Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

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Risk information alone is not sufficient to reduce optimistic bias

People tend to perceive their own risk of contracting or passing on a disease as lower compared to the risk of similar others.[1] As one's own perceived risk is a strong driver of protective behaviors, this so-called optimistic bias can undermine efforts to promote preventive behaviors in the current coronavirus pandemic.[2] Optimistic bias has been widely demonstrated during the coronavirus (COVID-19) pandemic, toward both the perceived risk of getting infected and that of infecting others.[3,4] In their insightful article, Park et al. "suggest that by decreasing their perceived risk of getting infected […], optimistic bias can undermine individuals' motivation to take precautions" (p. 1859).[5] As an intervention to reduce bias, they recommend, among other things, that reinforcing the actual risk of COVID-19 may be an effective intervention to attenuate the optimistic bias.

In a pre-registered experiment (see https://aspredicted.org/nx6ib.pdf), we tested whether presenting evidence-based information about the actual risk of COVID-19 can indeed reduce optimistic bias. The experiment was conducted as part of the cross-sectional COVID-19 Snapshot MOnitoring (COSMO) study series.[3] Ethical clearance was obtained from the University of Erfurt's institutional review board (#20200302/20, 200,501). In the last week of December 2020, $N = 1006$ individuals were recruited for a German non-probabilistic sample, quota-representative for age × gender and federal state. A total of 940 participants met the pre-registered age range (20–79 years of age) and stated that they had not been infected with COVID-19.

The participants saw one of three randomly assigned information materials (see osf. io/wkx76 for material and results): an infographic about preventive behavior (control condition) or a table comparing the risks of contracting (risk to self) or passing on COVID-19 (risk to others) compared to the respective risks regarding influenza. Each participant in the intervention conditions received a table matching his or her age group, which specified the number of people out of 1000 who would contract the respective disease, be hospitalized, or die, given they were in close contact with an infected person. After reading the materials, the participants rated their perceived risk of getting infected and infecting others, both for themselves and for an average person of their age and gender (on a 7-point scale 1 = *extremely unlikely* to 7 = *extremely likely*). The optimistic bias was computed as the difference between the "self" rating and the "others" rating.

After having received information about the risk of being infected, 34.8% showed optimistic bias when judging their risk of getting infected (and 38.0% showed optimistic bias when judging their risk of infecting others). After having received information about the risk of infecting others, 34.1% showed optimistic bias when judging the risk of infecting others (and 29.6% when judging the risk of getting infected). In the control group, 34.5% showed optimistic bias when judging their risk of getting infected (comparison to respective judgment in the "risk to self" condition: χ^2 (4) = 4.425 $p = 0.352$) and 38.7% showed optimistic bias when judging their risk of infecting others (comparison to "risk to others" condition: χ^2 (4) = 2.107, $p = 0.716$). Linear regression analyses with the difference scores as dependent variables and the information conditions (reference: control) as contrast variables revealed no difference in the strength of the optimistic biases depending on the provided risk information (all *ps* > .190). We considered alternative explanations that could potentially justify lower risk estimates for oneself than for other people (such as having had a low number of contacts in the past two weeks, assuming low cases of COVID-19 in the last week, or expecting low cases in the following week). Adding these variables as covariates, however, did not influence the optimistic bias at all (all *ps* > .212).

The results demonstrate that optimistic bias is a robust phenomenon. About a third of the participants perceived themselves as less likely to get infected or infect others with COVID-19—even after seeing the actual risk figures. Thus, the data do not support the idea that reinforcing the actual risk of COVID-19 reduces optimistic bias. The stimulus material was evidence-based and neutral information provided by official sources. Perhaps the deliberately neutral and non-directive way of communicating the actual risk failed to engage the reader in reflecting on their own risk. Further research should test whether information materials appealing to affective and experiential risk besides deliberative risk (in reference to the tripartite risk model) are more effective in reducing optimistic bias.[6]

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Lisa Felgendreff*
Media and Communication Science and Center for Empirical Research in Economics and Behavioral Sciences, University of Erfurt, Erfurt, Germany

Lars Korn

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Media and Communication Science and Center for Empirical Research in Economics and Behavioral Sciences, University of Erfurt, Erfurt, Germany

Philipp Sprengholz
Media and Communication Science and Center for Empirical Research in Economics and Behavioral Sciences, University of Erfurt, Erfurt, Germany

Sarah Eitze
Media and Communication Science and Center for Empirical Research in Economics and Behavioral Sciences, University of Erfurt, Erfurt, Germany

Regina Siegers
Media and Communication Science and Center for Empirical Research in Economics and Behavioral Sciences, University of Erfurt, Erfurt, Germany

Cornelia Betsch
Media and Communication Science and Center for Empirical Research in Economics and Behavioral Sciences, University of Erfurt, Erfurt, Germany

* Corresponding author. Media and Communication Science, University of Erfurt, Nordhäuser Str. 63, 99089 Erfurt, Germany.
E-mail address: Lisa.Felgendreff@uni-erfurt.de (L. Felgendreff).