

# CoVE: Coping in Virtual Emergencies

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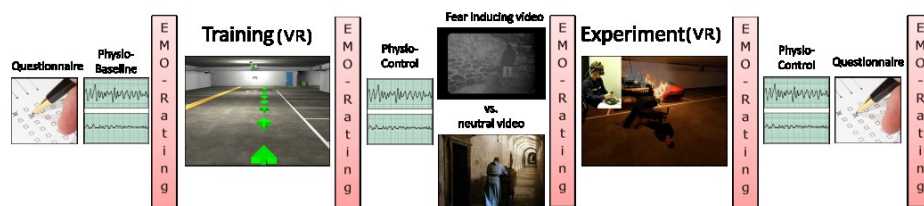


Fig. 1. Outline of the overall design of a first empirical study

**Abstract.** The applicability of appropriate coping strategies is important in emergencies or traumatic experiences such as car accidents or human violence. However, research on human reactions to traumatic experiences is very challenging and most existing research uses retrospective assessments of these variables of interest. Thus, we are currently developing and evaluating novel methods to investigate human behavior in cases of emergency. Virtual Reality (VR) scenarios of emergencies are employed to enable an immersive interactive engagement (e.g., dealing with fire inside a building) based on the modification of Valve's popular Source™ 2007 game engine.

Preliminary results of a first empirical study (cp. Figure 1) suggest that our VR scenario has a similar fear-inducing effect as a short movie clip (Becker-Asano, Sun, Kleim, Scheel, Tuschen-Caffier, & Nebel, 2011), which previously has been evaluated to induce fear. In addition, the neutral VR experiences during the training sessions did never elicit fear in our participants, letting us conclude that the interactively presented emergency itself was indeed the fear eliciting factor in the experimental sessions. In the long run, we aim at a more detailed analysis that includes the personality questionnaire and physiological data, which will be analyzed in correlation with the trajectories of the participants in the VR emergency.

## References

- Becker-Asano, C., Sun, D., Kleim, B., Scheel, C. N., Tuschen-Caffier, B., & Nebel, B. (2011). Outline of an empirical study on the effects of emotions on strategic behavior in virtual emergencies. *Emotion in Games workshop in conj. with ACII2011*. Memphis, USA: Springer. (accepted)