Bystander Police Conflict Simulation Design Models for Public Safety

Authors: Clara Maathuis, Remco Van Dijke

Abstract: In the last decades and even more during the ongoing Coronavirus pandemic, the number of public incidents between police officers and perpetrators in the presence of bystanders grew at a global level due to ongoing tensions as well as societal and technical challenges, measures, and developments. While this represents a well-known issue for different researchers and practitioners from public safety, police, security studies, and social science domains, and efforts regarding understanding and dealing with bystander involvement and effects exist, to the best of our knowledge artefacts such as technical models and tools for assessing these issues in relation to escalation and/or de-escalation of public conflicts lack. Such artefacts would facilitate and strengthen the awareness of stakeholders and decision-makers involved and would support the ongoing discourses, investigations, developments, and educational mechanisms considered in this sense. On this behalf, this research aims to capture and structure relevant variables by building a data model and further discuss modeling and simulation directions and requirements for building intelligent solutions that tackle this issue. In order to achieve these objectives, a Design Science Research approach is considered based on extensive literature review and bystander-police incident analysis. Hence, this research contributes to understanding and simulating (the dynamics involved in) bystander-police conflicts and aims to further support the design, development, and application of programs, policies, and procedures for preventing and dealing with bystander-police conflicts for building a safe, responsible, reliable, and sustainable future.

Keywords: public safety, police conflict, bystander conflict, modeling and simulation, data model, VR, artificial intelligence

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