



Discounting the effect of memory on repeated measures of beauty judgment

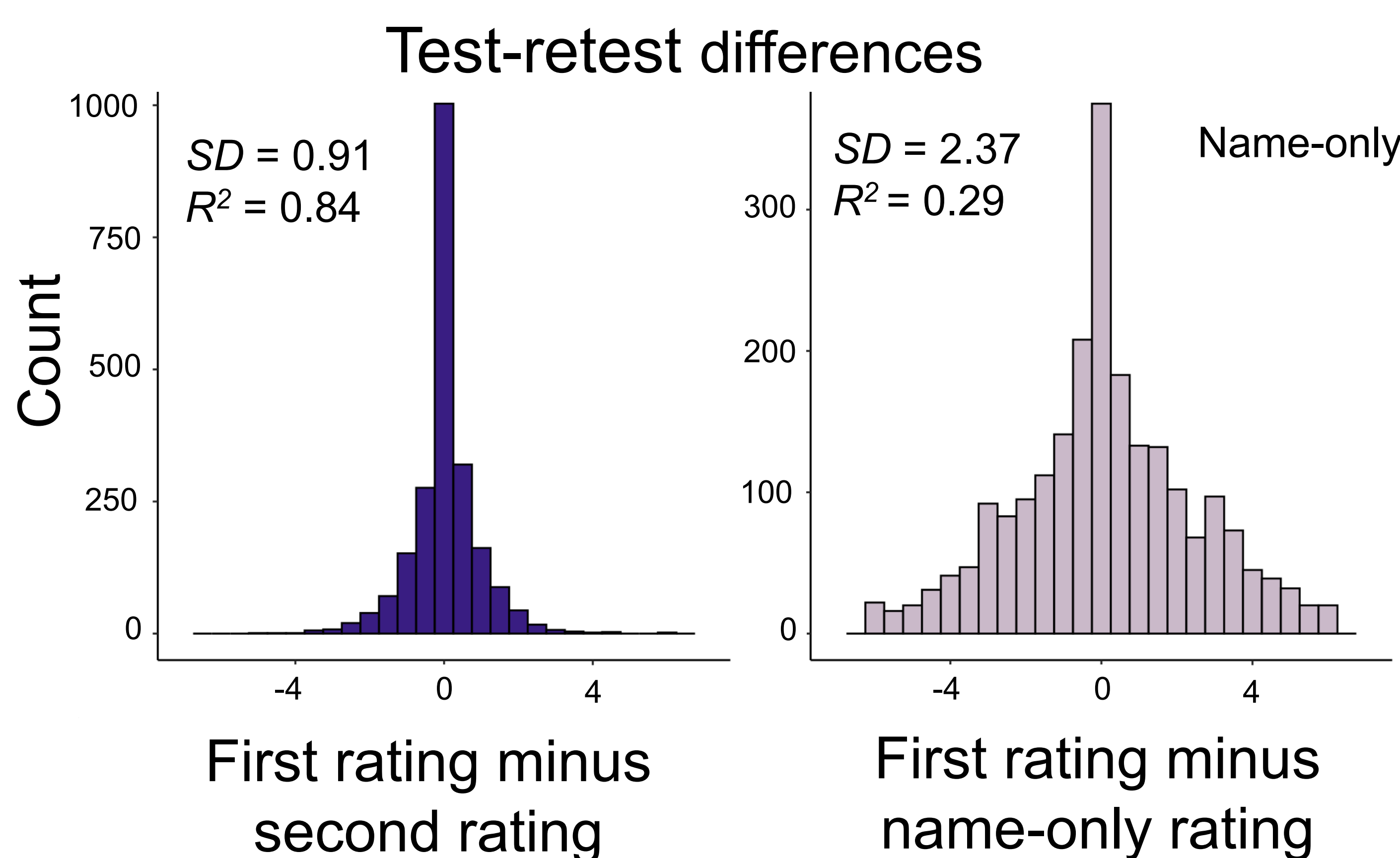
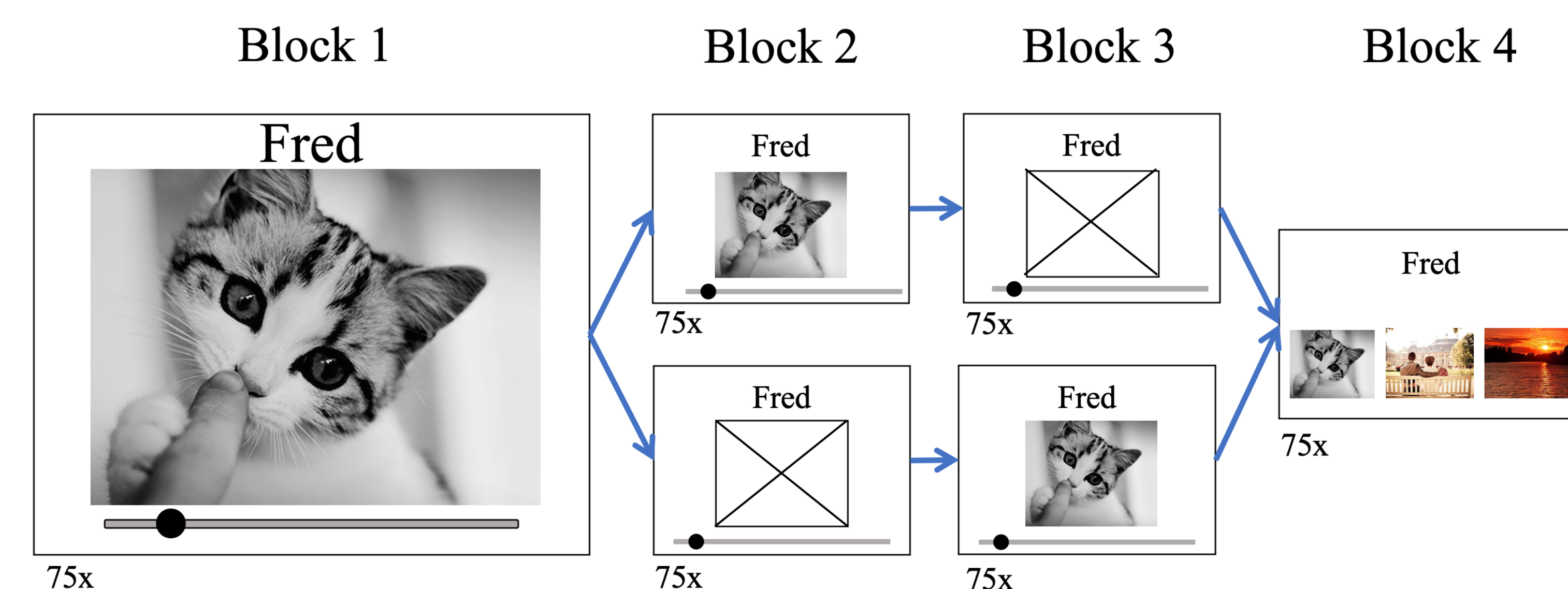
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When observers make a second judgment based solely on memory, their ratings have high variance. So, such memory-based ratings cannot contribute much to repeated judgment.

