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Authors

Chambers, Alexandra
Revlin, Russell

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Revising beliefs about imagined relations: the role of logic and content

Alexandra Chambers

University of California Santa Barbara

Russell Revlin

University of California Santa Barbara

Abstract: University students ($n = 86$) revised their beliefs about story-based relationships in the face of new, contradictory information. Prior to resolving an inconsistency, students drew a picture depicting the story information. Participants' resolution of logical inconsistencies reflected (a) the structure of the facts at hand and (b) the relationship conveyed by the major premise (All p are q). Students were more committed to a story relationship when the contradiction challenged the outcome of a modus tollens ($\neg q, p$) rather than modus ponens (p, q) inference. Commitment to story relations was also greater when p represented a cohesive group whose characteristic q was critical to their definition as a group. When p represented a more ambiguous group, students drew more people and were less likely to retain the story relations. The preference to preserve a generalization is dependent on the nature of the logical contradiction and its implications to group entitativity.