Children regularize object shape but not object color in visual recognition tasks

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Abstract

When concepts erode with neuropathology, patients lose knowledge of the visual details that differentiate related items, such as the hump of a camel or the color of a pumpkin. Consequently they fail to differentiate real vs chimeric items differing in these properties. We assessed whether the same pattern is observed over conceptual development. Children viewed a real and chimeric item differing in a single property and decided which was real and which silly. For some items, the correct choice was more prototypic (e.g. a donkey vs a donkey with a hump); for others, less (e.g. a camel vs a camel with no hump). Stimuli differed in their shape/parts or in color. Like patients with semantic impairments, children more often failed to recognize items with atypical parts, even when these were successfully named. The reverse pattern was observed for the color task. These results importantly constrain theories of conceptual development.