podsakoff et al., 2003). In the next step, we checked the linear correlation between the items within each construct. No issues were found. Following this, the final structural model was developed. An analysis of the model fit revealed that all values matched the recommended values (Table 1). Afterwards, we tested the validity and reliability of the final structural model, where we detected no concerns.

Table 1. Results of testing the model fit of the final structural model.

Notation	Recommended value	Calculated value
X2		236.551
DF		97
Cmin/df	≤3.0	2.439
RMSEA	≤0.10	0.058
GFI	≥0.90	0.937
NFI	≥0.90	0.959
CFI	≥0.90	0.975

Figure 1 shows the final model, where all paths between the variables are statistically significant. The model, firstly, suggests a positive weak statistically significant effect of emotional risk perception on fact-checking intent in seeking others' opinions and fact-checking intent in seeking sources. It indicates that the more emotional risk about COVID-19 social media users perceive, the more they tend to check other users' opinions about creators of the news they engaged with. Likewise, the more emotional the risk about COVID-19, the more intention to seek other sources of information they find in social media news.

Secondly, we found that the variable fact-checking intent in seeking others' opinions further affects fact-checking intent in seeking sources and weakly fact-checking intent in detecting misleading information positively and moderately. It indicates that the more users tend to check other users' opinions about information in social media news, the more they also tend to seek other sources of information and use online tools to fact-check information.

Thirdly, we found that the variable fact-checking intent in seeking sources affected fact-checking intent in detecting misleading information. The effect was moderate and positive. It indicates that the more users tend to seek other sources of information for news about COVID-19, the more they tend to use online tools to fact-check information in these pieces of news.

Lastly, we found a weak statistically significant positive effect of cognitive risk perception on fact-checking intent in detecting misleading information. It indicates that the more cognitive risk users perceive from COVID-19, the more they tend to use online tools to fact-check information in social media news about COVID-19.

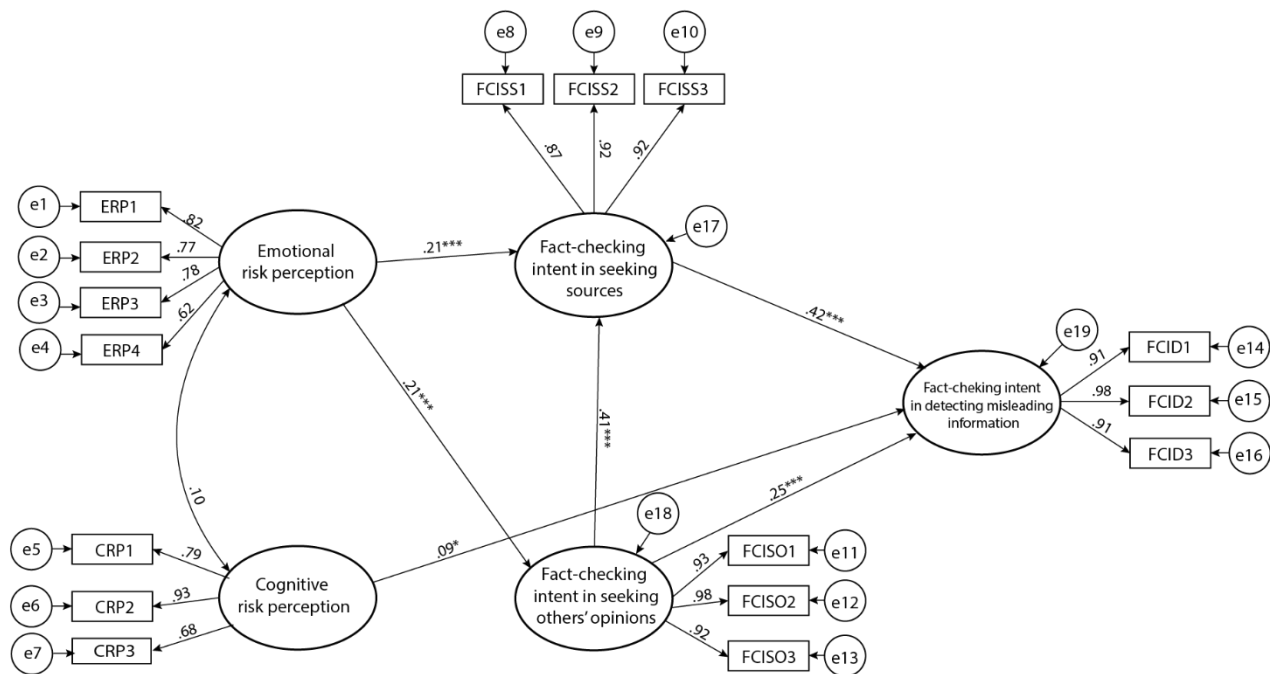


Figure 1. The final model of the relationship between risk perception and fact-checking intent (Significance level: * $p < 0.05$; *** $p < 0.001$).

Future Work:

In the future, it would be intriguing to apply the model to various risk situations in society and compare the results, while applications to other types of media may also be of interest to stakeholders in the field.

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