

Experiment Three

Experiment Three aimed to answer the question whether task-irrelevant emotion could be taken as SMs which will in turn guide decision making. The original IGT schedule was used. In addition, emotional pictures were also subliminally presented (as that in Experiment Two). To examine the effect from the pictures (i.e., task-irrelevant emotions), good decks were matched to negative pictures, whereas bad decks were matched to positive pictures. By doing so, any observable effects of the pictures would be expected to decrease the good deck preference which was caused by the monetary feedback (i.e., task-derived emotions).

In order to statistically test the changes in good/bad deck difference that might be caused by picture manipulation, a control group was conducted in that participants received the original IGT schedule without subliminal pictures, as that in Experiment One.

Methods

Participants

Forty-eight undergraduate students from National Chengchi University and from National Taiwan Normal University participated in Experiment Three voluntarily. They were randomly assigned to receive either original IGT schedule with (experimental group; male = 6, female = 18) or without (control group; male = 11, female = 13) subliminal pictures. Participants got NT \$150 for the 60 minutes participation.

Task

Participants in both experimental and control group received the original IGT schedule. For experimental group, subliminal pictures were presented each time when a

deck being selected, as the way in Experiment Two. An important revise here was that, unlike in Experiment Two that the associations between the four picture sets and the four decks were completely counterbalanced, in Experiment Three the two positive picture sets were linked to the two bad decks (i.e., deck A and B), with associations between the two positive picture sets and the two negative decks being counterbalanced. On the other hand, the two negative picture sets were linked to the two good decks (i.e., deck C and D), with associations between the two negative picture sets and the two positive decks being counterbalanced as well. For control group, the task was completely the same as that in Experiment One, except to the 4 s blank inserted between trial beginning and card selection.

Procedure

The procedure for experimental and for control group were almost identical to that in Experiment Two and that in Experiment One, respectively. However, for the concern that emphasizing “staying at good decks leads to win” in the demonstration might cause instructive bias, the emphasis was removed in Experiment Three.

SCR Recording & Analysis

SCR recording and analysis were the same as that in Experiment Two, except that the anticipatory and feedback SCRs were divided into subtypes according to the deck selected in the trial, rather than the associated emotional pictures. Therefore, there were: anticipatory SCRs for good decks (deck C and D), anticipatory SCRs for bad decks (deck A and B), feedback SCRs for good decks, and feedback SCRs for bad decks.

Results

For the experimental group, participants who reported seeing any pictures or images were excluded and were then replaced by new recruited participants. The total replacing rate for was 29.41%.

In order to examine interactions between groups and good/bad deck selection (i.e., to see whether the differences between good and bad decks would be smaller in experimental group than in control group), we first computed the good/bad deck differences in (a) card selection, (b) anticipatory SCRs, and (c) feedback SCRs. It is notable that, the difference value were calculated by using good decks minus bad decks. As the result, positive value represents that good decks are selected more or with higher SCRs, whereas negative value represents that bad decks are selected more or with higher SCRs.

In Experiment Three, the independent variable was group (experimental vs. control, between-subjects), and the dependent variables were the good/deck difference in (a) card selection, (b) anticipatory SCRs, and (c) feedback SCRs. Three *t*-tests were proceeded for the three dependent variable, with the .05 α value for each test.

Behavioral Data

Figure 12 (up) shows good/bad deck differences in the two groups. A *t*-test was proceeded but revealed no significance in group ($t(46) = 1.66, ns.$). That is, differences between good and bad deck selections did not differ between experimental and control group.

Anticipatory SCR

Figure 12 (middle) shows the good/bad deck anticipatory SCR differences in the

two groups. A *t-test* was proceeded to but revealed no significance in group ($t(46) = 1.33$, *ns.*). Therefore, good/bad deck differences in anticipatory SCRs did not differ between the two groups.

Feedback SCR

Figure 12 (bottom) shows good/bad deck feedback SCR differences in the two groups. A *t-test* was proceeded to but again revealed no significance in group ($t(46) = 1.17$, *ns.*). That is, the good/bad deck differences in feedback SCRs did not differ between experimental and control group.

Summary

In Experiment Three, neither behavioral data nor SCR data revealed significant difference between experimental and control group. These together suggested that, out of our expectation, the subliminally-presented emotional pictures did not exert effect on participant's card selections as well as on SCR activities.

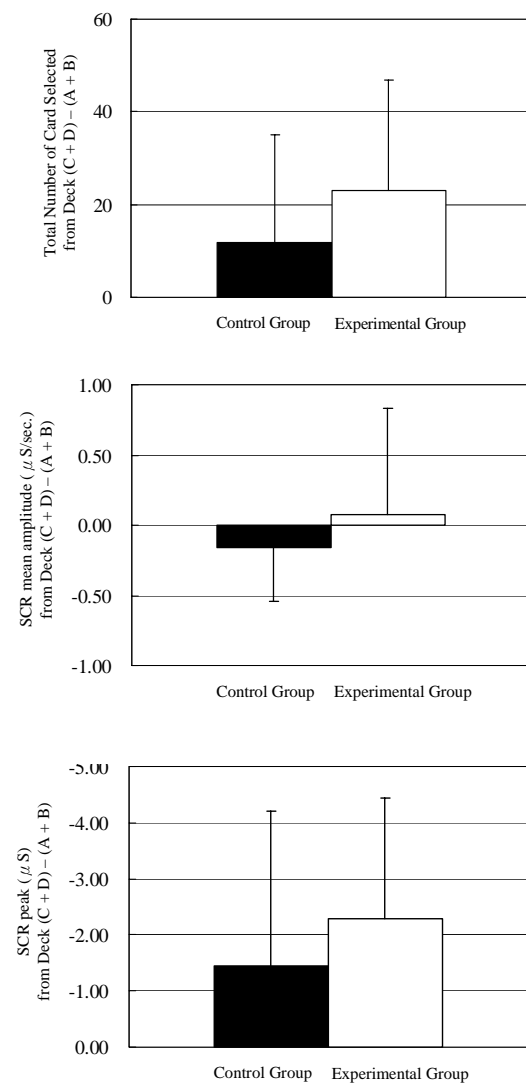


Figure 12. Good/bad deck difference in card selection (up), anticipatory SCRs (middle), and feedback SCRs (bottom) in Control and in Experimental group. No any group effect was found in any of the three depend variables.