

The Effects of Cognition on Emotion Detection

Stephanie Burkus

Indiana University South Bend

Introduction

In our everyday lives, we encounter emotions that we perceive through the face. We use these facial expressions to interact with people, respond to them, and to overall communicate. When we look at someone's face, we usually are quickly able to pick up on what they are feeling.

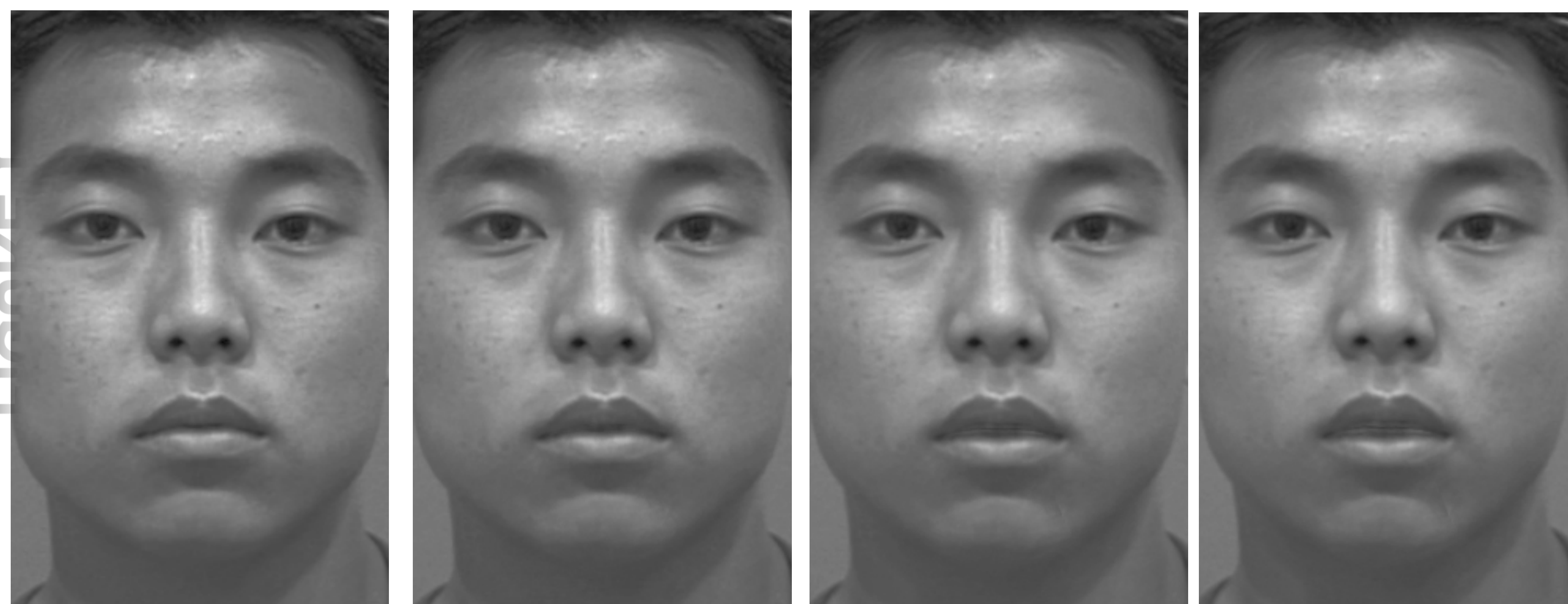
Those with post-traumatic stress disorder, depression, and anxiety frequently show difficulties identifying and describing emotions. This characteristic, referred to as alexithymia, contains three components according to the Toronto Alexithymia Scale (TAS-20):

- Difficulty Identifying Emotion
- Difficulty Describing Emotion
- Externally Oriented Thinking

Parker et al (2005) found that alexithymics have the most trouble with identifying and describing negative emotions. Are these individuals lacking a sense of meaning in their lives? Those who rate their lives as more meaningful exhibit better mental health (King, Trent, & Heintzelman, 2012). Previous studies have also found that a more cognitive sense of meaning (connections, coherence, etc) also plays a role in self rated meaning in life (King, Trent & Heintzelman, 2012).

The present research hypothesis is that those who are primed with a coherent pattern of the seasons will be better at detecting emotions, specifically, negative emotions.

Method



(a) (b) (c) (d)

The present researcher recruited 11 participants (undergraduate students from Indiana University South Bend using the online Sona Systems program). There were additional participants, recruited by a face-to-face request. These participants included family and friends of the researcher.

