

ID: 20355

Virtual Living Room: Bridging the Physical Distance with Virtual Reality

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Subcommittee Category: Simulation

Abstract: The efficacy of VR in training applications is well documented in the simulation community, and VR efficacy is being increasingly demonstrated in other applications such as mental health therapy, industrial design, and other collaborative activities. This paper describes a collaborative application of VR that has a positive impact on warfighter readiness outside of the training environment. The Virtual Living Room provides deployed warfighters the opportunity for meaningful interactions with family members who are at physically remote locations back home. The deployed warfighter shares the same virtual environment as their family members and plays family-oriented games (e.g., block builder), share recreational activities (e.g., mini-golf), or engage in collaborative work (e.g., homework). The Virtual Family Room has an advantage over passive communication technologies, like video chat, because it provides an increased sense of participation and engagement, as well as allowing the whole family to share experiences rather than passive information. These effects are particularly important for young children who lack the ability to engage in complex verbal communication. The efficacy of the Virtual Family Room was assessed with a military family at a United States installation. The participant was not deployed, but was preparing for deployment, and had prior deployment experiences. After initial system training, the family could participate in any of the virtual activities of their choosing. The family members were physically separated during the sessions, and the sessions were recorded. Data were collected on the perceptions of the overall experience, enjoyment of the virtual activities, and input on possible improvements. The results indicated that the family interactions were more “realistic” than video chat and that the virtual activities provided more memorable experiences for the families. The Virtual Family Room demonstrates the usefulness of VR in bridging the gap between families during deployments and, thereby, increasing warfighter readiness.

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Session Title: Best Paper Session 2

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