



university of
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immensely Pinnated

SELF-CHOSEN COLOURED LIGHT INDUCES RELAXATION

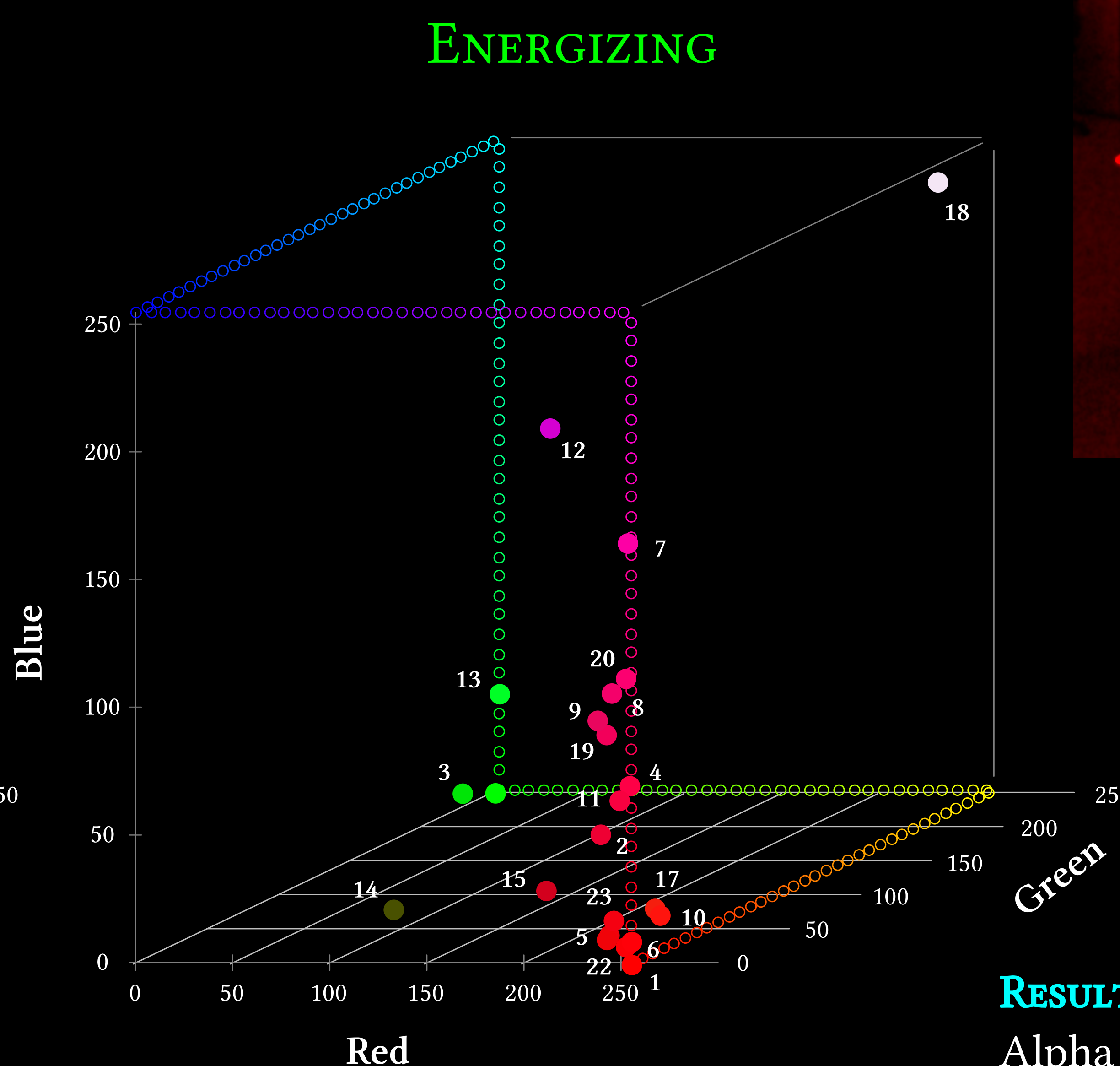
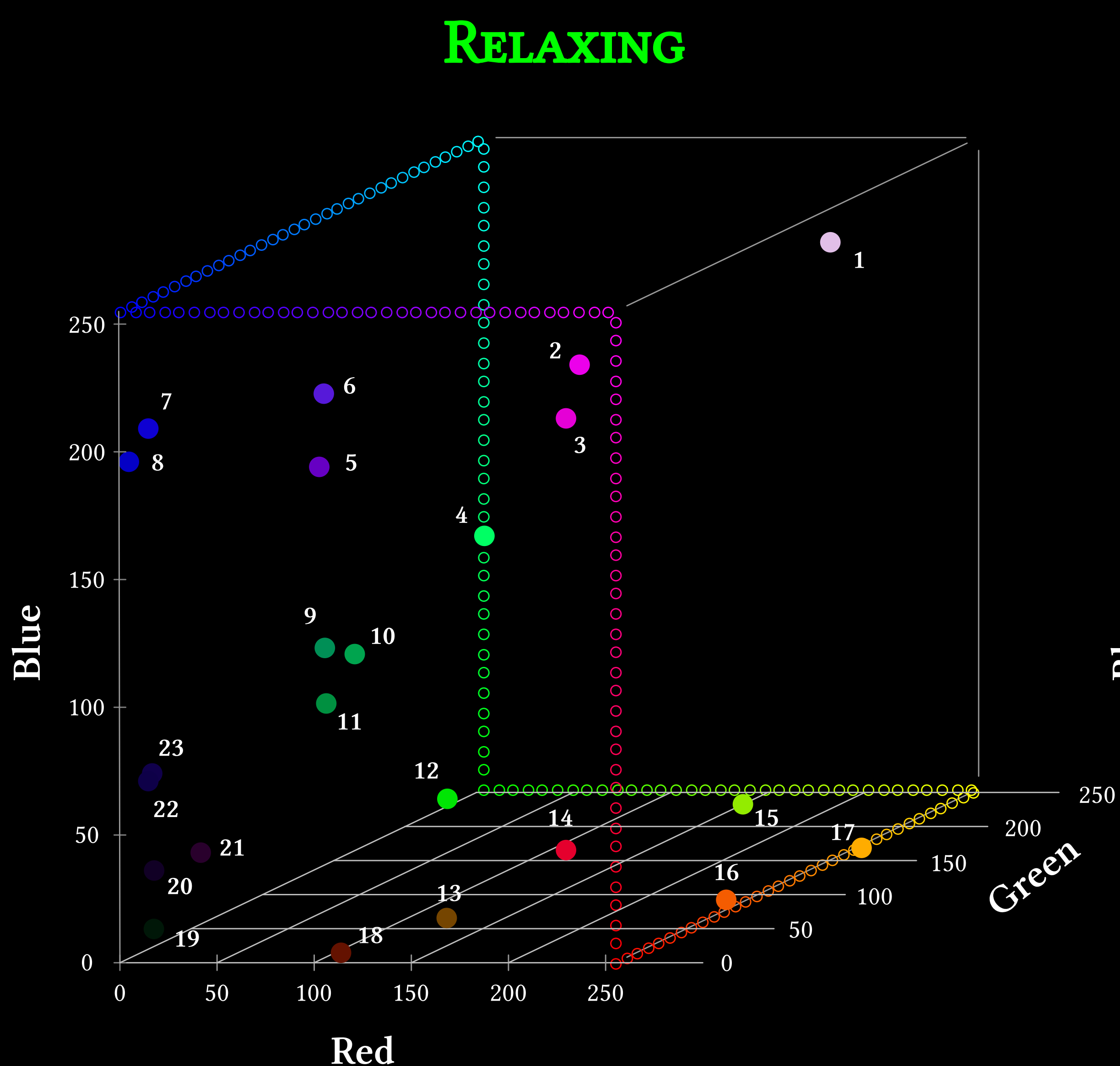


