

Animacy Dimensions Ratings and Approach for Decorrelating Stimuli Dimensions

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Presentation Abstract Summary The distinction between animate and inanimate objects plays an important role in object recognition. The following 5 dimensions were shown in previous studies to be important for animacy perception independently: “being alive”, “looking like an animal”, “having mobility”, “having agency” and “being unpredictable”. However, it is not known how these dimensions in combination determine how we perceive animacy. To investigate, we created a stimulus set ($M = 300$) with almost all dimension combinations for which we acquired behavioural ratings on the 5 dimensions. We show that subjects ($N = 26$) are consistent in animacy ratings ($r = 0.6$) and that “being alive” and “having agency” dimensions are highly correlated ($r = 0.62$). To design a stimulus sub-set that is decorrelated on animacy dimensions for future fMRI and EGG experiments we used a genetic algorithm. Our approach proved to be successful in stimuli selection ($\max r = 0.35$, compared to $\max r = 0.59$ when using a random search). In summary, our study systematically investigates animacy dimensions, provides new insights in animacy perception, and presents an approach for decorrelating stimuli dimensions that can be useful for other studies.

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