Neurological considerations in peer victimization

Wendy Craig, Ph.D.,
Department of Psychology,
Queen’s University, Kingston, Ontario, Canada

www.prevnet.ca

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NeuroImaging

- Examining the neural correlates of acute social EXCLUSION

- Large focus on shared neural network for physical and social pain
  - ACC and PCC

- Large range in samples:
  - Adults, adolescents, healthy vs. different clinical patients groups

Eisenberger, 2012, Nature Review
Types of Bullying Peers Witness

- General
- Physical
- Verbal
- Social
- Electronic
- Religion/Race
- Sexual
- Disability
Current research

Objectives

- Delineate the neural correlates of social exclusion in peer victimized individuals
- To characterize the neural mechanisms associated with pro-social (defending behaviour) in response to negative social interactions
Cyberball Task

Player 1

Player 2

Player 3

Player 4

Participant
Approach Avoidance Task

Examples of a male happy and angry face stimulus used
Preliminary results

- Positive correlation between peer victimization and the neural response to social exclusion
Preliminary results

- Contrast between victimized and control group

L Hippocampus

Amygdala

R Anterior Cingulate Cortex
Preliminary results

- Contrast between defenders and control group

L Parahippocampus
Pain and Emotional Regulation
Key Messages

- When witness or experiencing exclusion social pain centre, memory, and fear and control emotional processing centres activated.

- For youth who are victimized higher activation in affective pain areas, depression and pain areas, and risk aversion areas.

- Some children may be more vulnerable to victimization influences.
Key Messages

- For Defenders:
  - self-report greater empathetic tendencies
    display more neural evidence of empathetic processing when they witness a peer rejection.
  - ‘feel the pain’ of others evidence and may be particularity sensitive to negative peer interactions and may be more affected when they witness the rejection of others.