Extract from academic article entitled 'Fitness by fit: A regulatory fit perspective of reward preference in a health club loyalty program'

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Experimental Design

We used a 2 × 2 between-subjects experiment in which we manipulated the type of reward (reimbursement vs. extra payment) and type of frame (gain vs. loss). We randomly assigned participants to one of the four conditions and collected data by means of a short questionnaire at t = 1. The questionnaire provided general instructions, scenario descriptions, and a list of items that measure regulatory focus, exercise intentions and value perceptions. In addition, we supplied participants with an exercise tracking form (in both hard and soft copy) and asked them to record information each week for four weeks. Specifically, they were asked to record the frequency of visits per week, time per visit, exercise intensity reflected by 'fitness points' per visit (the exercise registration system provides these upon logging out) and type of exercise (cardio and/or weights).

The study was conducted in a major health club with several outlets in a mid-sized city. Participants were presented with scenarios in which members' monthly membership fees were a partly a function of their exercise frequency. In the promotion condition, participants were either given a discount (gain) or no discount (nongain), depending on whether they exercised at least eight times each month. In prevention condition, participants were informed that they would either pay a penalty (loss) or no penalty (nonloss), depending on whether they exercised at least eight times a month. In this way, we ascertained that the two reward types could not be valued differently in terms of their monetary value, hence minimizing confounding effects.

Procedure and scenarios

Participants were informed that the health club had designed a pilot project to test a new reward structure. In the promotion condition, they were told that they would be reimbursed €10 of the €45 membership fee if they met the required number of visits. In the prevention condition, they received a €10 discount which they would have to repay if they did not meet the required number of visits. As with the membership fee itself, any credits or debits would be registered automatically, immediately after the test period. In order to be eligible for the reward, participants were required to register for the project, authorize the necessary

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transactions, and work out eight times within a four-week period for at least 30 minutes per session by logging in to the exercise registration system (which could only record one workout per day). The instructions are included in Appendix A.

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Measures

To measure value perceptions, we used three items adapted from Yi and Jeon's (2003) scale. We also used a three-item measure for exercise intentions based on research by Jones et al. (2003). Both the value-perception and exercise-intention measures employ 7-point Likert-type scales anchored at *strongly disagree* (1) and *strongly agree* (7). Additionally, the number of visits, duration of visit (in minutes) and exercise intensity (in fitness points) were recorded for every participant.

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We also included items as manipulation checks for reward type. Different items apply to each type, rated on 7-point Likert scales ranging from *strongly disagree* (1) to *strongly agree* (7). For the reimbursement scenarios, we included: "In joining the reward program, I am concerned with getting the reimbursement" and "In joining the reward program, I wanted the reimbursement." For the extra payment scenarios, we used: "In joining the reward program, I am concerned with avoiding extra payment" and "In joining the reward program, I wanted to avoid the extra payment." In the manipulation checks for these rewards, we use a test value of 4, because a value greater than the scale's midpoint implies that the reward represents a promotion or prevention reward. In addition, we crosschecked the influence of reward manipulations on participants' exercise goals using items from the Exercise Motivation Inventory (EMI-2) (Markland and Ingledew 1997): three items tapping achievement motives (e.g., "to build up my strength," "to improve my endurance") and five items reflecting avoidance motives (e.g., "to avoid heart disease," "to maintain good health"). We averaged the three items for checking the promotion motives and the five items for checking the prevention motives.

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Data collection

We collected data from questionnaires sent to health club members online. A tracking form was also attached, which participants could fill out electronically or on paper. An initial 100 respondents participated in the main study, 88 of whom also returned the exercise tracking form. Of the sample, 61.4% were female, the mean age was 23.05 years (SD = 2.73), and 83.6% indicated that they exercised at least twice per week.

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Results

Construct validation

We used Principal Axis Factoring with Promax rotation to assess the construct validity of the measures used in Study 1 (Netemeyer et al, 2003). Our results show that all loadings in the pattern matrix exceed 0.70, and there are no cross-loadings larger than 0.30. We assessed the reliability of the measures using coefficient alpha and the average interitem correlations. Both value perceptions and exercise intention exceeded the cut-off value of 0.7 for coefficient alpha (value perception: 0.77; exercise intention: 0.72), and average interitem correlation (value perception: 0.54; exercise intention: 0.47) (Nunnally and Bernstein 1994).

Manipulation checks

Our manipulation checks for both rewards (prevention: t(42) = 20.50, $p < 0.001$; promotion: t(44) = 11.07, $p < 0.001$) differ significantly from the scale midpoint. The manipulations resulting from the scenarios thus clearly produce the intended effect. Further, we crosschecked the influence of reward manipulations on participants' exercise goals using items from the Exercise Motivation Inventory (EMI-2). The results show that participants in the promotion reward condition have higher achievement-motive scores (M = 5.17, SD = 1.22) than avoidance-motive scores (M = 3.94, SD = 1.20; t(44) = 6.36, $p < 0.01$). In contrast, those in the prevention condition have higher avoidance-motive scores (M = 5.69, SD = 1.19) than achievement-motive scores (M = 4.39, SD = 1.12; t(42) = 8.56, $p < 0.01$). These results support our finding that reward manipulation is indeed successful.

Multivariate analysis of variance

The MANOVA results in Table 1 show a significant interaction effect of reward and framing (Pillai's Trace (V) = 0.129; $F_{APP(5,80)} = 1.597$). Figure 1 presents a graphical representation of the mean scores for Study 1. The results demonstrate that members evaluating prevention rewards show an increased value perception ($F_{(1,84)} = 5.961$ [M = 5.33]), exercise intention ($F_{(1,84)} = 8.677$ [M = 5.84]), number of minutes spent on exercise ($F_{(1,84)} = 7.151$ [M = 57.38]) and number of fitness points ($F_{(1,84)} = 5.198$ [M = 120.38]) with loss-framed rather than gain-framed messages (value perception: M = 4.80; exercise intention: M = 5.44; number of minutes: M = 52.73; number of fitness points: M = 106.18). For number of visits (F(1,84) = 1.746), however, we failed to find a significant interaction effect. The above results support H1, H2 and H3b, but suggest that we reject H3a.

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