

Local Processing Style Improves Older Adults' Perception of Sadness in Emotional Faces

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INTRODUCTION

Identifying the emotions of your social partner is critical for successful social relationships (Engelberg & Sjöberg, 2004).

Older adults (OA) have more difficulty recognizing facial expressions of emotions, especially anger, fear, and **sadness**, compared to young adults (YA; Ruffman et al., 2008). This study investigates whether observed age deficits are due to processing style differences.

Global processing is holistic, whereas **local processing** is more systematic.

OA may naturally use a broader, global processing style while YA may use a narrower, local processing style, and this can affect perception abilities:

- Socioemotional Selectivity Theory (Carstensen, 1999): OA have motivational and attentional biases towards positive information and experience higher levels of positive affect.
- Broaden and Build Theory (Fredrickson, 2001): Positive emotions broaden an individual's attentional scope.
- Primed local processing style improves accuracy for sad faces in YA samples (Martin et al., 2012).

HYPOTHESIS

In the local condition (but not global), OA will exhibit greater improved accuracy in recognizing sad faces relative to YA.

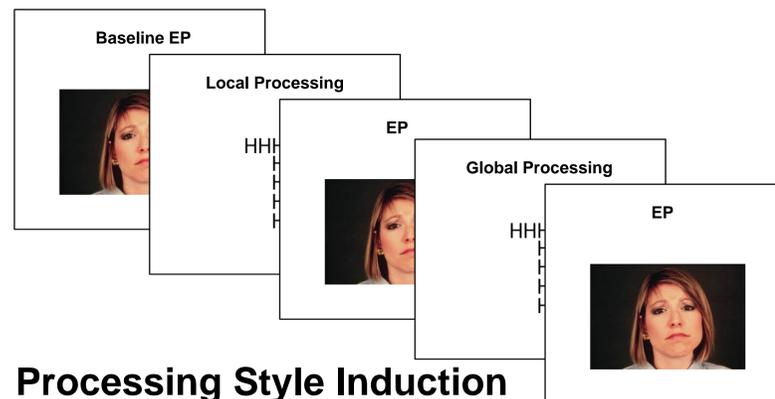
METHOD

Participants

26 YA (18-28 years; 66% female)
32 OA (60-79 years; 49% female)

Emotion Perception Task (EP)

8 images depicting each of the 6 basic emotions (sadness, anger, fear, happiness, disgust, surprise) for a total of 48 images.



Processing Style Induction

48 trials of Navon-style letters.
Local Condition: identified small letter.
Global Condition: identified big letter.

Example of Navon-style letter:
The global answer is "T," the local answer is "H"

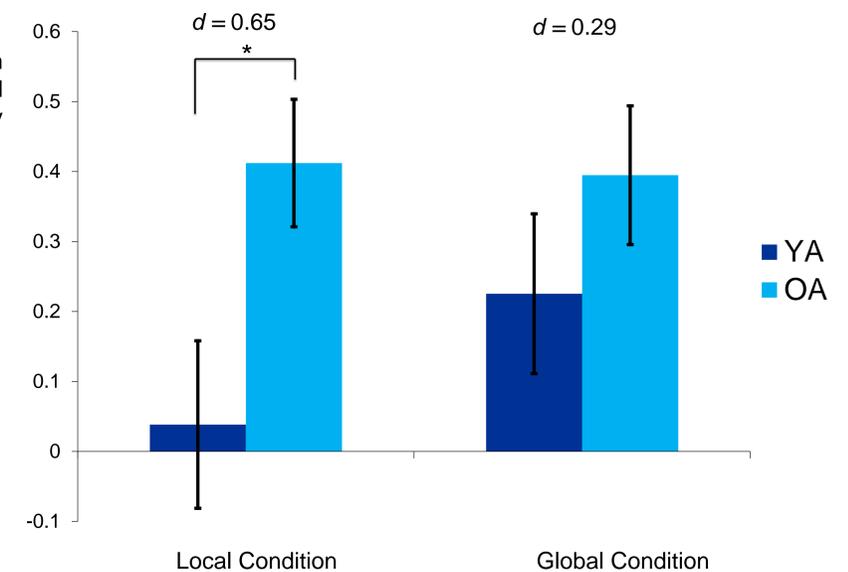
HHHHH
H
H
H
H

ANALYSIS & RESULTS

EP accuracy was calculated using the unbiased hit rate, arcsine transformed (Wagner, 1993). Difference scores were created for each emotion for each condition (e.g., Local EP accuracy – baseline EP accuracy).

Planned contrasts revealed OA had significantly greater improvement recognizing sad faces in the local condition compared to YA, $t(58) = 2.53, p < .05$, but global processing did not have similar effects, $t(58) = 1.13, p = .27$.

RESULTS CONT.



Note: Bars represent standard error of the mean; * Indicates $p < .05$

DISCUSSION

OA benefit more from a local processing induction when identifying sad faces compared to YA, perhaps reversing OA natural tendency to process information globally. Whether this benefit of local processing extends to other facial expressions of emotion is less clear.

This study indicates that at least some aspects of emotion perception ability can be improved upon in OA.

Furthermore, processing style can be induced in an OA sample. Implications for inducing processing style in OA may extend beyond the scope of emotion perception to other domains such as social judgments (Förster et al., 2008), and cognitive flexibility (Johnson et al., 2010).