INTRODUCTION The availability of light emitting diodes (LEDs) in different colors makes it increasingly possible to integrate light into products and the environment. We assessed the effects of colored light on relaxation and mood using the "Light Shower", a domed construction onto which light is projected while participants are seated on a chair with their heads and shoulders in the dome so that only the light can be seen.

EXPERIMENT Participants (n = 23; age 18-32 years) filled out a mood questionnaire (the Positive Affect Negative Affect Scale) before and after exposure to a near-Ganzfeld of self-chosen relaxing colored light. Amplitude of the alpha rhythm (8 - 12 Hz brain oscillations associated with a resting state) was measured during 2.5 min of exposure to the relaxing color and during 2.5 min of exposure to a self-chosen "non-relaxing" color.



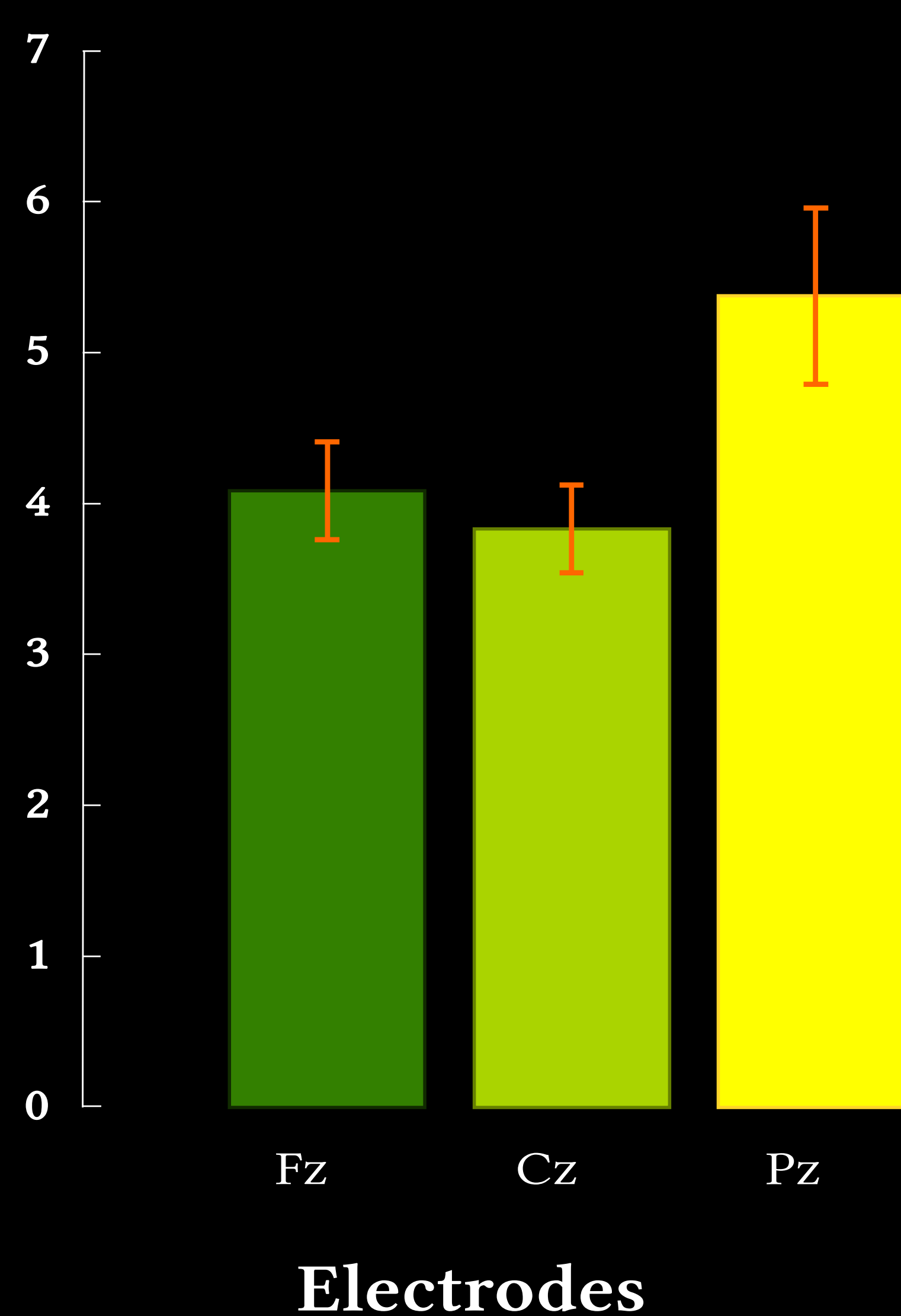
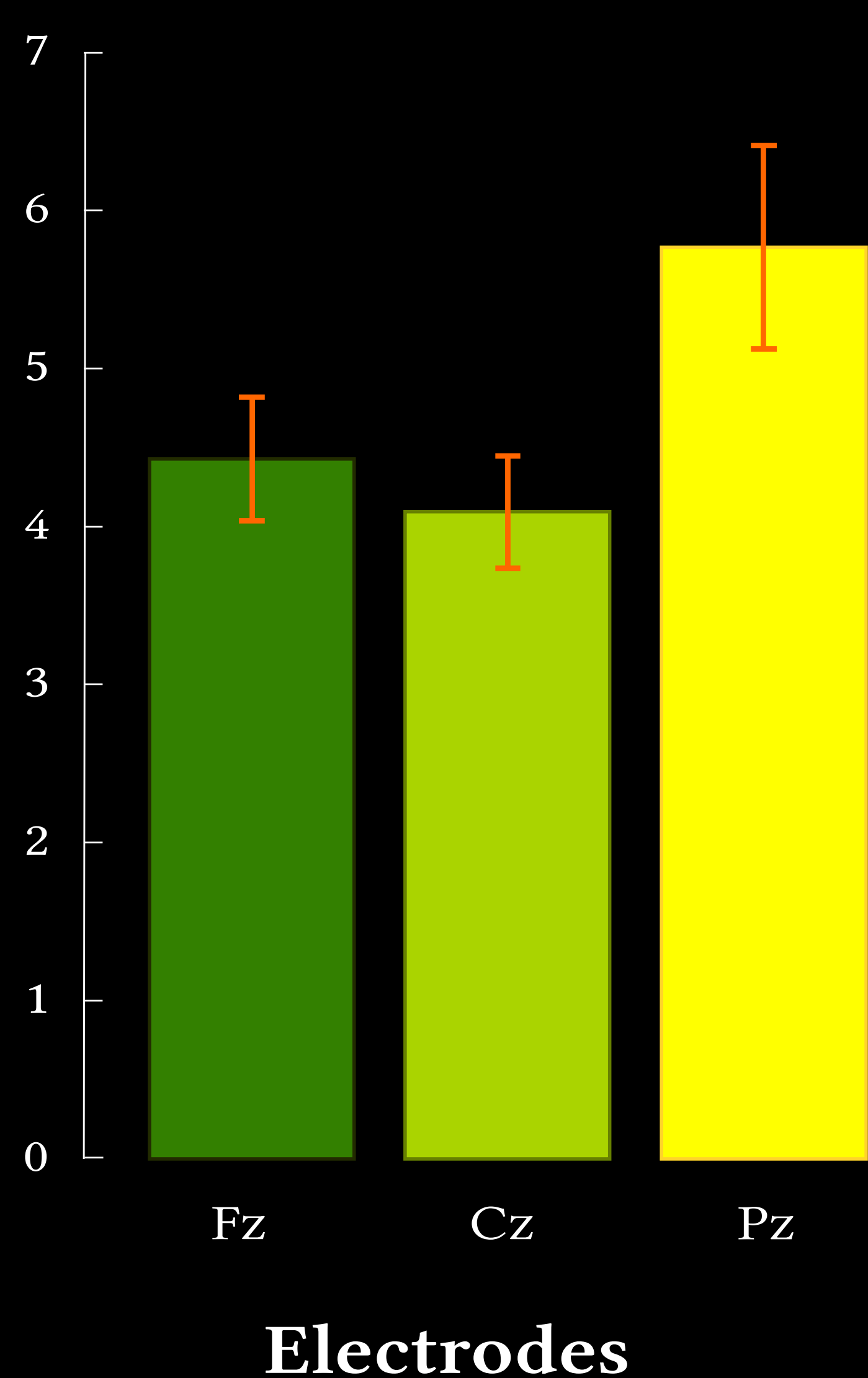
Chosen light (RGB values)



RESULTS - COLORS

15 participants chose a blue/green hue as relaxing. Four participants chose green as energizing/not relaxing color.

Alpha Amplitude (μV)



RESULTS - ALPHA AMPLITUDE

Alpha amplitude was higher in the relaxing color condition than in the energizing/not relaxing color condition ($F(1, 22) = 5.68$, $p = .02$, $\eta^2_{part} = .21$), and differed depending on electrode position ($F(2, 44) = 16.76$, $p < 0.01$, $\eta^2_{part} = .43$).

RESULTS - MOOD

Positive ($t(23) = 7.52$, $p < .001$) and negative ($t(23) = 3.22$, $p = .004$) affect decreased after exposure to the Light Shower. The light dimension soft received ratings significantly higher than the midpoint on the scale (mean = 1.142 on a scale from -3 to 3; $t(23) = 5.90$, $p < 0.001$)

DISCUSSION People are capable of finding a color which makes them relaxed. The experience of being in the Light Shower was evaluated as generally pleasant and the light itself was evaluated as "soft". This research suggests that environmental light may contribute to a relaxed state even when exposure times are short.

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