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Introduction

Counterfactual thinking is the comparison of a factual situation to a simulated alternative situation. When people think about how things could have been different, they tend to change some kinds of factual events more often than others, for example, people have been shown to be more likely to undo the *last* event in an independent sequence (the *temporal order* effect; Byrne, Segura, Culhane, Tasso, Berrocal, 2000; Miller and Gunasegaram, 1990). Research has to date focussed on separating out each of the different factors that determine the events which people choose to change. We know little about how such factors interact.

McCloy and Byrne (2000) showed that people are more likely to change inappropriate controllable events, which are exceptional with regards to interpersonal norms for behavior, than to change appropriate events, which are normal. The first aim of this study was to establish whether varying interpersonal normality on a different dimension (selfishness) could affect the mutability of events. We predicted that controllable events which were *selfish* (i.e., done purely for the self) would be more mutable than controllable events which were *selfless* (i.e., done for more than just the self), because selfish events are exceptional with respect to interpersonal norms and selfless events are normal. The second aim of this study was to explore the interaction between interpersonal normality and the temporal order effect described above. We predicted that the selfishness of an event would interact with its position in a temporal sequence, in that selfish events which occur last in an independent temporal sequence should be changed more often than selfish events which occur earlier.

Method

We constructed a scenario describing a morning in the life of a woman (Maria). On this day, Maria carried out nine tasks before leaving the house. Of these, eight were everyday household tasks (e.g., dusting, ironing) while one was an event carried out purely for Maria herself (reading a magazine). On leaving the house she had a car accident. Participants were asked to imagine how the outcome might have been different if she had not done one of the tasks.

The within-subjects variable was the nature of the tasks (selfish vs. selfless). The between-subjects variable was the position in which the selfish event appeared in the scenario. The selfish event could appear as either the first event, the fifth (middle) event, or the ninth (last) event in the scenario. The dependent variable was the task that participants chose to undo. The participants were 117 undergraduates from the University of Malaga, Spain. They were assigned at random to one of the three experimental conditions regarding the position of the selfish event (first, n = 35; middle, n = 42; last, n = 40).

Results and Discussion

The results corroborated both of our hypotheses. Overall, the selfish event (30%) was more mutable than any of the selfless events (all <9%). These results provide a replication of the effects of *interpersonal normality*, and they extend this effect to events that deviate from prevailing interpersonal norms along another dimension (selfishness). As predicted, the results show that there is an interaction between the effects of interpersonal normality and temporal order. The selfish event was more mutable when it occurred in the last position (40%) than when it occurred in the first (31%) or middle (19%) positions. However, the results do show that the selfish event is still highly mutable in the first position. One explanation may be that the occurrence of the selfish event early in the scenario may violate people's assumptions about when people normally carry out such actions. A selfish action carried out when there are selfless waiting to be done may be seen as more exceptional than one carried out after the completion of such tasks. Nevertheless, the results of this experiment do show that selfish event are more mutable than selfless events, and that the effects of interpersonal normality and temporal order can interact in determining counterfactual mutability.

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