

## Re-evaluation of decision alternatives dependent upon the reversibility of a decision and the passage of time\*

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### *Abstract*

*In the present experiment subjects made a decision between two alternatives which was either reversible or irreversible. After the choice, subjects evaluated the attractiveness of both alternatives once more under different time levels. It was found that with increasing time level, re-evaluation of alternatives increased under irreversible and decreased under reversible conditions. The results are discussed in the framework of dissonance theory.*

### **Introduction**

The present study tests some implications of dissonance theory with regard to the re-evaluation of decision alternatives. People are allowed to freely choose between two alternatives and the subsequent change in attractiveness of the decision alternatives is studied. According to dissonance theory (Festinger, 1957; Wicklund and Brehm, 1976), a decision between two attractive alternatives produces dissonance because the chosen alternative has negative as well as positive aspects. Dissonance can be reduced by focusing on the positive aspects of the chosen and the negative aspects of the nonchosen alternatives, hence increasing the attractiveness of the former and/or decreasing that of the latter (spreading-apart-effect, *cf.* Festinger, 1957, 1964).

In the present experiment, two additional variables are investigated; whether the decision or elimination is thought to be reversible or not, and the passage of time. With respect to reversibility, the prediction of dissonance theory is quite well-known (*cf.* Festinger, 1957, 1964; Brehm and Cohen, 1962). Less dissonance reduction is associated with a decision when it is reversible than when it is not, and so less re-evaluation should occur in the former case than in the latter. The question however, is if this effect will decrease or increase over time. According to the version of Festinger (1964) one could expect that some minutes after the decision there will be a so-called regret effect, i.e., a short-lived decrease in the attractiveness of the chosen alternative and an increase in that of the alternative not chosen. However, past findings regarding the regret effects are ambiguous, only few studies reporting regret effects (*cf.* Festinger and Walster, 1964; Walster, 1964; Walster and Walster, 1970). Unfortunately, since in most studies concerned with the post-decisional dissonance paradigm, only one time level was introduced, a clear test of the regret

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phenomena could not be taken. One could speculate that under irreversible decisions no regret effects exist and that with increasing time intervals the spreading-apart-effect increases in order to justify the irreversible decision. Probably only under reversible decisions can an indication of a regret effect be shown which may increase with an increasing time interval.

To summarize, the present experiment tested whether there is a change of attractiveness of decision alternatives and if such a change depends on whether the decision is reversible or not; and the amount of elapsed time since the decision was made.

## Method

### Overview

Subjects were male and female students, fifteen to nineteen years old, recruited from Mannheim high schools. In all experimental conditions, subjects were given a list of authors and titles of 8 non-fiction paperback books and told that they would later be able to select one of two of these books to take home with them. They were then to evaluate the books according to their attractiveness. Later, subjects in all groups were handed a paper listing the two books they had previously rated third and fourth highest in attractiveness and were told that they could choose among them. The choice was described as either reversible or irreversible. The subjects then evaluated all 8 books on an attractiveness scale. This rating was made either 30s, 3 min, 10 min, or 30 min after the choice, thus constituting a  $2 \times 4$  design between subjects factorial design.

### Procedure

The 183 subjects were recruited in their schools and promised 5 DM for participating in the study. When they arrived in the laboratory, subjects were told that the study was one on consumer attitudes and were then asked to rate the attractiveness of titles and authors of 8 books on scales between 0 (not attractive) and 135 (very attractive). The sale prices for the books were said to be approximately equal. Subjects were tested individually and were randomly assigned to conditions.

The experimenter told the subjects before the attractiveness ratings that they would later be able to choose one of two books among the eight for themselves at the end of the experiment in addition to the 5 DM offered for their participation. Subjects were told that the experimenter would select two books between which they could finally choose.<sup>1</sup>

Once the attractiveness ratings were finished, subjects were given a fifteen minute distraction task that involved rating the 'solvability' of some difficult intelligence test problems. During this time the experimenter went into another room and returned with a sheet of paper on which were listed books to which the subject had given the third and fourth highest attractiveness ratings. Subjects were then informed that they could choose between these two books. This decision was described as reversible or irreversible using the same procedure as in previous experiments (Frey, 1981, 1982). In the *reversible condition*, subjects were told: 'Regardless which book you choose you will have the opportunity of changing your decision by returning your book within the next three days to us and exchanging it for the other'. In the *irreversible condition*, subjects heard instead: 'Make a good decision, because you will receive only the chosen book. Exchange is impossible'.

After this, subjects again rated the attractiveness of the books. They were told that the experimenter was interested in their present opinion. The subjects should put their answers in an envelope so that it was completely private. These ratings were given either immediately after the choice of books or 3, 10, or 30 min later, the interval being filled with some additional cognitive tasks. After subjects had given their second ratings, they were finally debriefed and paid. All subjects received the book they had previously rated as most attractive.

<sup>1</sup>It should be added that, at the same time, another experiment was conducted whereby subjects could not choose between two alternatives and in which the experimenter decided which of two alternatives (third or fourth) they received (elimination condition). With this design some implications of reactance were tested.

