

Peer Review

Review of: "The Uncanny Valley Phenomenon: Where Is the Categorical Boundary Between Categorization Difficulty and Categorization Failure?"

Tetsushi Tanibe¹

1. Waseda University, Japan

This commentary article provides a clear summary of Kota Sasaki et al.'s (2025) experiment and suggests the stranger-avoidance hypothesis as a potential explanation for the uncanny valley-like phenomenon as a future research perspective. The argument of the article is clear, and it makes a productive proposal for research on the uncanny valley-like phenomenon. I highly appreciate this paper; however, the authors' argument could be made clearer and more persuasive in the following points.

1. I would like to encourage the authors to provide a more detailed explanation of the difference between *categorization failure* and *categorizing as strangers*. Is it different, for example, to not categorize a circle-square ambiguous figure as either a circle or a square than to categorize it as a third category, namely a stranger? The significance of the authors' proposal would be more clarified if readers could confirm that we were not just paraphrasing the same event with two phrases: "failed to categorize a stimulus either as a circle or a square" or "put it in a third category that was neither a circle nor a square."

2. The proposal that categorization failure and difficulty (and thus stranger-avoidance) reflect the different facets of the categorization process assumed in the multi-system theory is interesting. If this proposal correctly describes the cognitive processes of responses to ambiguous stimuli, the multi-system theory will work as a useful framework to study the cognitive processes underlying uncanny valley-like phenomena. However, it does not seem to fully explain why the authors determined that categorizing stimuli as "strangers" is based on an explicit rule-based process. Is

there evidence or reasoning that supports the idea that stranger categorization is rule-based rather than implicit?

Declarations

Potential competing interests: No potential competing interests to declare.