Participants were primed with either:

- a coherent pattern of the seasons in order, or
- a random noncyclical sequence of the seasons (see Figure 3, a-d)

Then, participants completed the emotion detection task. The present researcher used different levels of extremity (Neutral, 5, 15, and 20) for 6 emotions: (see Figure 1, a-d)

Happy, Sad, Anger, Disgust, Fear, and Surprise

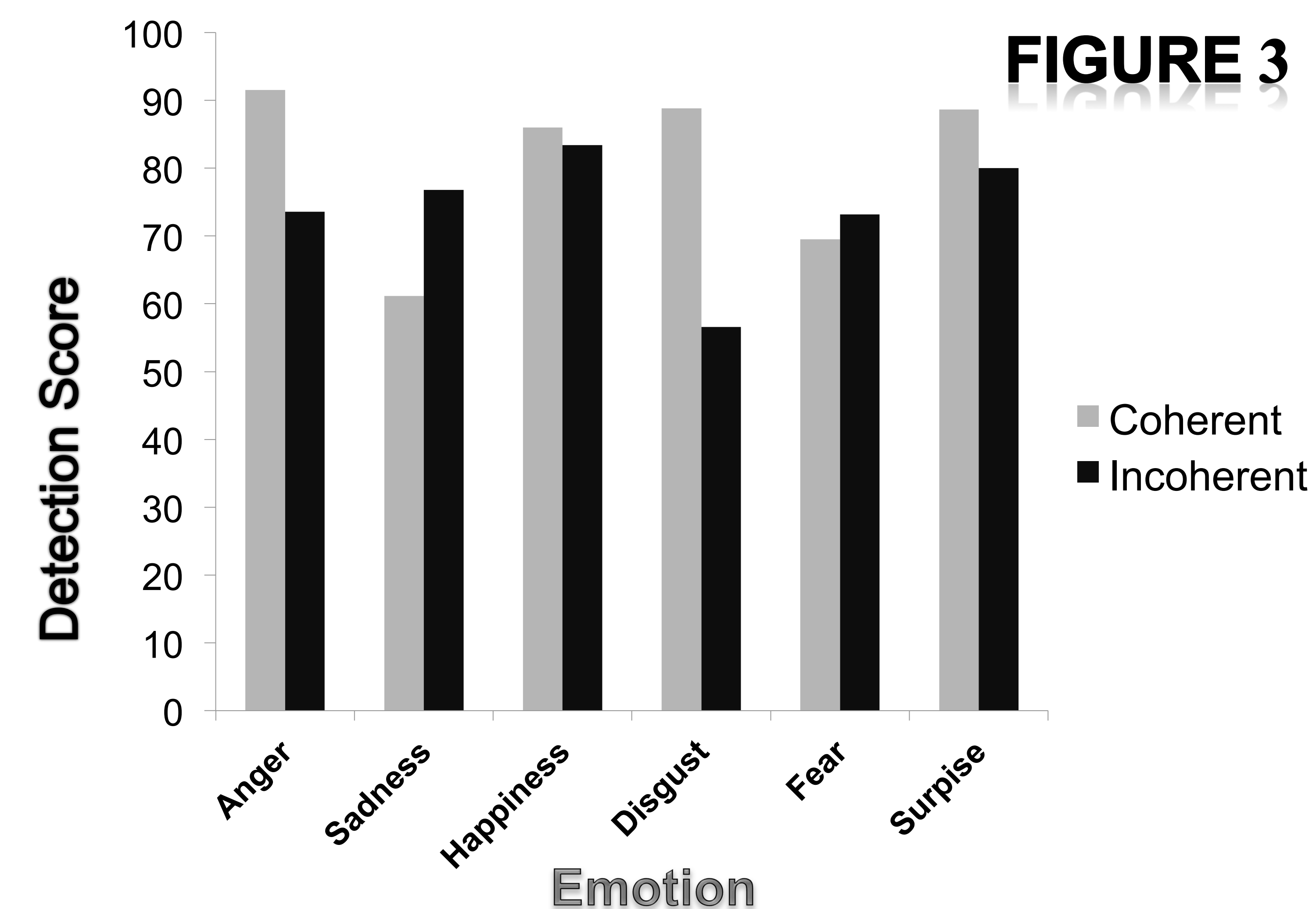


(a) (b) (c) (d)

Results

The mixed ANOVA revealed evidence of a significant Emotion x Meaning interaction, $F(5, 45)=2.84$, $p=.03$.

A simple main effects analysis indicated that Disgust $t(9)=2.70$, $p=.02$ and Anger $t(9)=2.46$, $p=.04$ were identified more accurately in the coherent condition. No other comparisons were significant $t(9)<1.59$, $p>.15$



Discussion

The results provide partial support for the hypothesis. People primed with a meaningful, coherent pattern are better at identifying negative emotions, specifically, anger and disgust.

This suggests that those with a sense of cognitive meaning are better able to identify negative emotions. These results suggest that alexithymics who suffer from depression, anxiety and PTSD are lacking a sense of cognitive meaning and this might be a factor in their difficulties with identifying emotion.

Therapies for alexithymics should include treatments designed to increase a sense of cognitive meaning. One limitation of this study was that we did not use participants who actually suffer from alexithymia. To ensure validity, future studies should recruit alexithymics.