

THREADS

CONNECTING

Fiber

ART

AND

SCIENCE

by Denise Evert

A PSYCHOLOGICAL AND NEUROSCIENTIFIC STUDY OF EMOTIONS IN TEXTILES

As Associate Professor of Psychology and Neuroscience at Skidmore College, my research attempts to understand how the organization of the brain mediates emotional and attentional processing. Coupled with my interests in understanding brain mechanisms associated with the creation and perception of art, I explore these ideas in the Skidmore courses I teach, including "Divided Brain/Integrated Mind," "Creativity and the Brain," and "Creating Minds," and through a research laboratory I run with undergraduate student researchers. The confluence of this work with the Tang Teaching Museum's *Radical Fiber* exhibition provided a unique opportunity for my independent research students to engage with the emerging field of *neuroaesthetics*. Through an interdisciplinary, cross-campus collaboration, we partnered with artist Lia Cook, who has long been interested in the innate emotional quality of her textiles and the emotional connections that individuals forge with these works.

In my Cognitive Neuroscience laboratory, three undergraduate student researchers from the Skidmore class of 2023—Lilia Sattler (majoring in Neuroscience and Psychology), Victoria Thorpe (Neuroscience), and Kelby Wittenberg (Psychology and Anthropology)—examined viewer responses to close-up portraits in a set of Cook's original cotton and rayon woven tapestries and in printed photograph versions of the same images. The research study was designed to address three main questions:

Do viewers rate the emotionality of portraits depicted in textiles higher than corresponding photographic representations?

Are portraits rated as more emotional when processed preferentially by the right hemisphere of the brain given its overall specialization for emotional processing?

Does viewer emotional state impact emotionality ratings of the portraits?

Seventy-two Skidmore undergraduates served as participants in the study and were asked to rate the emotionality of depicted facial expressions (for happiness, surprise, fear, anger, sadness, and disgust) in each of ten textiles and ten photographs. Each image (whether textile or photograph) was presented

Lia Cook, *Connectome* (detail), 2013, woven cotton and rayon,
72 x 51 inches (overall)

