Mood, Attention, and the Aha! Moment
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Abstract

Although research has generally shown that positive affect broadens attentional scope and enhances creativity, recent evidence suggests that the mood-attention relationship depends on the present dominant attentional focus. The current research seeks to extend these findings to the ability to solve insight problems. Undergraduates were primed to focus globally or locally and induced with a mood before completing insight problems. Contrary to past research, participants primed with a local, as opposed to global, focus of attention solved significantly more insight problems. There was no significant mood-attention interaction on insight problem solving ability. This suggests that convergent thinking may play as substantial a role as divergent thinking in insight problem solving. Moreover, at least in the realm of insight, mood does not act as a signal that determines if a dominant attentional focus is acted upon or not.

Methods

Participants
Sixty-eight undergraduates from Linfield College

Materials

Mood measurement
Modified Positive and Negative Affect Schedule (PANAS-X, Watson & Clark, 1994)
Participants rated on a scale of 1 (very slightly or not at all) to 5 (extremely) the extent to which they were feeling each of the 40 emotions (23 negative, 18 positive)

Global-local focus priming
Variant of the Navon (1977) letter task
The stimuli for this task were composite figures – big letters made up of smaller letters. Participants responded if the figure contained a target letter (“L” or “H”) (Figure 1). Those in the global focus condition saw 120 trials where the target was the bigger letter, and 30 trials where the target was the smaller letters. These frequencies were reversed in the local focus condition.

Design and Procedure

This was a 2 (Attentional Focus [global, local]) x 3 (Mood [positive, neutral, negative]) between-subjects experiment. Participants completed a modified version of the PANAS-X to assess baseline positive and negative mood. Next, they completed a variant of the Navon letter task. Then, participants in the positive and negative affect conditions watched video clips to induce amazement and sadness. Neutral affect participants proceeded immediately to the next task. All participants were shown 3 insight problems and given up to 4 min to complete each question. Participants responded once again to the PANAS-X.

Results

Insight problem solving performance was measured by the number of correct solutions given (0-3). A univariate ANOVA was used to examine insight problem solving performance across conditions. There was no significant interaction between attentional focus and mood, F(2, 45) = 1.96, p = .152. Participants primed to focus locally solved more insight problems (M = 2.58, p = .008) compared to those primed to focus globally (M = 1.24) compared to those primed to focus globally (M = 1.76).

No significant main effect of attentional scope, F(1, 45) = 7.58, p = .006. Participants primed to focus locally solved more insight problems (M = 2.24) compared to those primed to focus globally (M = 1.76).

No significant main effect of mood on insight problem solving ability, F(2, 45) = 1.96, p = .152.

Conclusions

• Insight may be more distinct from creativity than once thought. The flexible mood-attention relationship may not affect insight problem solving.
• Insight problem solving may be more closely related to convergent thinking and benefits from a narrower scope of attention.
• Recent studies suggest that motivational intensity moderates the creative benefits of positive mood (Galate & Harmon-Jones, 2011).
• Sadness and amazement are states of low approach motivation.

Figure 2. Estimated marginal means of insight problem solving scores as a function of mood and attentional focus

Mood induction (2-min-45-s video clips)
Positive mood: Clip from comedy improvisation show, Whose Line Is It Anyway?
Negative mood: Clip from movie, The Champ

Three pure insight problems (Weisberg, 1995)
e.g. A man in a town married 20 women in the town. He and the women are still alive, and he has had no divorces. He is not a bigamist and is not a Mormon and yet he broke no law. How is that possible?
Solution: The man is a minister who married the women and their husbands