

ABSTRACT

THE EFFECTS OF LAWFUL MULTISENSORY CONCORDANCE ON VISUO-SPATIAL ADAPTATION

Organisms perceptually adapt to their changing personal environments in order to perform functions critical to their survival. Perceptual adaptation can be described as the process by which one perceptual system adjusts its interpretation of environmental stimuli to come into agreement with the other perceptual systems. It seems perceptual adaptation requires the multiple sensory patterns to be lawfully concordant, meaning that they describe the same event, yet there have been no findings regarding this hypothesis. The current study examined how different degrees of lawful concordance between multisensory patterns affected visuo-spatial adaptation. One-hundred and thirty-eight participants were recruited from introductory psychology courses at California State University, Fresno. The participants experienced one of four levels of laterally displaced sound and light stimuli in a classic prism adaptation study design. It was hypothesized that the more lawfully related and concordant the sensory patterns were, the more powerful the perceptual aftereffects would be. The results do not support this hypothesis. The expected positive linear relationship between lawful concordance of sensory patterns and the magnitude of the aftereffects was not found. Analysis showed no significant differences in the aftereffect magnitudes between the conditions. Despite the lack of significant differences, our data appear to indicate a negative relationship between lawful concordance and aftereffect magnitude.

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