

Representation and Framing of Scientific Uncertainty in the Media: The Case of the COVID-19 Pandemic (Poster)

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**ייצוג ומסגור של אי ודאות מדעית בתקשורת:
המקרה של מגפת הקורונה
(פוסטר)**

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Abstract

The COVID-19 pandemic is a serious health situation, that introduced to the daily agenda of non-scientists many scientific terms while affecting many aspects of our life. The mass media became a central information source about scientific advances concerning the corona-virus (Pew Research Center, 2020; Schwartz Altshuler, 2021).

The scientific information about corona-virus characterizes by uncertainty. Gustafson and Rice (2020) identify four types of scientific uncertainty: (1) Deficit uncertainty, which emphasizes a known gap in knowledge. (2) Technical uncertainty, which includes among others, model approximations, statistical assumptions, and range of probabilities. (3) Consensus uncertainty, which refers to disagreement among experts or others, and (4) Scientific Uncertainty, which is a part of the nature of science - the possibility that the research will develop and the understanding of the claim will change. Uncertainty in science affects the audience's decision-making (Hendriks & Jucks, 2020). Understanding scientific uncertainty differs from knowing scientific facts and is not always emphasized in science education (Kirch, 2012).

During the COVID-19 pandemic, an evolving scientific issue became a concern for almost all publics. Digital news served as an essential learning platform. Hence, the research aim is to explore in what ways scientific uncertainty was represented in the digital news.

In this study, we performed a content analysis of 586 articles from Israeli general and Haredi news outlets. The articles date from the first six months of the pandemic. They were chosen by the following criteria: (1) items concerning COVID-19, (2) including a scientist as a writer, interviewer, being cited or mentioned, and (3) referring to uncertainty.

Results indicate that most articles (34.1%) contained references to deficit uncertainty: new discoveries and knowledge about the coronavirus. Consensus uncertainty articles (29.7%) included mainly debates between scientists. Technical uncertainty (26.3%) addresses model

approximations and assumptions about the pandemic's progress. Uncertainty that is based on the nature of science (9.8%) was present in articles that discuss scientific knowledge about other topics that were evolved and implemented to fight the coronavirus, as well as issues regarding scientific inquiry during the pandemic, such as peer review.

Understanding scientific uncertainty is part of scientific literacy (National Academies of Sciences, Engineering, 2016). Misunderstanding can cause distrust in science (Barzilai & Chinn, 2020) or reactions that would otherwise be avoided (Lasser et al., 2020; Olsen et al., 2020). Our suggestion, based on the results, is that scientific uncertainty should be explained in its context on digital information platforms.

Keywords: Scientific uncertainty, digital learning, COVID-19.

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