A Psychological and Neuroscientific Study of Emotions in Textiles

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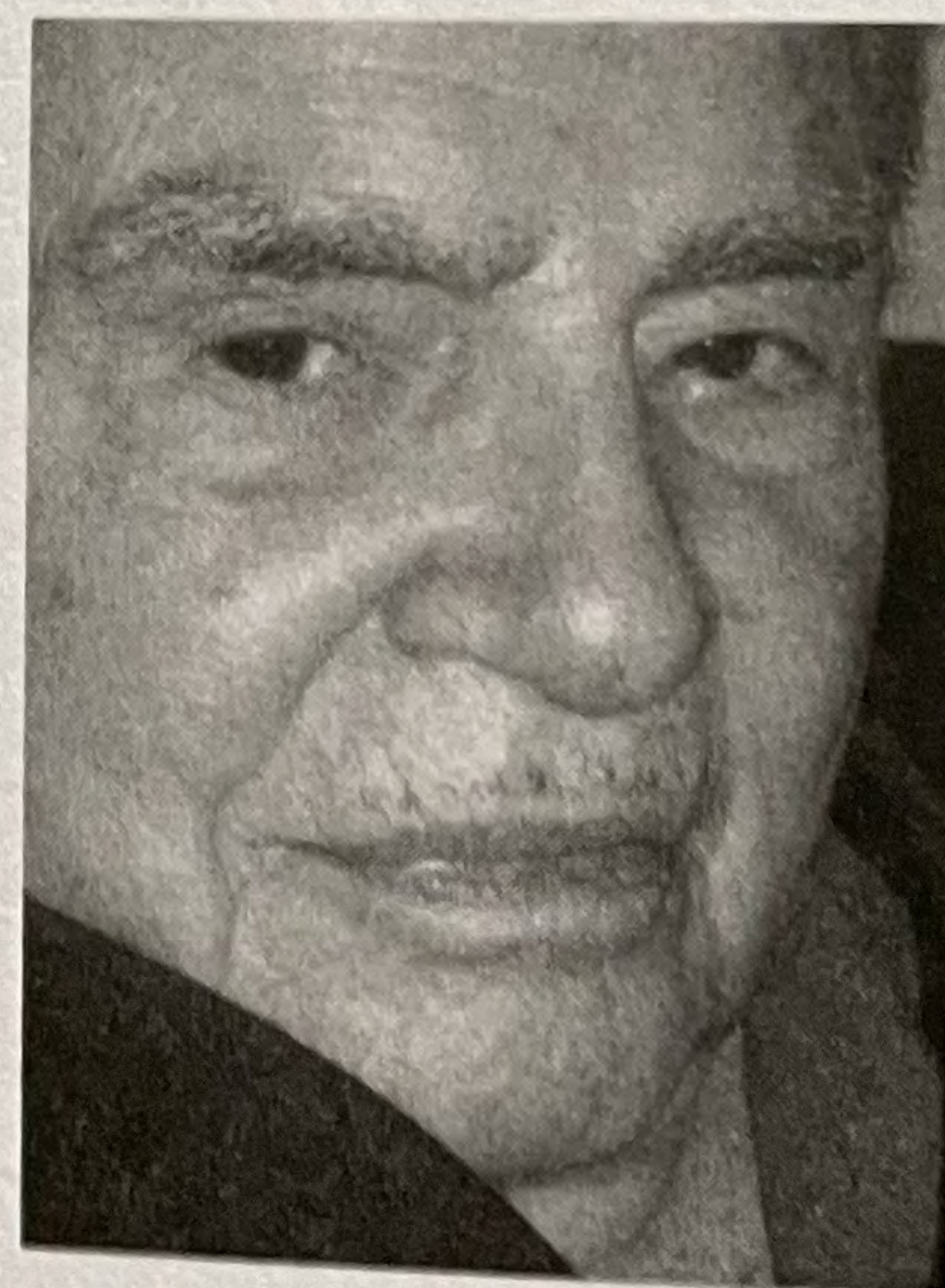
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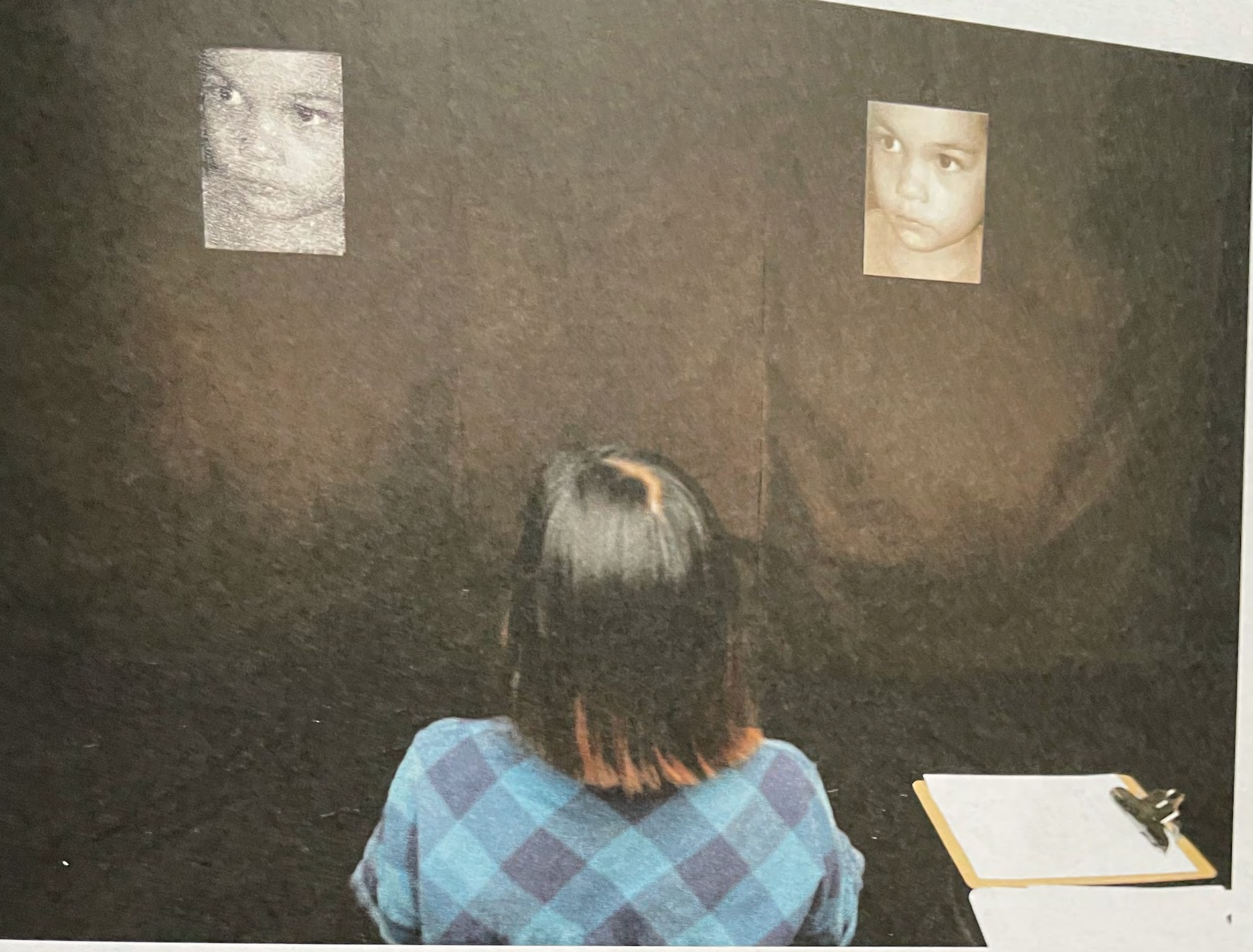
one at a time in a randomized order to either the left or the right of the seated participant. Participants also completed two inventories to assess their current mood state.

