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Author

Ozaydin, Teoman

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The Persistent Concrete Bias in Monkeys

Teoman Ozaydin
Carnegie Mellon, Pittsburgh, Pennsylvania, United States

Abstract

Human children and adults in industrialized societies typically exhibit a relational bias—they readily attend to abstract relationships (e.g., comparing heights)—whereas young children, adults from minimally schooled cultures, and non-human primates often display a concrete bias, focusing on absolute features (e.g., total surface area). The underlying cause of this bias—whether innate, working memory limitations, or an artifact of limited learning experience—remains unresolved. We tested this by pitting concrete matches against relational matches in a match-to-sample task. Monkeys initially preferred concrete matches. However, monkeys learned to select relational options when reinforced, indicating that they were capable of overcoming their default bias. Crucially, once explicit feedback was removed, they reverted to concrete matching, indicating a persistent bias rather than a lack of learning opportunities. This suggests an inherent primate predisposition toward concrete processing that may be overridden by the cultural and educational influences of industrialized societies, which favor relational processing.

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