LUDWIG BOLTZMANN INSTITUTE
Science Outreach and Pandemic Preparedness
at the Medical University of Vienna

Hantavirus and Public Risk Perception: The Responsibility of Science Communication

Preliminary Findings from a Recent Study

Summary | In May 2026, an outbreak of Andes hantavirus occurred aboard the cruise ship Hondius. Although public health authorities assessed the risk to the general population as low, the event attracted widespread public attention. A research team from the Ludwig Boltzmann Institute for Science Outreach and Pandemic Preparedness at the Medical University of Vienna investigated public perceptions of communication and individual risk perception through an online survey conducted between late May and early June 2026 among 836 adults from German-speaking countries.

Overall, the findings indicate a low average level of concern regarding the hantavirus outbreak. At the same time, concern was statistically significantly associated with perceptions of public communication: the more participants perceived communication as emphasizing risk, the more likely they were to report feeling concerned. This association was substantially stronger for scientific communication than for journalistic reporting, suggesting that communication by scientists plays a particularly important role in shaping individual risk perception.

In addition, associations with mental health emerged. Participants who reported to have experienced stronger negative emotions during the COVID-19 pandemic or who currently reported lower levels of psychological well-being also reported greater concern about the hantavirus outbreak. At the same time, they tended to rate both scientists as well as journalists as less trustworthy. Although these effects were generally small, they suggest that individual psychological distress may be related to both risk perception and evaluations of information sources.

What were the aims of this study?

In May 2026, the international media reported extensively on an outbreak of Andes hantavirus aboard the cruise ship Hondius. Because person-to-person transmission of the Andes virus is rare, public discussions also addressed its potential to cause a pandemic. However, international public health authorities and experts quickly assessed the risk to the general population as low, emphasizing that transmission typically requires close and prolonged contact.

Despite these reassurances, media coverage of the hantavirus outbreak had the potential to generate public concern and uncertainty. Against this background, a team of psychologists at the Ludwig Boltzmann Institute for Science Outreach and Pandemic Preparedness at the Medical University of Vienna investigated how public communication surrounding the hantavirus outbreak was perceived and how people assessed the associated risk.

This report presents an overview of the preliminary findings from an online survey conducted between late May and early June 2026.

Who was surveyed?

The study is based on responses from 836 adults aged 18 to 77 years (*M* = 35.44, *SD* = 12.64) who completed an online questionnaire. Of the participants, 37.27% identified as female, 60.68% as male, and 0.48% as non-binary, while 1.57% did not report their gender. Eligibility criteria included being at least 18 years of age and having fluent German language proficiency. Individuals who reported working professionally in the fields of epidemiology, virology, or infectious diseases were excluded from the analyses.

Most participants were from Germany (76.7%) and Austria (14.1%). Overall, the sample was highly educated: 27.59% reported a secondary school diploma qualifying for university entrance (Abitur/Matura), 26.14% a bachelor's degree, and 25.42% a master's or equivalent diploma as their highest educational qualification. An additional 11.57% had completed vocational training or an apprenticeship, and 4.46% held a doctoral degree.

Regarding political orientation, participants positioned themselves on a scale ranging from 0 (left) to 10 (right). The majority identified as left of center: 57.56% selected values between 0 and 4, 18.74% identified as centrist (score of 5), and 23.70% identified as right of center (scores 6–10).

Participants were recruited through both broad dissemination of the survey on social media and the online research panel Prolific. The study was not designed to be representative of the general population.

How frequently were participants exposed to the topic?

The majority of participants reported having been exposed to the topic of the hantavirus outbreak at least occasionally in the weeks preceding the survey. Through news coverage, conversations, or social media, 10.68% encountered the topic very often (daily), 34.81% often (several times per week), 33.73% sometimes (about once per week), 18.25% rarely (once or twice), and 2.52% never.

Active information seeking was less common overall. While 60.02% of participants reported having deliberately searched for information about hantavirus at least once, only 6.72% did so frequently and 0.36% very frequently.

