

Just in time

Citation for published version (APA):

Varol, T. (2023). *Just in time: Applying behavioral science to create a safe university environment in times of the covid-19 pandemic*. [Doctoral Thesis, Maastricht University]. Maastricht University. <https://doi.org/10.26481/dis.20230629tv>

Document status and date:

Published: 01/01/2023

DOI:

[10.26481/dis.20230629tv](https://doi.org/10.26481/dis.20230629tv)

Document Version:

Publisher's PDF, also known as Version of record

Please check the document version of this publication:

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Impact Paragraph

The COVID-19 pandemic entered our lives in early 2020. Governments worldwide implemented measures that also included lockdowns in an effort to control the number of cases and hospitalizations. In the first year of the COVID-19 pandemic, as well as in the absence of vaccines, these measures, such as distancing, testing, isolating, and using face masks, were mainly dependent on people's adherence to these guidelines. The current PhD project was initiated in September 2020, when the Maastricht University Board decided to offer hybrid education in the academic year of 2020–2021 and involved experts from different disciplines who worked towards one goal — supporting the Maastricht University Board when tackling the COVID-19 pandemic within the university.

As the COVID-19 pandemic trajectory was unprecedented, the objectives of the project evolved as the situation developed. The project timeline can be divided into three periods: 1) The first period covered September–December 2020, when the university decided to offer hybrid education. During this period, we conducted studies with students to gain an understanding of their adherence to the university's COVID-19 guidelines and the factors related to their adherence. Furthermore, based on the findings of these studies, we aimed to inform the development of an intervention to facilitate students' adherence to COVID-19 guidelines of the university. 2) The second period covered January–July 2021, when education moved online again due to the lockdown installed by the government, but also when the Dutch vaccination rollout started. During this period, we conducted a study on students' vaccination intention and their reasons to vaccinate and/or not to vaccinate, and based on the findings of this study, we developed an intervention to support students in their vaccination decisions. 3) The third and last period covered May–September 2021, a time when the vaccination uptake increased in the Netherlands and society started opening again. During this period, we conducted a study to explore the university employees' feelings about returning to campus in September. Based on the findings of this study, an intervention was implemented to address the employees' concerns about returning to on-campus work and provide information on what to expect in the new academic year.

Scientific Impact

This dissertation contributed to the empirical literature on COVID-19 by providing information on 1) the adherence of university students to COVID-19 preventive behaviors and the factors that influence their adherence, 2) the COVID-19 vaccination

intentions of university students and the factors that influence these intentions, 3) the safety feelings of university employees when returning to on-campus work, 4) behavior-change interventions developed for these topics, which can be used by other university boards with similar groups in the future or adapted according to the needs of other target groups in the context of the COVID-19 pandemic or other pandemics with similar behaviors, and 5) lessons learned about how to speed up the intervention development process in times of need.

The findings of this dissertation highlighted the importance of just-in-time interventions in times of crisis, such as the COVID-19 pandemic. These interventions, which are designed to be implemented timely and effectively in response to a crisis, can help mitigate the negative impacts of the crisis on individuals and communities. We also discussed future research considerations for pandemic and crisis preparedness, such as a need for monitoring. By understanding the most effective ways to develop and implement interventions, public health officials can provide a timely response in times of crisis and more effectively protect the health and well-being of the population.

The studies and interventions were presented at national and international conferences and at the faculty “science day” of the Faculty of Psychology and Neuroscience of Maastricht University. Moreover, our studies were published with open access in scientific journals. If there were no ethical obligations, data and study materials were publicly shared, and preprints were published to support other scientists and relevant stakeholders in accessing the findings in a timely manner. This can facilitate transparency, collaboration, and knowledge-building in the field.

Societal Impact

Our research assisted the University Board in times of global health crisis. Input from students and employees guided the problem analysis and the development of theory- and evidence-based interventions. The findings of our studies informed the university-wide decisions and communications when tackling the COVID-19 pandemic within the university. After each study, we issued a report to the University Board that included the study findings and recommendations. Moreover, with our studies and interventions, we aimed to promote COVID-19 preventive behaviors among students, such as distancing. We also aimed to facilitate a sense of safety within the university among students and employees. These efforts were intended to help reduce the spread of the virus and protect the health of the university community. Our research results are relevant for researchers, university boards, policymakers, university students, and staff. Although it can be argued that the COVID-19 pandemic is behind us because we are

back to normal again but at the same time is still with us because we can still catch and spread the virus, this dissertation might help for future crisis preparedness and management, as the COVID-19 pandemic was new to some of us but might not be last.

Conclusion

In times of crisis, acting fast is important due to continuously changing conditions. We argue that prompt and sound response may require 1) forming a project group with experts from disciplines relevant to the problem, 2) involving the target group and relevant stakeholders from the beginning of the project to gather their input and inform the intervention accordingly, 3) building a trust relationship with the stakeholders, 4) identifying and using existing resources, 5) following an intervention development framework to systematically develop interventions, 6) using empirical evidence and theories, 7) gathering information from similar problems if there is no or limited literature on the problem, 8) prioritizing the implementation over evaluation in cases of need and changing situations, and 9) sharing data and findings with scientists and stakeholders.