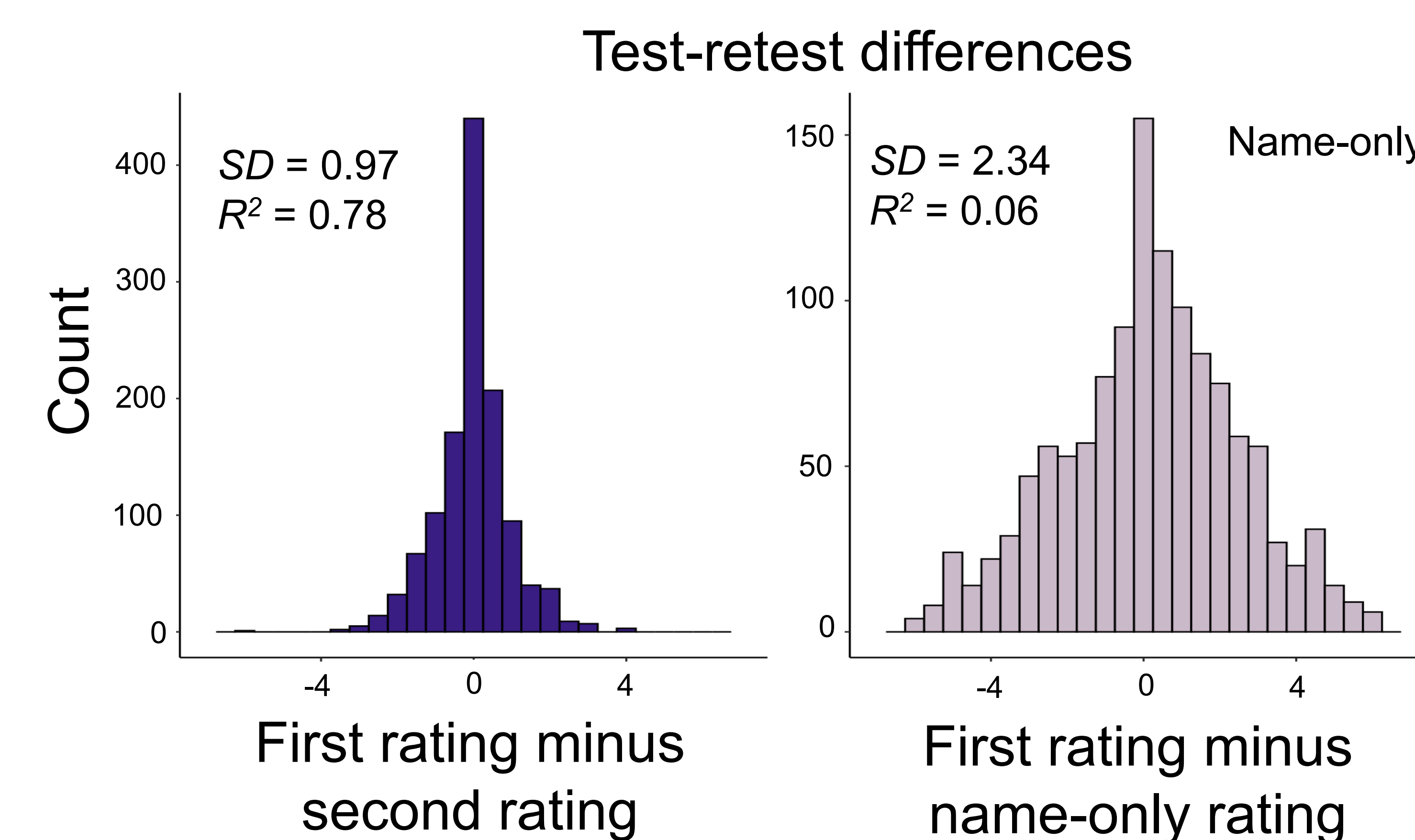
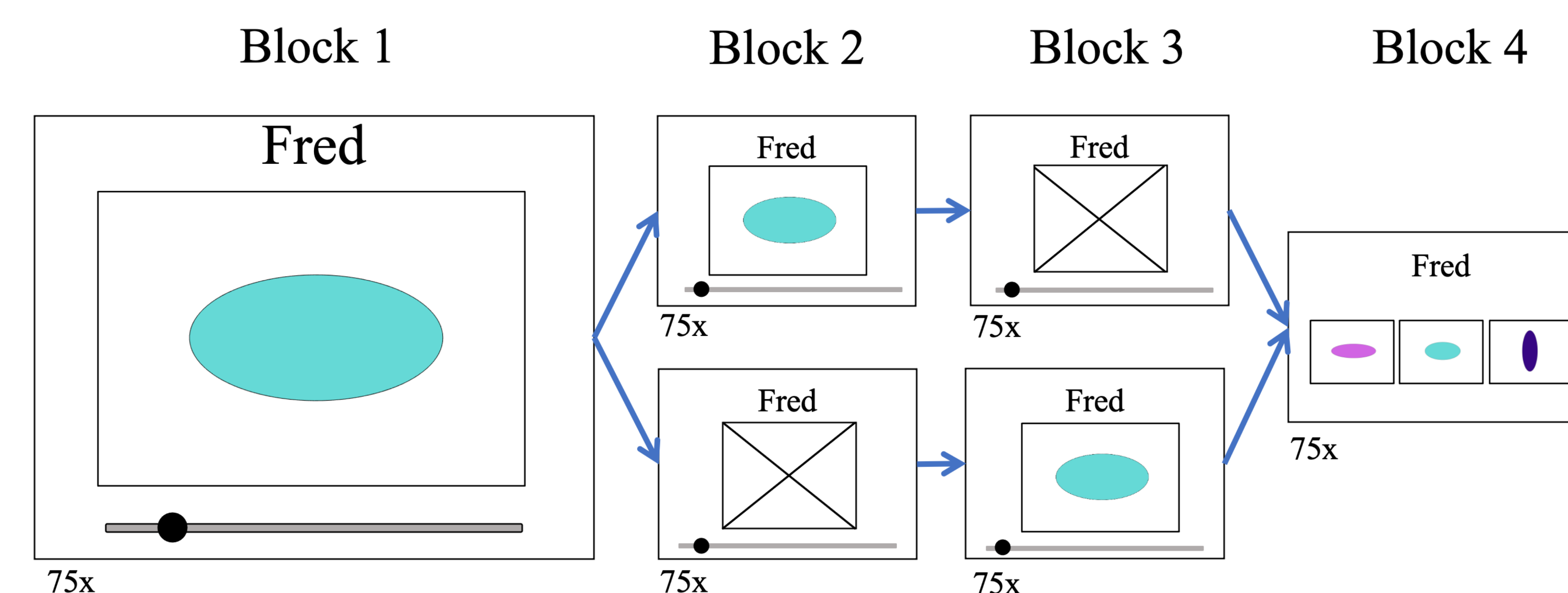
Rate beauty