Overall, the hantavirus outbreak was highly salient for most participants. However, information was acquired primarily through passive exposure via media or social networks rather than through active information seeking.

How did participants perceive the risk?

A central aim of the survey was to examine how people perceived the risks associated with the hantavirus outbreak - specifically, whether and to what extent they felt concerned about hantavirus despite the objectively low risk to the general population.

Participants first reported their subjective level of concern by indicating their agreement with statements such as *"I am concerned that the hantavirus outbreak could affect me, my family, or my friends."* On a scale ranging from 1 to 5, participants showed low average levels of concern (*M* = 1.95, *SD* = 0.97).

The study also assessed perceptions of risk communication. Communication by scientists (e.g., epidemiologists and virologists) was generally perceived as relatively restrained in its portrayal of risk (M = 2.21, SD = 1.04 on a scale from 1 = very high communicated risk to 5 = very low communicated risk). In contrast, journalistic reporting was perceived as placing somewhat greater emphasis on risk (M = 3.08, SD = 0.99).

The more participants perceived public communication as emphasizing risk, the more likely they were to report being concerned about the hantavirus outbreak. This association was substantially stronger for scientific communication (r = .33, p < .01) than for journalistic reporting (r = .11, p < .01).

Trust in science and the media

To examine trust in science and the media, participants were asked which information sources they would trust in the event of an unexpected worsening of the hantavirus situation.

Scientific sources received the highest trust ratings (M = 4.00, SD = 1.00 on a 1–5 scale), followed closely by public health institutions, such as the World Health Organization (WHO) and the Robert Koch Institute (RKI) (M = 3.93, SD = 1.14). Trust in the government was moderate (M = 3.46, SD = 1.16), whereas public-service broadcasting received only moderate levels of trust on average (M = 3.17, SD = 1.16). With the exception of the difference between science and public health institutions, all differences between mean trust ratings were statistically significant (p < .001).

To better understand these findings, associations with age and political orientation were examined. Participants who identified as more politically conservative (i.e., further to the right) expressed lower levels of trust in science (r = –.34, p < .001), public health institutions (r = –.39, p < .001), the government (r = –.30, p < .001), and public-service broadcasting (r = –.30, p < .001). Older participants reported slightly higher trust in science than younger participants (r = .13, p < .001), whereas trust in the other institutions showed negligible associations with age.

What role does mental health play in risk perception and trust?

For many people, the hantavirus outbreak inevitably evoked memories of the COVID-19 pandemic. Therefore, we examined whether previous emotional experiences during the COVID-19 pandemic were associated with perceptions of the hantavirus outbreak.

Participants were asked to retrospectively rate the intensity of various negative emotions they had experienced during the COVID-19 pandemic, including fear, sadness, and anger. A clear association emerged: individuals who recalled experiencing stronger negative emotions during the COVID-19 pandemic also reported greater concern about the hantavirus outbreak (r = .35, p < .001). At the same time, participants who were more concerned were also more likely to actively seek information about hantavirus (r = .28, p < .001). These findings suggest that previous experiences with public health crises may shape perceptions of emerging health risks.

Current psychological well-being was also assessed using the WHO-5 Well-Being Index. On average, participants reported moderate levels of well-being (M = 58.18, SD = 21.73 on a scale from 0 to 100). Participants with lower levels of well-being tended to report higher perceived risk regarding hantavirus (r = –.13, p = .001), although the effect size was small.

Psychological well-being was also associated with trust. Participants with lower well-being tended to evaluate the trustworthiness of those communicating about hantavirus more negatively. They attributed lower levels of expertise, integrity, and benevolence to both scientists (overall trust score: $r = .10$, $p < .01$) and journalists (overall trust score: $r = .14$, $p < .01$). Although these effects were small, they suggest that psychological well-being may be related not only to perceptions of health risks but also to evaluations of the trustworthiness of information sources.

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Funded by the Ludwig Boltzmann Gesellschaft, the City of Vienna, and the Austrian National Public Health Institute (Gesundheit Österreich GmbH).