

WHEN AND WHY DO MUSICIANS OUTPERFORM NON-MUSICIANS?

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BACKGROUND AND AIMS

Individuals bring different motivations to the laboratory when they participate in behavioural experiments. On the one hand, individuals who adopt a mastery (learning) goal orientation view ability as a malleable attribute that can be developed with effort, whereas on the other hand, individuals who adopt a performance goal orientation tend to view ability as a fixed, innate attribute that is difficult to develop (Dweck, 1986). A mastery orientation is generally related to high levels of self-efficacy, effort, persistence, flexible strategy use, and attention to gains in the environment. A performance orientation, in contrast, has been shown to be related to attention to losses in the environment, as well as lower levels of satisfaction with one's own performance and a tendency to be debilitated in the face of a challenging task because working hard and failing is a confirmation of low ability (Elliot & Dweck, 1988; VandeWalle, 2001). In the context of research on music perception, we suspected that musicians may adopt different goal orientations than non-musicians and that the tendency to favor one orientation over the other may depend on the difficulty of the task being performed; moreover, consistent with the concept of regulatory fit, goal orientation may interact with the reward structure of the task (Higgins, 2000). Specifically, we expected that for easy tasks, musicians would adopt a performance orientation and thus show a bias to attend to losses and outperform non-musicians only when losing points for incorrect responses. For a harder task that required learning, we hypothesized that musicians would adopt a mastery orientation and thus show a bias to attend to gains and outperform non-musicians only when gaining points for correct responses.

METHOD

One-hundred and ten individuals participated in a study where they were told that they would complete a test that was diagnostic of their musical ability; it was moreover stressed that musicians generally performed better than non-musicians. Participants self-identified as a musician or non-musician by pressing 'M' or 'N' on a computer keyboard, respectively. In Experiment 1, participants (n=52) completed a relatively easy and straightforward task, namely making same-different judgments about pairs of melodies. In Experiment 2, participants (n=48) completed a difficult task that involved learning to classify tones that varied in frequency and duration according to an initially unknown disjunctive rule. For both tasks, corrective feedback was provided on each trial. Participants assigned to a gains reward structure received 2 points for correct responses and 0 points for incorrect responses, while those assigned to a losses reward structure lost 3 points for incorrect responses and 1 point for correct responses.

RESULTS

For the relatively easy task involving same-different melody comparisons, self-identified musicians outperformed non-musicians in the losses reward structure, but performed similarly to non-musicians in the gains reward structure. However, for the relatively difficult task involving learning to classify tones according to an initially unknown rule, musicians outperformed non-musicians in the gains reward structure, but performed similarly to non-musicians in the losses reward structure. Reward structure had no effect on non-musicians' performance for either task.

CONCLUSIONS

Results are consistent with the hypothesis that for familiar tasks musicians adopt a performance orientation and show a bias to attend to losses in order to prevent poor performance, whereas for unfamiliar tasks, musicians adopt a mastery orientation and show a bias to attend to gains in order to promote good performance.

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TOPIC AREAS

Music and personality
Social psychology of music