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Authors

Cui, Lucy

Liu, Zili

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Magnitude Processing of Improper Fractions When Comparing Bundle Deals

Lucy Cui

UCLA, Los Angeles, California, United States

Zili Liu

UCLA, Los Angeles, California, United States

Abstract

People encounter improper fractions in real life contexts on a regular basis. One such example is with bundling at the grocery store ($2/\$4$ or two for $\$4$). The present study seeks to understand how people process these bundle prices compared to improper fractions. Participants completed a magnitude comparison task with different bundling formats ($2/\$4$ vs. $\$4/2$) and their fractional equivalents. We found a reliable difference between the bundle format ($2/\$4$) seen in grocery stores and the most visually similar fraction ($2/4$). This difference shows that participants are not using a heuristic (larger fraction means cheaper per item) when comparing these bundle deals and instead do need to process them like improper fractions. Overall, we found that participants were better at comparing fractional magnitudes in a math context than in a financial context and that this effect of context also depended on format ($2/4$ vs. $4/2$).