EFFECTS OF VIRTUAL HUMAN ANIMATION ON EMOTION CONTAGION IN SIMULATED INTER-PERSONAL EXPERIENCES

Presented by

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Abstract:

Previous research has shown that emotional contagion can exist between still images of virtual agents and humans and that the presence of an animated virtual human can increase stress levels of a participant. In this research, we aim to examine the impact of virtual human animation on the emotional response of participants in a medical virtual reality system for education in the signs and symptoms of patient deterioration. We achieved this by presenting two virtual human conditions in a between-subjects experiment, static (non-animated) and dynamic (animated). Our objective measures included the use of Electro Dermal Activity (EDA) sensors, and subjective measures included social psychology surveys such as the Differential Emotions Survey (DES IV) and Positive and Negative Affect Survey (PANAS). We analyzed the quantitative and qualitative measures associated with participants emotional state at four distinct time steps in the simulated inter-personal experience as the virtual patient's medical condition deteriorated. Results suggest that participants in the dynamic condition exhibited higher sense of co-presence than participants in the static condition. Results showed that although the EDA data exhibited no change in arousal, the overall negative affect increased corresponding to the deterioration in the medical condition of the virtual patient. Also, negative affect of participants in the dynamic condition increased at a higher rate than for participants in the static condition. We also found that participants in the dynamic condition experienced significant changes in negative emotions such as anguish, fear, and anger as the virtual patient’s medical condition worsened.

Bio:

Yanxiang Wu is a second year master student in the Computer Science program at Clemson University. Wu’s current research focus is human computer interaction, virtual reality for medical training.

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