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Proceedings of the Annual Meeting of the Cognitive Science Society

Title

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Permalink

<https://escholarship.org/uc/item/4rg8389g>

Journal

Proceedings of the Annual Meeting of the Cognitive Science Society, 32(32)

ISSN

1069-7977

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Publication Date

2010

Peer reviewed

Virtual Brainstorming: Avatar Visibility and Group Size

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Abstract: Dyads and triads of college students brainstormed via computer based text chat rather than face-to-face. In one condition, participants were represented as 3D avatars in a virtual space. In another, no avatars were visible. It was hypothesized that triads would outperform dyads due to facilitation from a third perspective, and that having avatars visible would increase participants' sense of presence and task involvement, resulting in better performance. Participants were given standard brainstorming instructions that emphasized withholding criticism, generating unusual ideas, generating as many ideas as possible, and piggybacking on others' ideas. The task was to generate ideas as for how to improve the university. Participants were surveyed after the problem solving task regarding their sense of presence and task involvement. Triads outperformed dyads but there was no facilitation of presence or idea generation from having visible avatar representations. Implications for the believability of virtual environments are discussed.