9.916
Empathy & Helping
Today’s Lecture

Why do people “cooperate”?
- Evolved cooperator genes
- Acquire normative beliefs
- Caring about others welfare

(1) Proximal mechanisms for sociobiology
(2) Attempt at multi-level explanation

“A high level concept that appears to have great potential utility in bringing together neural and psychological data is that of empathy.”
Leslie Brothers, 1989

(1) How do we know what others are feeling?
(2) When & why do we respond by caring / helping?

[NB revisited on social perception, ToM, Aggression days]
How do we know

I. Two views

(1) Egocentric
e.g. Singer & Lamm
Own emotions first
Understanding via “matching”

Observe other

(2) Allocentric
e.g. Leppanen & Nelson
Perceive others first
Understanding via learning

Feel for / Care
Help

Mirror (isomorphic) affect

Understand other’s affect
How do we know

2. Evidence of “matching”?

(1) **Pain:** ACC / Insula

![Graphs showing activation in ACC and Insula regions for Not Numb and Numb conditions.](image)


Figures removed due to copyright restrictions.

Figure by MIT OpenCourseWare.
How do we know
2. Evidence of “matching”?

(2) Disgust: Insula

Courtesy Elsevier, Inc.,
Used with permission.

Wicker et al 2003, Calder et al 2000
How do we know
2. Evidence of “matching”?

(3) **Fear:** Amygala

![Graph showing mean correlation with norms for different emotions: happy, sad, angry, afraid, disgusted, surprised.](http://www.sciencedirect.com)

How do we know
2. Evidence of "matching"?

(1) **Pain: ACC / Insula?**
How do we know

3. Evidence of “learning”?

Learn emotion you see,
Not the one you feel:

Happy-Fear  Happy-Sad

Angry-Fear  Angry-Sad

Source: Fig. 2 in Pollak & Kistler. “Early Experience is Associated with the Development of Categorical Representations for Facial Expressions of Emotion.” PNAS 99, no. 13 (2002): 9072-9076.

Copyright (c) <2002> National Academy of Sciences, U.S.A.
Why do we help

Understand other’s affect

Feel for / Care

Help

Batson et al 2007

Figure by MIT OpenCourseWare.
Why do we help

Empathy Induced Altruism

Feeling for
motivates
improving other's welfare

Egotistical Altruism

Feeling with
motivates
reducing own distress

Adults: 18 - 24 month olds:

Monkeys & Rats:

Adults: 18 - 24 month olds:

Monkeys & Rats:


Figures by MIT OpenCourseWare.
Why do we help

Empathy Induced Altruism
Feeling for motivates improving other's welfare

Egotistical Altruism
Feeling with motivates reducing own distress

Monkeys & Rats:

Figures by MIT OpenCourseWare.

Miller et al 1963, Batson et al 1981
Empathy

(1) Proximal mechanisms for sociobiology
(2) Attempt at multi-level explanation

“A high level concept that appears to have great potential utility in bringing together neural and psychological data is that of empathy.”
Leslie Brothers, 1989
9.916 Special Topics: Social Animals
Fall 2009

For information about citing these materials or our Terms of Use, visit: http://ocw.mit.edu/terms.