Age & Decoy Effects in Preferential Choice

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INTRODUCTION

- Many choice phenomena have been well-studied in younger adults but not older adults (Peters, Finucane, MacGregor, & Slovic, 2000; Sanfey & Hastie, 2000).
- **Decoy effects** (a reversal of the relative preference for 2 alternatives with addition of a 3rd noninformative alternative) can be thought of as cognitive illusions that violate assumptions of normative rational choice theories (Busemeyer & Diederich, 2002; Weddell, 1991).
  - **Example: Coke vs. Pepsi** preference modulated by a 3rd drink option.

3 Types of Decoy Effect (Roe, Bussemeyer, & Townsend, 2001)

- Choose between **Car A & Car B** (**see Figure 1**), Cars defined ONLY on expert rated **Performance & Economy**
- Will there be a preference reversal for Car A vs. Car B due to including one of **Decoy Cars 1-6** in the choice set?
  - Decoy 1 or 2: **Attract** preference to Car A or B, respectively
  - Decoy 3 or 4: **Similar** to Car A or B, respectively, draw pref. away
  - Decoy 5 or 6: **Compromise**, draws preference towards A or B, respectively

Age & Decoy Effects

- Previous studies suggest older adults may not produce **attraction effects** under conditions where younger adults do (Bergeron et al., 2002; Kim & Hasher, 2005; Tentori, Osherson, Hasher, & May, 2001).
- Also, domain of choice (e.g., discount shopping cards vs. extra-credit school assignments) modulated younger adult, but not older adult, attraction effects (Kim & Hasher, 2005).

Present Study

- How general are age-related changes in the **attraction effect**?
- Are there age-related changes in **similarity & compromise effects**?

METHOD

Participants: 74 younger (18-24 years), 59 middle-aged (26-59 years), & 52 older (62-91 years) adults.

Procedure: Choose preferred car from 3 car choice set.

Materials: 6 A-B pairs (**see Figure 1**). Each A-B pair repeated 6 times per participant with each of 6 decoys (36 choice sets per participant). Each car rated on performance & economy.

Figure 2

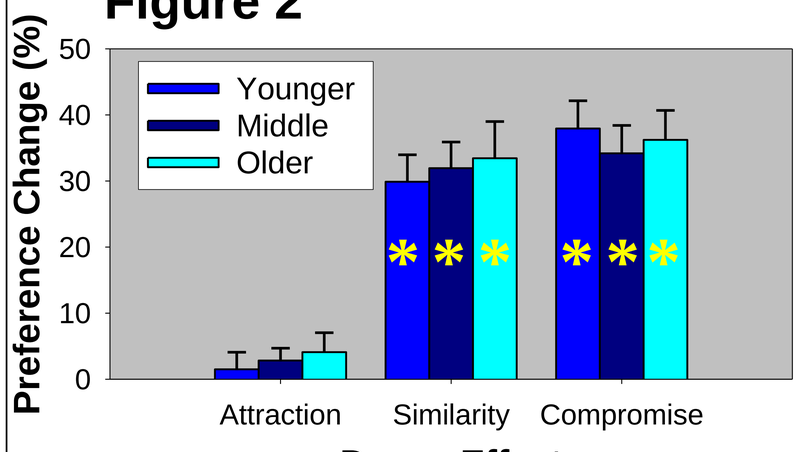
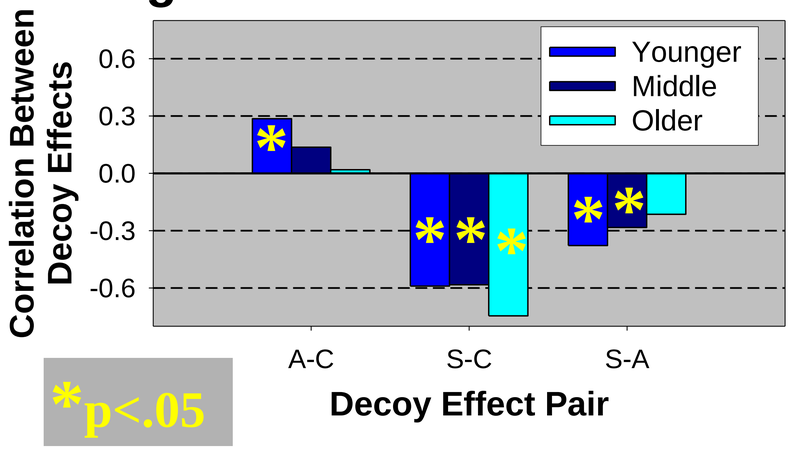


Figure 3



*p<.05

RESULTS

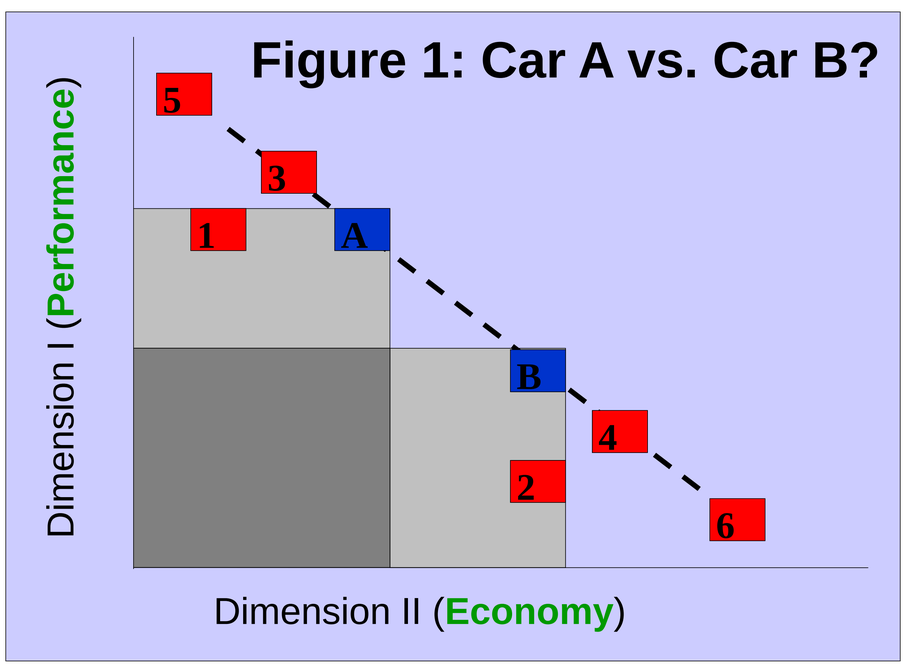
Group Means: Fig. 2

- No Significant Attraction Effects
- All Groups: Significant Similarity & Compromise Effects
- No Age-Related Differences in Decoy Effects

Correlations: Fig. 3

- All correlations Significant for Young
- Only Similarity-Compromise Significant for Older
- Age-related Changes in Pattern of Significant Decoy Effect Correlations

Figure 1: Car A vs. Car B?



CONCLUSIONS

- Lack of age-related differences in the decoy effect group means may be due to the use of a repeated measures design in the present study (as opposed to single choice per participant in previous studies, Kim & Hasher, 2005; Tentori et al., 2001).
- Alternatively, the attraction effect may be the decoy effect most sensitive to age, and the present study failed to find significant attraction effects in either age-group.
- The pattern of intercorrelations of decoys observed in younger adults are consistent with a recent computational network model of decoy effects (Roe et al., 2001).
- Direct simulation is required before it can be determined if the age-related changes in decoy effect correlations are inconsistent with model predictions, or can be captured with a process parameter (e.g., the inhibitory control parameter contained in the model).

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