

Social Relationships are Investments in Health and Well Being



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We regulate each other

Handholding Task



Partner

Handholding



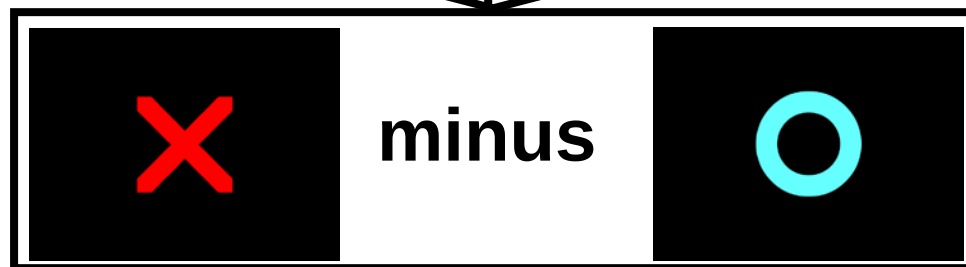
Stranger

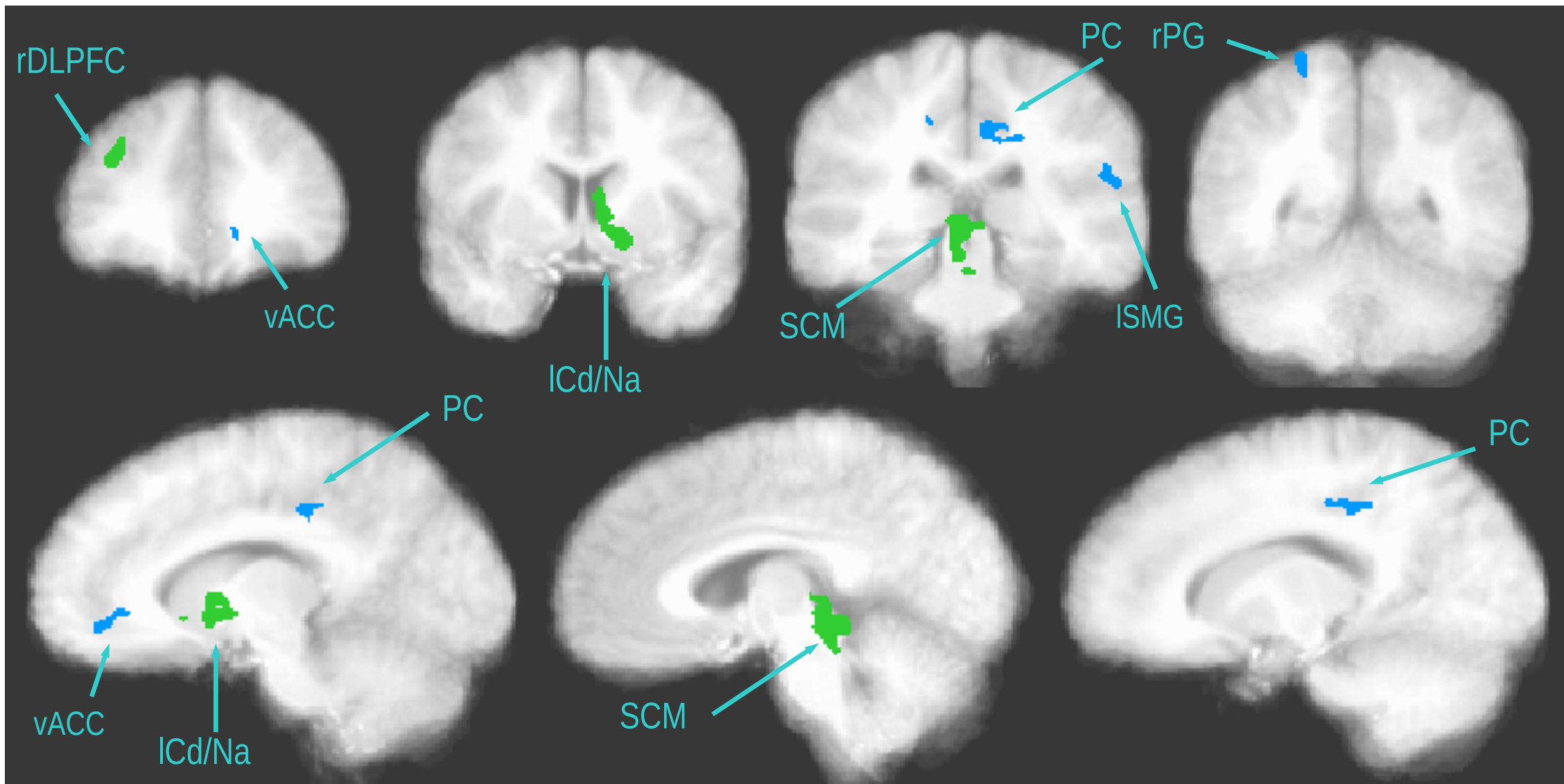
Handholding



No

Handholding

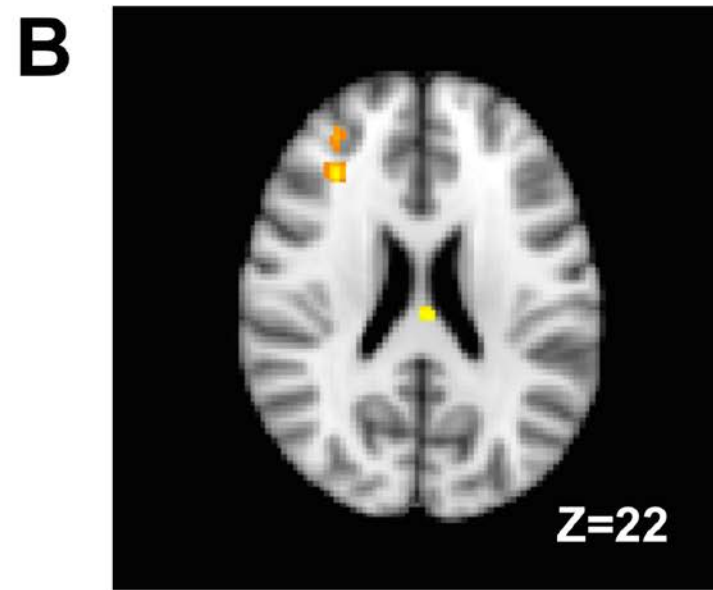
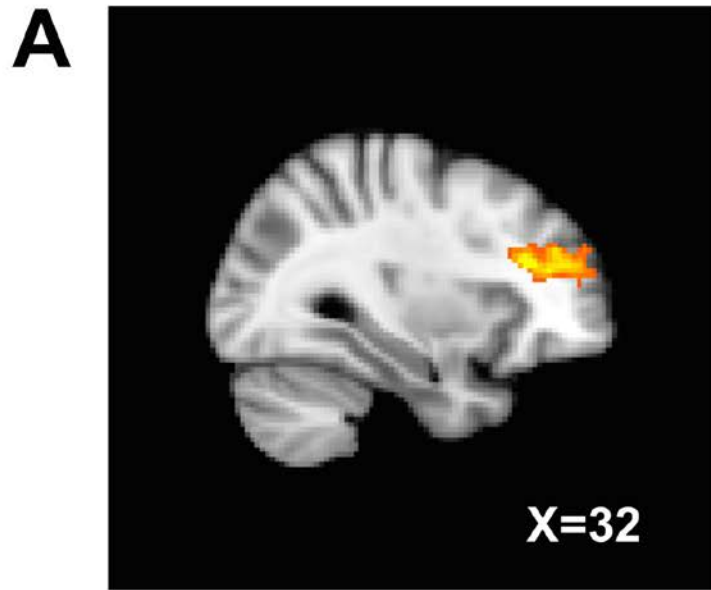




