

Living behind dikes : a simulated flood experience

Citation for published version (APA):

Zaalberg, R., & Midden, C. J. H. (2009). Living behind dikes : a simulated flood experience. In H. Gutscher, H.-J. Mosler, B. Meyer, S. Mischke, & M. Soland (Eds.), *Abstract presented at the 8th Biennial Conference on Environmental Psychology, September 6-9, 2009, Zürich* (pp. 125-125). Pabst Science Publishers.

Document status and date:

Published: 01/01/2009

Document Version:

Publisher's PDF, also known as Version of Record (includes final page, issue and volume numbers)

Please check the document version of this publication:

- A submitted manuscript is the version of the article upon submission and before peer-review. There can be important differences between the submitted version and the official published version of record. People interested in the research are advised to contact the author for the final version of the publication, or visit the DOI to the publisher's website.
- The final author version and the galley proof are versions of the publication after peer review.
- The final published version features the final layout of the paper including the volume, issue and page numbers.

[Link to publication](#)

General rights

Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

- Users may download and print one copy of any publication from the public portal for the purpose of private study or research.
- You may not further distribute the material or use it for any profit-making activity or commercial gain
- You may freely distribute the URL identifying the publication in the public portal.

If the publication is distributed under the terms of Article 25fa of the Dutch Copyright Act, indicated by the "Taverne" license above, please follow below link for the End User Agreement:

www.tue.nl/taverne

Take down policy

If you believe that this document breaches copyright please contact us at:

openaccess@tue.nl

providing details and we will investigate your claim.

Living behind dikes: A simulated flood experience

Zaalberg, Ruud; Midden, Cees
Eindhoven University of Technology, Netherlands, The

The ever increasing risk of flooding due to global climate change poses a serious threat for delta areas throughout the world. In this study we focus on interactive 3-D technology to mimic real flooding experiences, and to investigate its influence on coping strategies to deal with future flooding risks. In a lab experiment 50 participants were exposed to a simulated dike breach that flooded their virtual house positioned in a typical low-lying Dutch polder landscape. We manipulated the medium through which the virtual environment (VE) was presented; multimodal (i.e., visual and auditory) sensory stimulation using an interactive 3-D simulation projected on a large screen versus non-interactive film or slide simulations presented on a laptop. We tested the hypothesis that an interactive 3-D simulation increases participants self-reported motivation to evacuate from the threatened area compared to non-interactive simulations. A multiple regression analysis showed that the motivation to evacuate was stronger in the interactive 3-D simulation compared to the non-interactive slide simulation, after controlling for differences in the perceived water depth at one's virtual house. A mediation analysis revealed that this effect was mediated by an attitude change in the extent to which evacuation was evaluated as an effective strategy. Implications to use high-end flood simulations in a VE to communicate flooding risks and coping strategies to threatened residents will be discussed.

R.Zaalberg@tue.nl