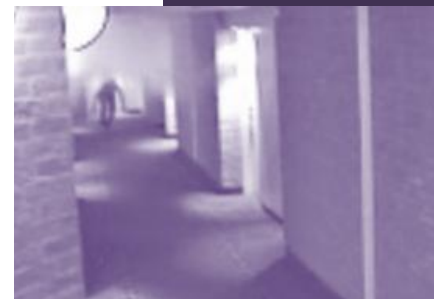


To provide policy measures for a safe escape in the event of a fire, clear and extensive knowledge about human behaviour in fire is essential. This implies a need for further knowledge of the interaction between surrounding factors (fire situation, building design, social factors) and occupants' fire response performance (FRP). A new research method has been developed to obtain the required insight into human behaviour in fire evacuation. The new research method consists of an analysis model (FRP model) and a virtual environment, the serious game ADMS-BART: the *Behavioural Assessment and Research Tool* (BART) in the *Advanced Disaster Management Simulator* (ADMS).

In this publication an introduction of the new research method is presented, as well as the results of the validation of the use of ADMS-BART as a research tool. Furthermore, an overview of existing literature on human behaviour is given. In addition, new findings on fire safety psychonomics are presented. The new findings are gained from a case study (football stadium fire, 2008) and from an experimental study in a real hotel, as well as in a virtual replica of the hotel. The studies were focussed on the influence of human factors, building factors and fire factors on fire response performance, and on the wayfinding performance in particular.



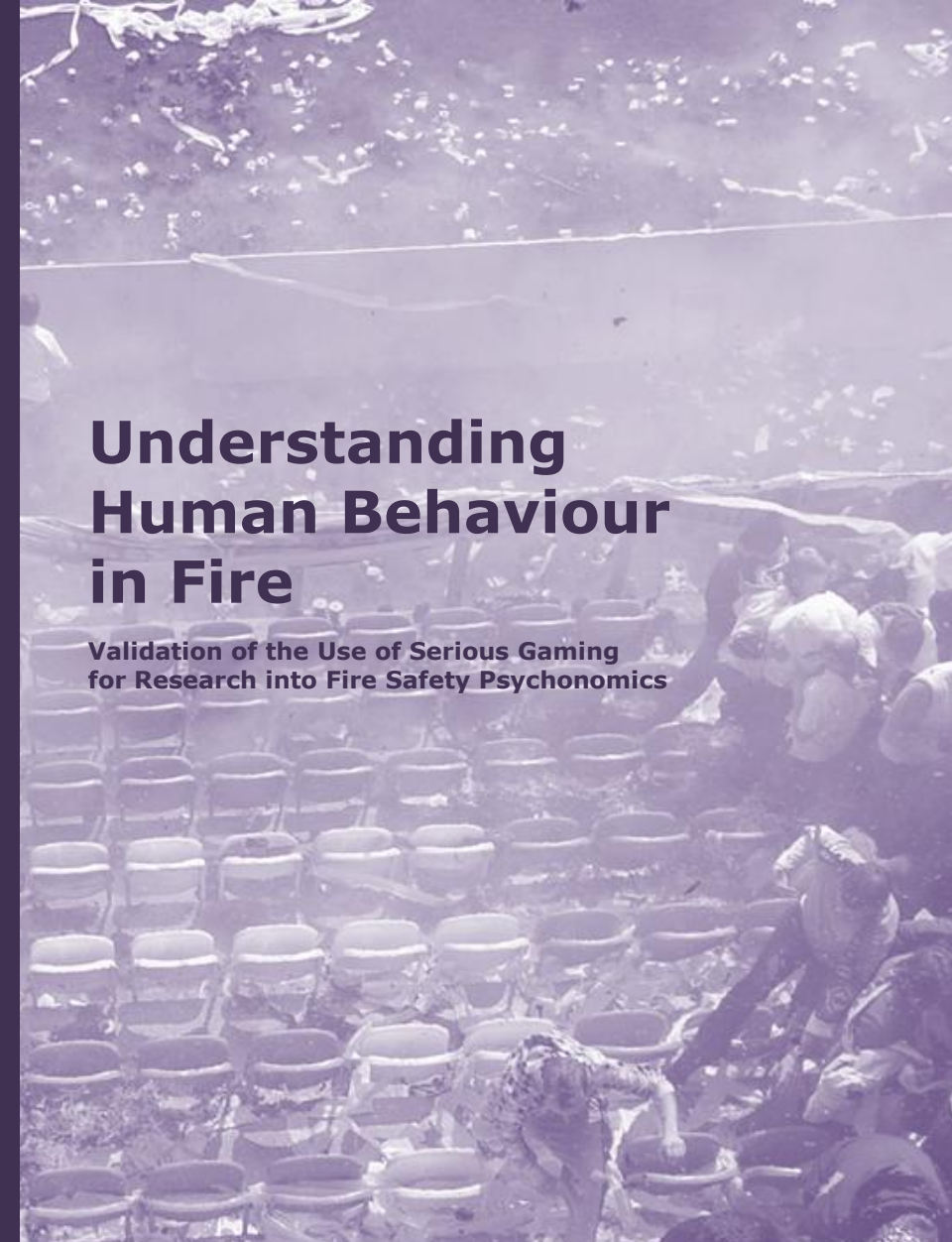
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Understanding Human Behaviour in Fire

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Validation of the Use of Serious Gaming for Research into Fire Safety Psychonomics



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