51 participants rated the beauty of 75 named images¹ three times, e.g.,
“How much beauty do you feel from looking at Fred?”
One of those times, they only saw the name. Finally, participants reported which image went with each name.



Rate ellipticity

50 participants rated the ellipticity of 75 named ellipses three times, e.g.,
“Fred used to be a perfect circle. How much was Fred squished?”
One of those times, they only saw the name. Finally, participants reported which ellipse went with each name.



Assuming optimal cue combination,² we can discount the contribution of memory to the variance of immediate beauty judgment.

$$\frac{1}{\sigma_S^2} - \frac{1}{\sigma_N^2} = \frac{1}{\sigma_I^2}$$

Where σ_S^2 is the variance of the differences between the first vs. second beauty rating, σ_N^2 is the variances of the differences between the first vs. name-only beauty rating, and σ_I^2 is the variance of the immediate-perception judgment. For beauty, $\sigma_S^2 = 0.83$, $\sigma_N^2 = 5.62$, and $\sigma_I^2 = 0.97$. For ellipticity, $\sigma_S^2 = 0.94$, $\sigma_N^2 = 5.47$, and $\sigma_I^2 = 1.14$.

Conclusion

For beauty and ellipticity, recall memory contributes little to repeated judgment.

For both beauty and ellipticity, the standard deviation of the test-retest difference is approximately three times greater for the name-only condition than for the second rating condition.

References

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