Table 1. Means of the reevaluations of the decision alternatives\*

	t1	t2	t3	t4	Average	
Reversible						
Chosen	+6.35 <sup>†</sup>	+7.15	+7.91	+1.55	+5.88	+5.32 <sup>§</sup>
Nonchosen	-6.74 <sup>‡</sup>	-11.62	-6.67	-1.45	-6.96	
Difference between both	+13.09	+18.77	+14.59	+3.00	+12.84	-7.95 <sup>¶</sup>
Non-reversible						
Chosen	+1.86	+6.64	+2.05	+9.05	+4.78	
Nonchosen	-7.35	-1.76	-7.68	-20.62	-8.91	+13.28
Difference between both	+9.23	+8.40	+9.73	+29.67	+13.69	

\*N = 22-24 per cell.

<sup>†</sup> Means of the difference score of the attractiveness evaluations for *chosen alternative*.

<sup>‡</sup> Means of the difference score of attractiveness evaluations for *nonchosen alternative*.

<sup>§</sup> Mean overall change for chosen alternative.

<sup>¶</sup> Mean overall change for nonchosen alternative.

## Results

The initial attractiveness scores of obtainable and nonobtainable alternatives did not significantly differ between experimental conditions. Table 1 shows the main differences between the final and initial attractiveness rating of the chosen and nonchosen alternatives.

Following a choice, according to dissonance theory, the attractiveness of the chosen alternative should increase and that of the nonchosen alternative decrease. This would entail a positive difference between the final and initial measurements of the chosen alternative and a negative difference for the alternative not chosen. The results show that this is exactly what happened; there is a consistent overall tendency for the attractiveness of the chosen alternative to increase (mean overall change = +5.32) and for the nonchosen alternative to decrease (mean overall change = -7.95). From the initial to final measurement, the overall mean changes in both cases differing significantly from zero (both  $p < 0.05$ ). Combining both effects there is a clear spreading-apart-effect according to dissonance theory (+13.28;  $p < 0.01$  from zero).

As to the influence of reversibility, there was no main effect over all conditions but there was an interesting interaction between reversibility and time ( $F(3,168) = 4.42$ ;  $p < 0.05$ ) on the differences between chosen and nonchosen alternatives: When the decision is reversible, the spreading-apart tends to *decrease* with time ( $p < 0.02$ ) and when the decision is irreversible it tends to *increase* ( $p < 0.01$ ). It should be added that there were no effects for gender of subjects and also the entire ratings' array (those items above and below the presented items) didn't change significantly.

## Discussion

The re-evaluation data are consistent with the implication of dissonance theory: The chosen alternative increased and the nonchosen alternative decreased in attractiveness, thus making for a clear spreading-apart-effect. Irrespective of whether the decision is final or reversible, the chosen alternative increases in attractiveness immediately after the decision while the nonobtainable alternative is markedly devalued. Interestingly there is no evidence in our experiment for a regret effect at any of the four measurement points after the decision for one alternative.

The effects of reversibility on the attractiveness ratings over time are particularly interesting. With longer time intervals, the knowledge that the decision is final or reversible rather strongly affects the perceived attractiveness of the alternatives. When subjects expect

the decision to be reversible, the difference in attractiveness between the chosen and nonchosen alternatives become smaller over time. It appears that subjects became increasingly aware later that the other alternative was rather similar in attractiveness. This narrowing of the difference in perceived attractiveness may be seen as an indication that the subjects were again in a 'predecisional' phase. When the decision of one alternative was expected to be final, in the first three time intervals the spreading-apart-effect was interestingly lower than when the decision was expected not to be final. Thirty minutes after the final decision, however, subjects were much more satisfied with what they had chosen than the subjects who knew that the nonchosen alternative might still be attainable. Thus, subjects appeared to focus selectively on the positive aspects of the obtained alternative and the negative aspects of the eliminated one.

Thus, the present experiment shows three aspects: (1) a clear indication of a spreading-apart-effect; (2) a variation of strength of the spreading-apart-effect in dependence upon reversibility of the decision and the time elapsed; (3) no regret effect. How can this last effect (or non effect) be explained? Perhaps, regret is assumed to be a rather short-lived phenomenon; it may not have evolved immediately after the decision and may already have evaporated three minutes later. However, our study cannot quite be compared with the classical study of Walster (1964), in which a regret effect had been found. To recall, Walster (1964) had her subjects sitting down doing nothing, for a period of up to 90 min, and found the regret effect at 4 min. Given that we do not know how much time the subjects in the present study actually had to think about the dissonance, we cannot compare the studies. On the other hand, during the 25 years of research in dissonance theory only few examples exist where a regret effect was found (cf. Festinger and Walster, 1964; Walster, 1964; Walster and Walster, 1970) and these may have been chance products. Therefore further research should be done where the dependent variables are measured under different time levels. Unfortunately, in most of the research on dissonance theory only one time level was introduced. It would be interesting to test whether, in general, dissonance reduction processes increase (at least when decisions are irreversible) the more time is elapsed.

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