Exploring Aesthetic Principles of Spatial Composition Through Stock Photography

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Background

Previous aesthetics research has shown two biases that affect people’s aesthetic judgments of spatial compositions: Center bias and Inward bias. Center bias is the preference for objects to be centered horizontally near the center of the frame, while Inward bias is the preference for objects to be facing inward rather than out of the frame.

Research Questions

1) Do the center and inward biases exist in the vertical dimension?
2) Do these biases also exist in naturalistic images (e.g., stock photography)?

Vertical Dimension: Experimental Design

Vertical positions of the object and the horizon line were systematically varied (object depended on the plane of attachment). 2AFC comparisons were made between two pictures of the same object (both on the floor or both on the ceiling).

Object Centers: Three Kinds

Note: the distribution of bounding box center and geometric center was determined by calculating the bounding box center and finding the geometric center. This was done for each object in each image, and then the distributions of these centers were plotted.

Conclusions

Center and inward biases appear in the vertical dimension of spatial composition. The center bias and the inward bias appear robustly in images that are more naturalistic than those previously studied. Perhaps the inward bias reflects a center bias, but for subjective centers of objects.

Future Directions

Increase the number of stock photography images analyzed.
Analyze two-object photos and biases in the vertical dimension.
Analyze fine-art photography.
Explore the centrality of subjective center judgments.

References


Acknowledgements

All 2AFC displays were created in Adobe Photoshop CS6, and experiments were run in Presentation. For photography experiments, participants’ responses were collected in Presentation, and data were analyzed in Matlab. Thanks to Joseph Austerwol for assistance with Matlab coding.