= Spouse < No hand, stranger or both

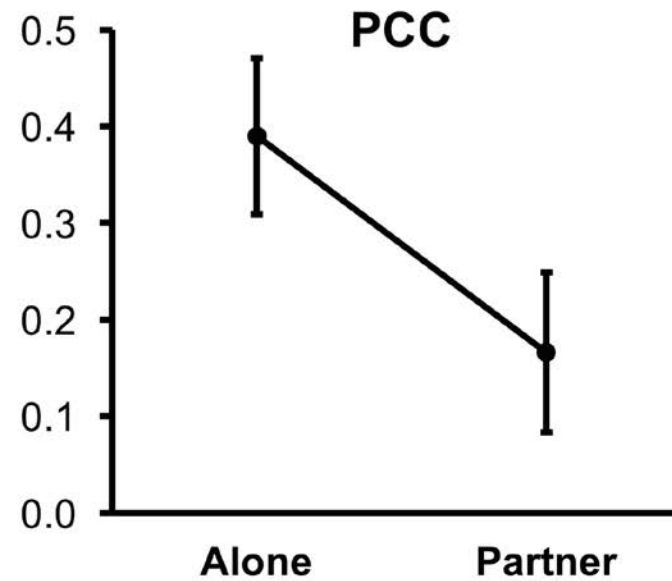
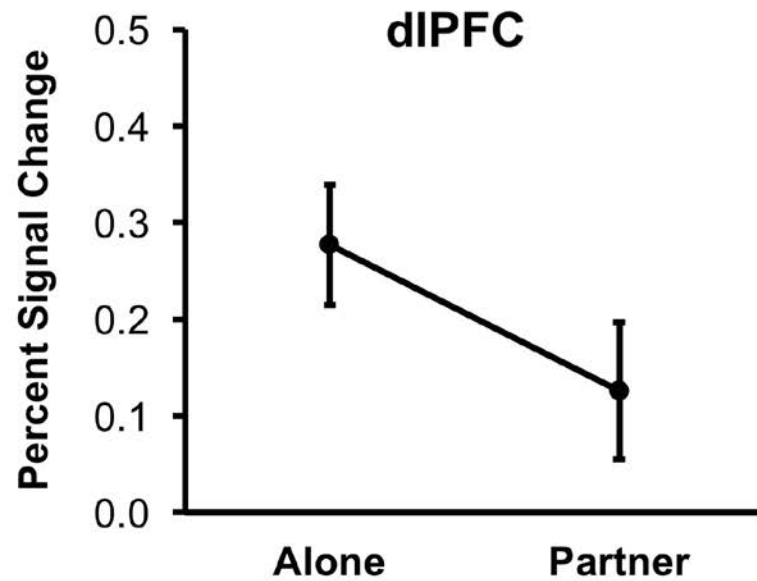


= Spouse and stranger < No hand



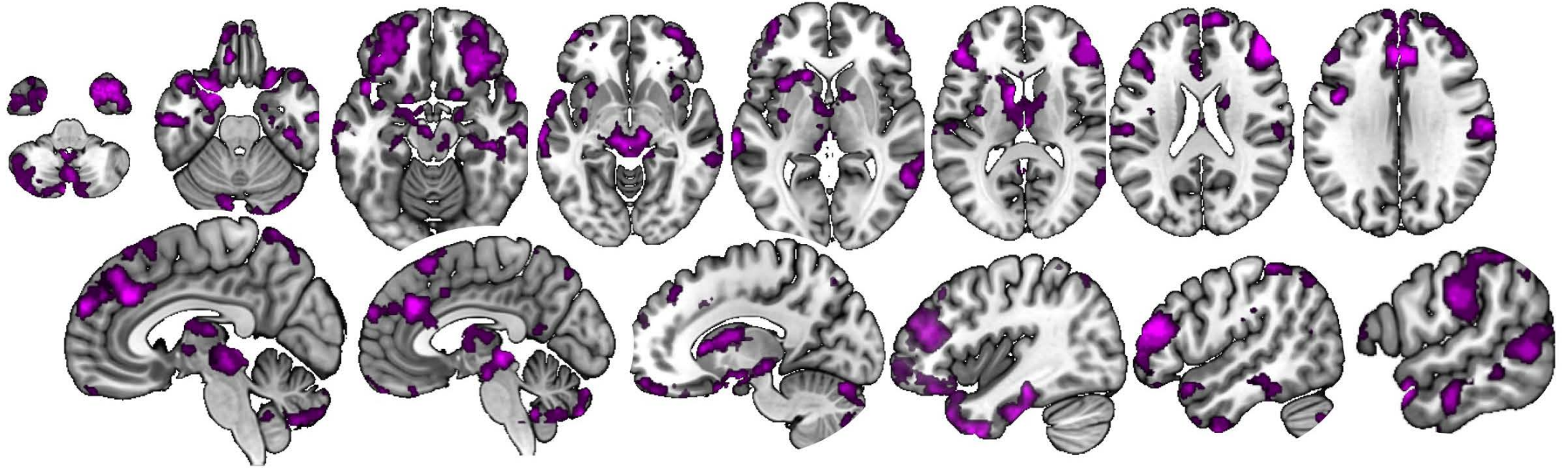
Alone – Partner contrast
of threat-related activity

