

# PUBLIC UNDERWEIGHTED RISK OF COVID TRANSMISSION WHEN MEETING OTHERS INDOORS

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# Public Underweighted Risk of COVID Transmission When Meeting Others Indoors<sup>1</sup>

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## INTRODUCTION

Risk of COVID-19 infection during social gatherings depends on multiple factors: how many people there are, how far apart they keep, whether they meet indoors or outdoors, the duration of the encounter, and so on. How people perceive this risk influences their behaviour, but accurately evaluating risk when multiple factors need to be integrated is difficult. In Summer 2020, we used a controlled experiment to estimate how the public evaluated the risk of COVID-19 infection in social settings. We compared their risk assessments to a sample of medical experts to identify gaps in understanding.

## DATA AND METHODS

A representative sample of adults (N = 800) took part in the online experiment. It consisted of four tasks about the risk of COVID-19 infection. The first task asked participants to write factors they consider when judging the risk of infection in social settings. In the second task, they were shown descriptions of social gatherings that varied by different risk factors (e.g. how many people were there, whether it took place indoors or outdoors). Their task was to rate how risky they thought the gathering would be. They saw multiple different descriptions and we varied the risk factors systematically, which allowed us to determine the weight given to each one. The third task asked participants to rank how important they view different risk factors, with limited other contextual information. Responses

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<sup>1</sup> This Bulletin summarizes the findings from: Timmons, S., Belton, C. A., Robertson, D. A., Barjaková, M., Lavin, C., Julienne, H., & Lunn, P. D. (2022). Is it riskier to meet 100 people outdoors or 14 people indoors? Comparing public and expert perceptions of COVID-19 risk. *Journal of Experimental Psychology: Applied*. Advance online publication. <https://doi.org/10.1037/xap0000399>. The research was supported by the Department of Health.

on these three tasks were compared to the responses given by a sample of 56 medical professionals with expertise in public health, virology and microbiology.

In the fourth task, completed only by the public sample, participants read short stories of a hypothetical person taking a risk of COVID-19 exposure (for example, taking busy public transport). The aim of this task was to test whether perceived risk of exposure is influenced by the presence of non-COVID risks. For example, in stories read by some participants, the person was risking exposure because they had a potentially serious medical issue and had no other way to get to their appointment. In others, the “alternative” risk they faced was minimal (e.g. a minor medical issue where a video call would likely have sufficed). Participants were asked to judge only the individual’s risk of contracting COVID-19. The story each participant read was selected at random.

## **RESULTS**

On the first task, the majority of the public and experts mentioned the number of people (52% vs. 61%, respectively) and whether social distancing could be maintained (53% vs. 61%) as factors they consider when judging risk. The expert sample, however, were more than twice as likely to mention location (i.e. whether it took place indoors or outdoors; 31% vs. 63%) and duration of encounter (7% vs. 22%). When rating how risky different social settings would be, statistical models show the public and experts gave similar weight to the number of people present, the ease of social distancing and whether masks were worn. Again, however, differences emerged on location and duration, with the experts giving significantly more weight to both compared to the public sample. On the third task, the public ranked environmental factors (like location) higher than others, suggesting these factors were prioritised only when other contextual information was limited.

Results from the fourth task showed that people judged the risk of infection to be lower when people potentially exposed themselves to virus in order to avoid another risk, compared to when the reason for exposure was less risky. This effect was only observed for other health-related risks and not for financial risks.

## **CONCLUSION AND IMPLICATIONS**

By Summer 2020, the public had absorbed information about some main COVID-19 risk factors, such as whether social distancing was possible and masks were worn. However, medical experts perceived substantially greater risk associated with meeting others indoors or spending long periods with others. Broadly, the results suggest that, relative to medical experts, the public were likely to underestimate the benefits of interacting outdoors rather than indoors and focus more on how many people they come close to. This difficulty, coupled with the finding that perceived risk of exposure can be diminished by independent factors (such as other health needs), implies that people could have placed themselves in environments with higher risk of infection unknowingly. The findings were used to inform communications about environmental risk factors from late Summer 2020.

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