Conceptual size ensembles cannot be predicted by individual item size representations
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When estimating average size, the visual system accounts for size constancy, suggesting the ensemble process operates at a conceptual level (Experiment 1). Experiments 2 and 3 explore whether this conceptual representation is generated by a linear combination of the individual items composing a set.

**Ponzo Illusion:**

**Question:** How does the visual system account for perceived distance when judging average size?

**Experiment 1: Linear Perspective**

**Results**

The linear perspective condition makes the triangles appear further away, which makes the average size of the set appear larger. This suggests the visual system accounts for size constancy in its ensemble representation, averaging perceived size instead of just physical size.

**Conclusion**

Although size constancy is accounted for by the ensemble calculus, this is not incorporated via individual item size representation.

**References:**


**General Conclusion**

Perceived distance influenced the perceived size of the individual items, but only for items that appeared further away, and only in the context of other items of varying distance.

**Experiment 2: Perceived Size of Individual Items**

**Results**

For conceptual size representations to emerge at the individual item level, does the entire set have to be present?

**Conclusion**

The linear addition of the threshold difference at the individual item level accounts for 100% of the overall difference observed at the ensemble level (15% threshold difference for both ensemble and individual conditions).