Coan et al., 2017



Marina Lopez-
Sola, et al., in
press

Whole Brain Attenuations of Pain activation by Handholding

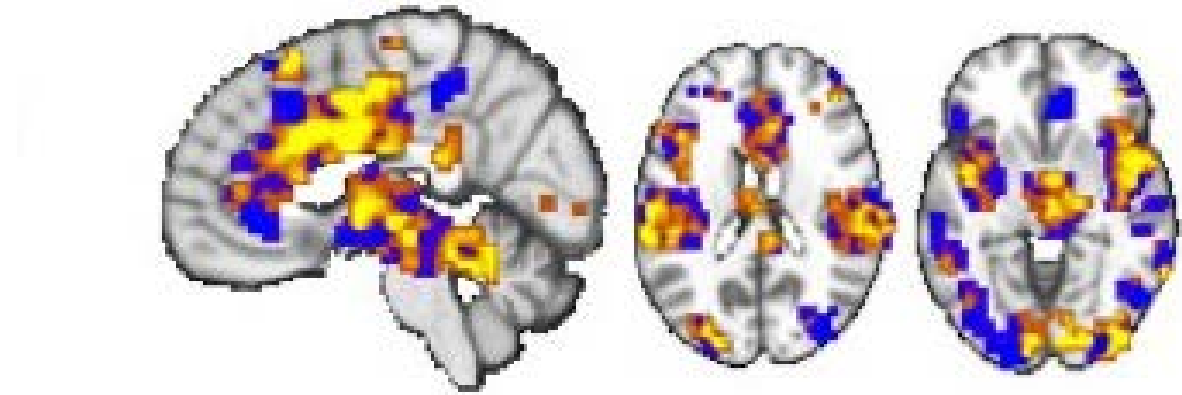


Significant attenuations throughout the brain, including anterior insula, dACC, dlPFC, periaqueductal grey matter (PAG), amygdala, and elsewhere.

Marina Lopez-Sola, et al.,
in press

Social Regulation of Pain

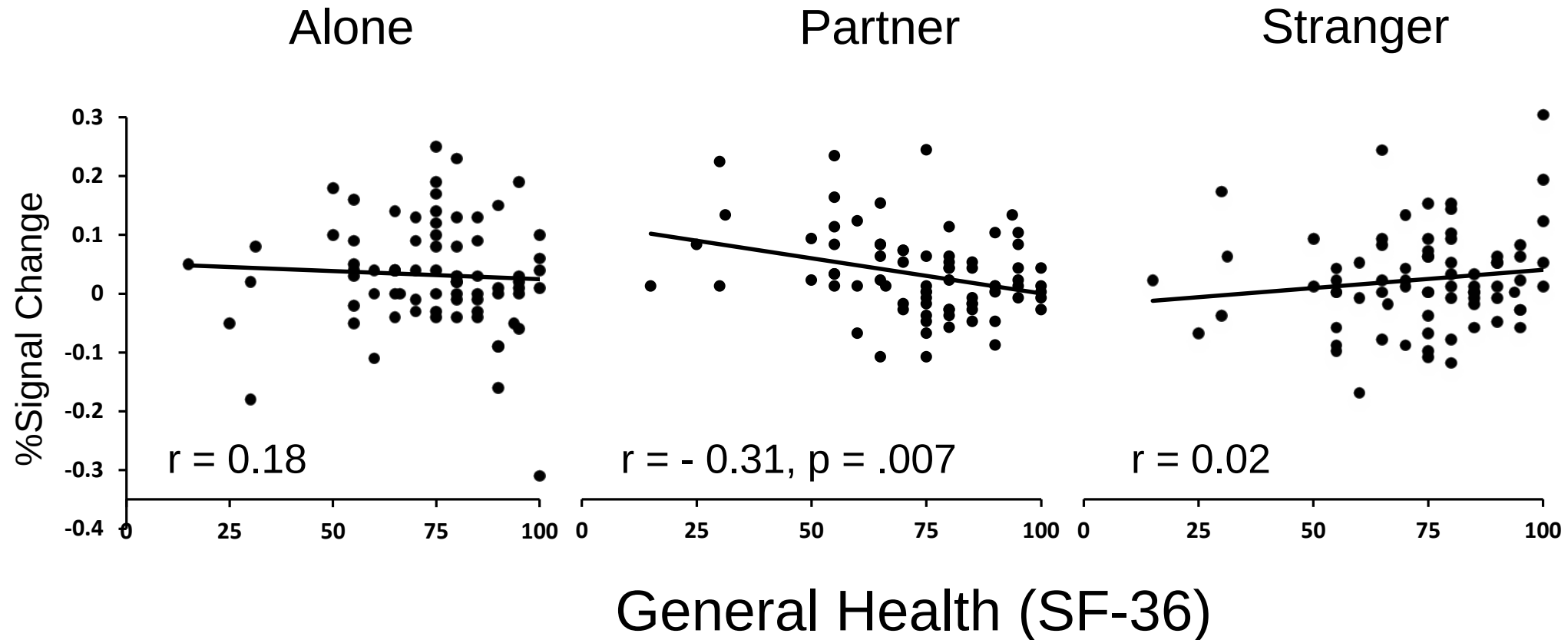
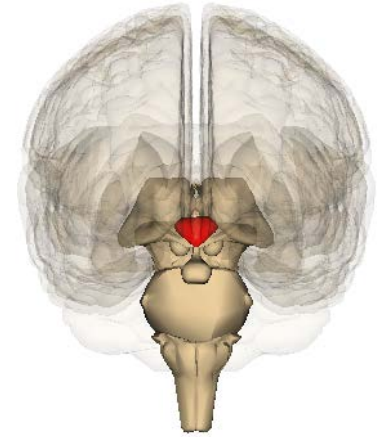
The Neurological Pain Signature



