

Physical vs. Functional Presence in Virtual Characters

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Virtual patients are viewed as a cost-effective alternative to standardized patients for role-play training of clinical interviewing skills. However, training studies produce mixed results. Students give high ratings to practice with virtual patients and feel more self-confident, but they show little improvement in objective skills. This confidence-competence gap matches a common cognitive illusion, in which students overestimate the effectiveness of training that is too easy. This may be related to design decisions to create virtual patients with high physical fidelity, creating a correspondingly strong sense of physical presence. In contrast, we hypothesize that cost-effective training in interviewing skills requires virtual patients that emphasize functional fidelity and create a strong sense of functional presence. We discuss design decisions that promote feelings of physical vs. functional presence and illustrate them in virtual patients for practicing clinical interviewing skills. STAR Workshop includes 3 such patients and a virtual coach to train clinical interviewing skills for brief intervention in alcohol abuse. In a controlled experiment, subjects trained with STAR Workshop bridged the confidence-competence gap, achieving both high levels of confidence and significant improvement in objectives skills. We discuss implications for design decisions for other uses of virtual characters.