Short Report

Are Older Adults Less Subject to the Sunk-Cost Fallacy Than Younger Adults?

JoNell Strough, Clare M. Mehta, Joseph P. McFall, and Kelly L. Schuller

West Virginia University

The sunk-cost fallacy is a decision-making bias that reflects the tendency to invest more future resources in a situation in which a prior investment has been made, as compared with a similar situation in which a prior investment has not been made (e.g., the tendency to spend more time watching a boring movie one paid to watch than to watch a boring, but free, movie). Most research on this fallacy has been conducted with college students (Arkes & Ayton, 1999). Although a growing number of studies have investigated the sunk-cost fallacy in children, adolescents (Klaczynski, 2001), and nonhuman animals (Navarro & Fantino, 2005), no research has investigated whether older adults are less likely than younger adults to commit the sunk-cost fallacy (cf. Bruine de Bruin, Parker, & Fischhoff, 2007). Drawing from prior research on age differences in negativity and positivity biases in information processing, we hypothesized that older adults would be less likely than younger adults to commit the sunk-cost fallacy.

Soman (2004) offered loss aversion as a potential explanation for the sunk-cost fallacy. Supporting evidence comes from research in which young adults have reported that their sunk-cost decisions are motivated by loss avoidance (Frisch, 1993). This focus on losses may reflect younger adults' *negativity bias* in information processing. Younger adults weigh negative information more heavily than positive information (Baumeister, Bratslavsky, Finkenauer, & Vohs, 2001). In contrast, older adults demonstrate a *positivity effect* (Carstensen & Mikels, 2005). Their decisions reflect a more balanced view of gains and losses (Wood, Busemeyer, Koling, Cox, & Davis, 2005). If older adults are less likely than younger adults to focus exclusively on losses, and loss aversion contributes to the sunk-cost fallacy, then older adults may be less likely than younger adults to commit the sunk-cost fallacy.

Kelly L. Schuller is now at the College of Charleston. Address correspondence to JoNell Strough, Department of Psychology, West Virginia University, Morgantown, WV 26506-6040, e-mail: jonell.strough@mail.wvu.edu.

METHOD

Seventy-five college students (18–27 years old, $M = 19.47$, $SD = 1.36$; 52.63% women) and 73 community-dwelling older adults (58–91 years old, $M = 74.15$, $SD = 8.11$; 70.15% women) who participated in a larger study (Strough, McFall, Flinn, & Schuller, in press) were presented with two pairs of vignettes. Each pair consisted of one vignette involving an investment and an analogous vignette involving no investment. For example, one of the investment vignettes said, "You paid $10.95 to see a movie on pay TV. After 5 minutes, you are bored and the movie seems pretty bad." In the no-investment analogue, the sentence about the $10.95 payment was removed. The vignettes were adapted from Frisch (1993). One pair of vignettes involved a monetary investment, and the other involved a time investment; order of presentation was counterbalanced. The two pairs were separated from each other by two filler vignettes. Within each pair, the investment and no-investment analogues appeared on adjacent pages; their order was counterbalanced within and between subjects. After reading each vignette, participants selected one of five options for future time investment (e.g., stop watching entirely, watch for 10 more min, watch for 20 more min, watch for 30 more min, watch until the end).

Participants also reported how many years of education they had and completed several cognitive tests: tests of verbal and fluid abilities from Kaufman and Kaufman's (1990) Brief Intelligence Test (K-BIT) and the Digit Symbol Substitution and Digit Span (forward and backward) tests from the Wechsler Adult Intelligence Scale (Wechsler, 1997).

Sunk-cost-fallacy scores were computed by comparing each subject's decisions for the investment and no-investment analogues within each pair (Klaczynski, 2001). If a subject indi-

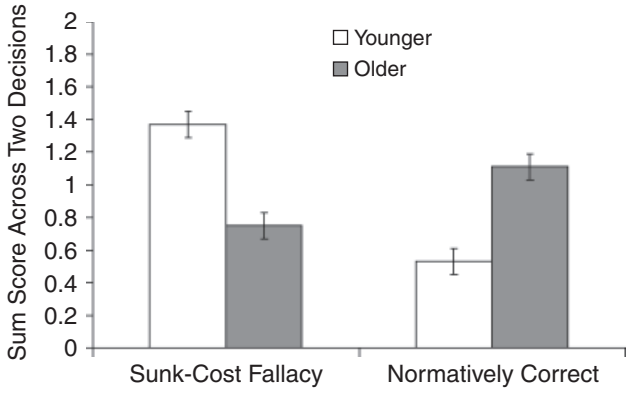

Fig. 1. Mean sunk-cost-fallacy and normatively-correct-decision scores by age group. Error bars show standard errors of the means.

cated more time for the investment than for the no-investment analogue, a score of 1 was assigned to indicate the fallacy occurred; otherwise, the score was 0. Scores from the two pairs of vignettes were summed (range = 0–2).

We also computed *normatively-correct-decision scores* (Klaczynski, 2001). The normatively correct decision was to spend exactly the same amount of time in the investment and no-investment analogues because already-invested sunk costs could not be recovered (Stanovich & West, 1999). If a subject chose the same option for the two analogues in a pair, a score of 1 was assigned to indicate a normatively correct decision; otherwise, the score was 0. Scores from the two pairs of vignettes were summed (range = 0–2).

RESULTS

Preliminary analyses did not indicate significant order effects or interactions between age group and order. Analyses with years of education and cognitive-test scores as covariates did not change the results of the primary analyses examining age differences. After we controlled for participants' age, correlations between the covariates and sunk-cost-fallacy scores were either nonsignificant (*p*rs = .05, .11, and .07 for years of education, Digit Span, and Digit Symbol Substitution scores, respectively) or small in magnitude (*p*rs = .19 and .21 for K-BIT fluid and verbal scores, respectively; *p*s < .05).

Older adults were less likely than younger adults to commit the sunk-cost fallacy, $F(1, 147) = 26.20$, $p_{rep} = .99$, $\eta_p^2 = .15$ (see Fig. 1).[1] In addition, older adults were more likely than younger adults to make normatively correct decisions, as evidenced by consistent decisions across investment and no-investment analogues, $F(1, 147) = 24.12$, $p_{rep} = .99$, $\eta_p^2 = .14$ (see Fig. 1).

DISCUSSION

Older adults were less likely than younger adults to commit the sunk-cost fallacy. This finding is consistent with the hypothesis we developed on the basis of prior research (Baumeister et al., 2001; Carstensen & Mikels, 2005; Soman, 2004). Other research examining age differences in decision making among adults has sometimes (e.g., Kim & Hasher, 2005), but not always (e.g., Finucane, Mertz, Slovic, & Schmidt, 2005), found greater consistency of decisions with increasing age. Stanovich and West (2000) theorized that normatively correct decisions reflect greater cognitive ability. Our findings are inconsistent with their theory. In accord with recent approaches (Peters, Hess, Västfjäll, & Auman, 2007), our findings highlight the role of affective processes, including age-related differences in positivity and negativity biases in information processing, in influencing sunk-cost decisions.

[1]Analysis of the degree of overinvestment yielded similar findings.

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