## World Academy of Science, Engineering and Technology International Journal of Psychological and Behavioral Sciences Vol:12, No:08, 2018

## Cognition in Context: Investigating the Impact of Persuasive Outcomes across Face-to-Face, Social Media and Virtual Reality Environments

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Abstract: Gathering information from others is a fundamental goal for those concerned with investigating crime, and protecting national and international security. Persuading an individual to move from an opposing to converging viewpoint, and an understanding on the cognitive style behind this change can serve to increase understanding of traditional face-to-face interactions, as well as synthetic environments (SEs) often used for communication across varying geographical locations. SEs are growing in usage, and with this increase comes an increase in crime being undertaken online. Communication technologies can allow people to mask their real identities, supporting anonymous communication which can raise significant challenges for investigators when monitoring and managing these conversations inside SEs. To date, the psychological literature concerning how to maximise information-gain in SEs for real-world interviewing purposes is sparse, and as such this aspect of social cognition is not well understood. Here, we introduce an overview of a novel programme of PhD research which seeks to enhance understanding of cross-cultural and cross-gender communication in SEs for maximising information gain. Utilising a dyadic jury paradigm, participants interacted with a confederate who attempted to persuade them to the opposing verdict across three distinct environments: face-to-face, instant messaging, and a novel virtual reality environment utilising avatars. Participants discussed a criminal scenario, acting as a two-person (male; female) jury. Persuasion was manipulated by the confederate claiming an opposing viewpoint (guilty v. not guilty) to the naïve participants from the outset. Pre and post discussion data, and observational digital recordings (voice and video) of participant' discussion performance was collected. Information regarding cognitive style was also collected to ascertain participants need for cognitive closure and biases towards jumping to conclusions. Findings revealed that individuals communicating via an avatar in a virtual reality environment reacted in a similar way, and thus equally persuasive, when compared to individuals communicating face-to-face. Anonymous instant messaging however created a resistance to persuasion in participants, with males showing a significant decline in persuasive outcomes compared to face to face. The findings reveal new insights particularly regarding the interplay of persuasion on gender and modality, with anonymous instant messaging enhancing resistance to persuasion attempts. This study illuminates how varying SE can support new theoretical and applied understandings of how judgments are formed and modified in response to advocacy.

 $\textbf{Keywords:} \ \textbf{applied cognition, persuasion, social media, virtual reality}$ 

Conference Title: ICPS 2018: International Conference on Psychological Sciences

**Conference Location :** Paris, France **Conference Dates :** August 27-28, 2018