Aesthetic Preferences in the Size of Images of Real-World Objects

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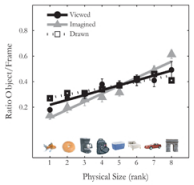
Background

Konkle and Oliva (VSS-2009) found that a depicted object´s "canonical size" (preferred visual size in a frame) is proportional to the logarithm of its known physical size.

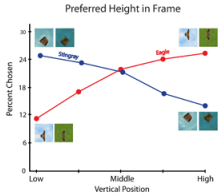


Some unanswered questions:

1. **Aesthetic effects**: Are the same effects present if the participants are instructed to make aesthetic judgments?
2. **Demand characteristics**: Do participants feel implicit pressure to make their responses vary systematically with size?

Ecological bias

Past research shows that people have ecological biases for the position of objects in a frame.
People prefer eagles to be high in the frame and stingrays to be low in the frame (Gardner & Palmer, VSS-2009).



Research questions

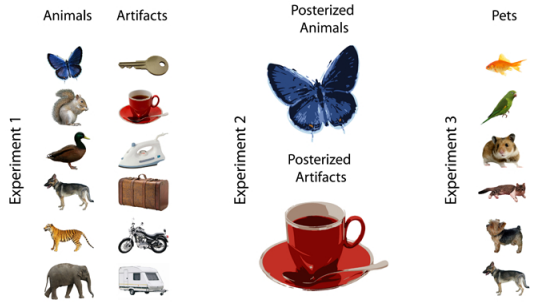
Are canonical size effects reflected in people's aesthetic preferences?

Are demand characteristics present: Will the effect disappear if each participant sees only one object?

Are these effects influenced by the amount of visual detail?

Are these effects influenced by knowledge of or exposure to the depicted object?

Image displays



Experiment 1: Animals and Artifacts

Part A: Within-subject design

Are there canonical size effects in aesthetic judgments?

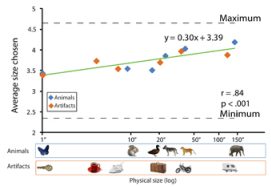
Stimuli

6 sizes for each object

Task

Two-alternative forced-choice of the same object in different sizes

Results



Canonical size effects are present in aesthetic judgments.

Part B: Between-subjects design

Are demand characteristics present?

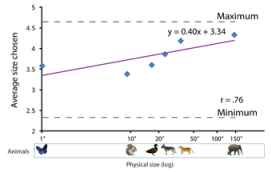
Stimuli

6 sizes for each animal

Task

Same as part A, except participants see only one object

Results



Canonical size effects are still present with only one object (No demand characteristics).

Experiment 2: Posterized animals and artifacts

Will the canonical size effect be reduced if visual detail is equated across sizes by posterizing images? Only a within-subject design was conducted.

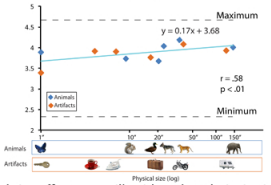
Stimuli

6 sizes for each object, all posterized

Task

Two-alternative forced-choice of the same object in different sizes

Results

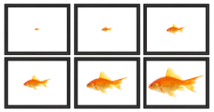


Canonical size effects are still evident, but their size is reduced ($p < .05$).

Experiment 3: Pets

Does the canonical size effect vary with knowledge of or exposure to the depicted objects?

Stimuli



6 sizes for each pet

Task

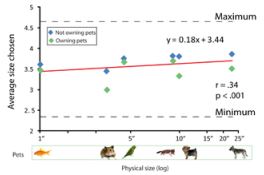
Part 1

Two-alternative forced-choice of the same object in different sizes

Part 2

Questionnaire: what pet, if any, they live (or lived) with.

Results



There is no significant difference between people owning a specific pet and people not owning that specific pet ($p > .17$ for all pets), despite their additional knowledge and experience with those animals.

Conclusions

Canonical size effects are present when people make explicit aesthetic judgments.

These effects are neither reduced nor eliminated in a between-subjects design (no demand characteristics are evident).

The size effect is reduced when the images are posterized to equate spatial detail.

Effects of knowledge of or exposure to the object were not evident.

The findings support the ecological bias toward canonical size, implying that preferred visual size of an image of an object increases with its known physical size.

References and Acknowledgements

Konkle, T. & Oliva, A. (2009). Canonical Visual Size for Real World Objects. Presented at the 9th Annual Meeting of the Vision Sciences Society, Naples, FL, May 2009.

Gardner, J. S. & Palmer, S. E. (2009). Representational fit in aesthetic judgements of spacial composition. Presented at the 9th Annual Meeting of the Vision Sciences Society, Naples, FL, May 2009.

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