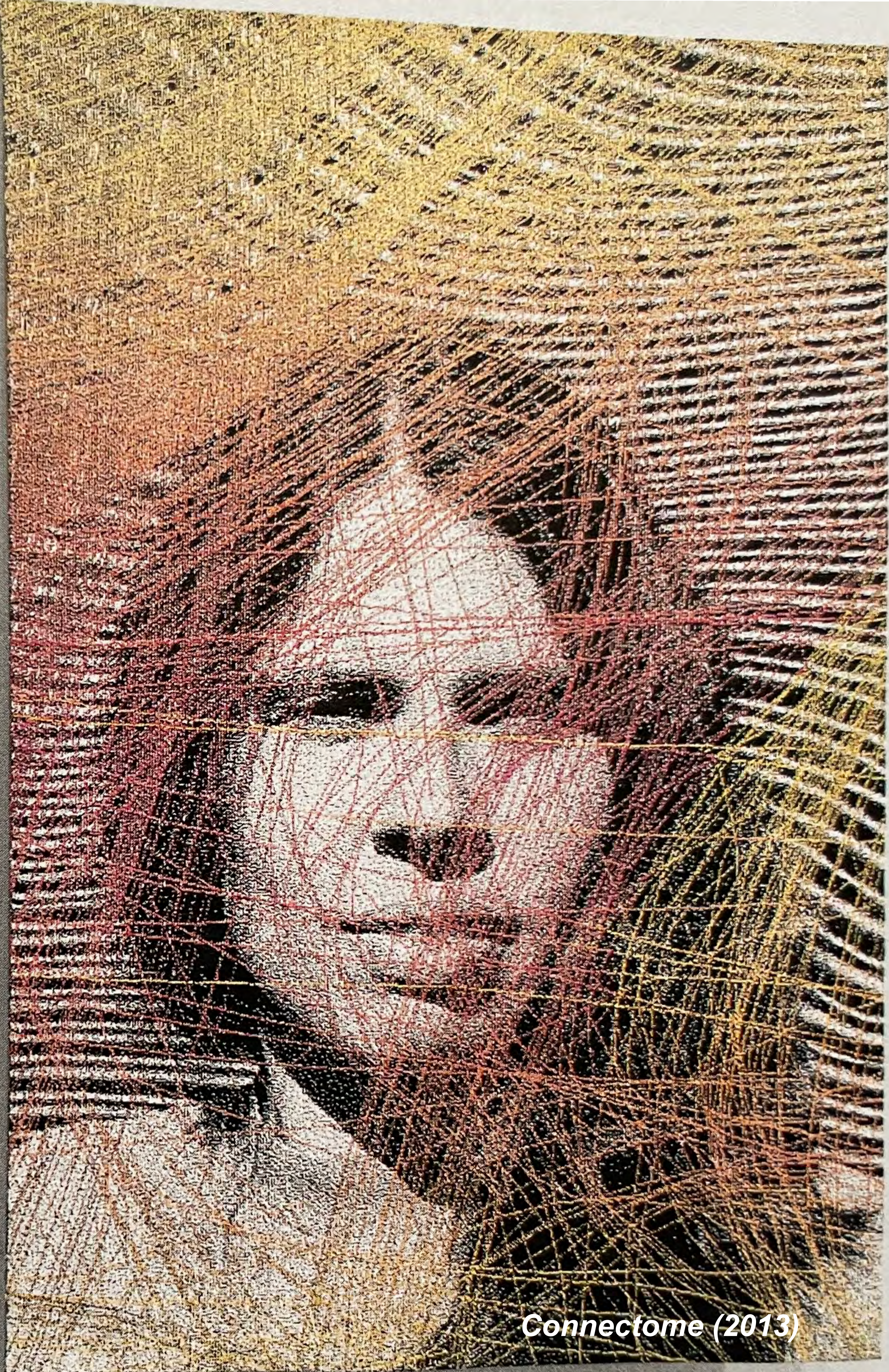
Results indicated that for the textile/photograph pairs in which emotionality ratings differed, textiles were rated higher in emotionality than corresponding photographic representations. Further, textile images processed preferentially by the right hemisphere of the brain were rated higher in emotionality than those processed preferentially by the left hemisphere, consistent with right-hemisphere specialization for emotional processing. Lastly, preliminary findings suggested that participants with higher anxiety scores on the mood inventories exhibited different patterns of brain hemisphere differences than those with lower scores, but more participants need to be tested for conclusive results. Students in my research lab are continuing to study hemispheric differences in emotional factors that may influence patterns of hemispheric differences.



The research study in Denise Evert's Cognitive Neuroscience laboratory used ten pairs of images of faces; for each pair, one version was printed (left) and one version was woven (right).

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Connectome (2013)