

The human likeness of computer-generated characters predicts altercentric intrusion during a counting task (Alternative title: An uncanny valley of visual perspective taking: A study of the effects of character human likeness and eeriness on altercentric intrusion during a counting task)

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Abstract: Perceivers lose empathy for synthetic human characters when the characters' nonhuman features elicit an eerie feeling. This phenomenon, termed the uncanny valley, may specifically diminish the likelihood of understanding these characters' perspective. Such perspective taking should rely on a more fundamental ability to infer a character's visual perspective merely by looking at the character. Based on this assumption, a dot-counting task was undertaken by 268 undergraduate students in which they either took or ignored the apparent field of vision of computer-drawn characters with varying human likeness. It was predicted that for characters that appear more humanlike, task trials with a similar visual perspective between participant and character would predict shorter response times and higher accuracy, whereas task trials with dissimilar visual perspectives would predict longer response times and lower accuracy. Although these predictions were supported, trials with dissimilar visual perspectives also yielded longer response times when they included certain photorealistic inanimate objects (e.g., a chair). Future studies will ascertain whether such perspective taking ability is similarly affected when the synthetic human characters are more photorealistic.