The NPS is unaffected by placebo treatment, cognitive reappraisal, reward, knowledge about drug-delivery context, or perceived control.

Hypothalamus, n = 75

- $F(2, 72) = 3.53, p = .032$
- “HPA-Axis”; Immune function



Group	(d)ACC	Anterior Insula	dIPFC	Hypothalamus
Stranger				
Friend	✓	✓	✓	
Dating	✓		✓	
Cohabit	✓		✓	
Spouse	✓	✓	✓	✓
Spouse _{tx}	✓	✓	✓	
Parent*	✓		✓	✓

Social Regulation effects are ubiquitous

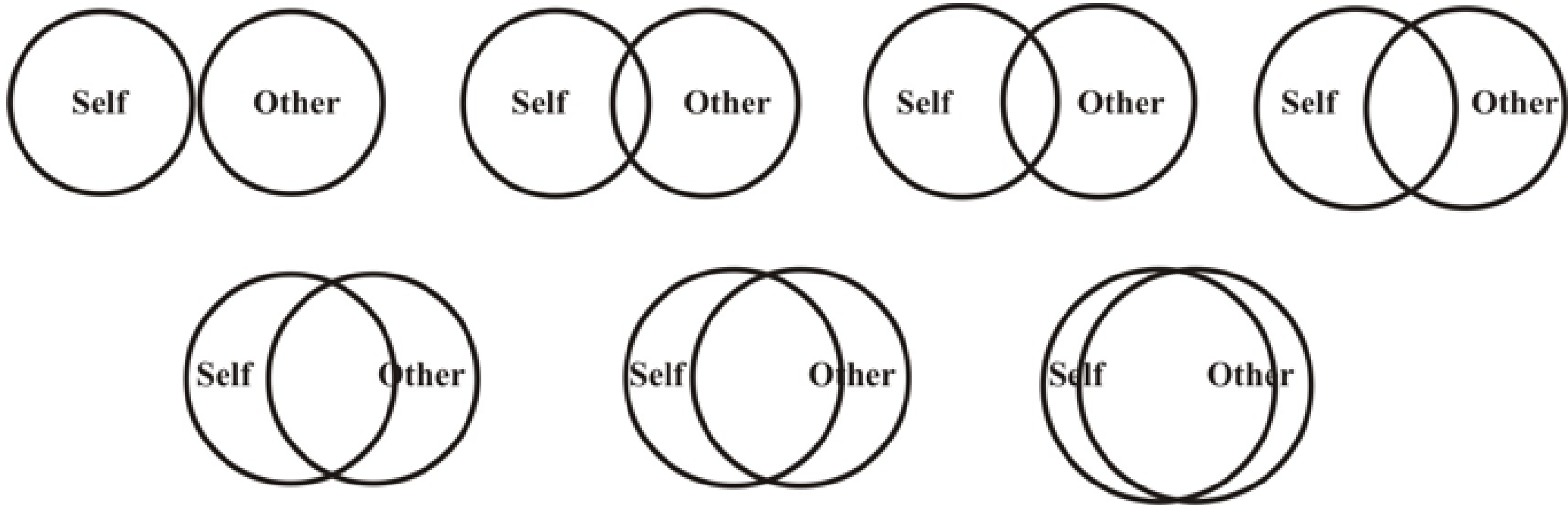
- **Cognitive Performance**
- **Physical Performance**
- **Emotion**
- **Memory**
- **Pain**
- **Perception**
- **Development**
- **Health**

But how?

Beckes & Coan, 2011; Coan, 2008; Coan & Maresh, 2013; Coan & Sbarra, 2015

Self-Regulation mechanisms are not mediating these effects. Instead, proximity to social resources alters perceived demands.

Inclusion of Other in Self (IOS) scale



Aron, A., Aron E. N., & Smollan, D. (1992)

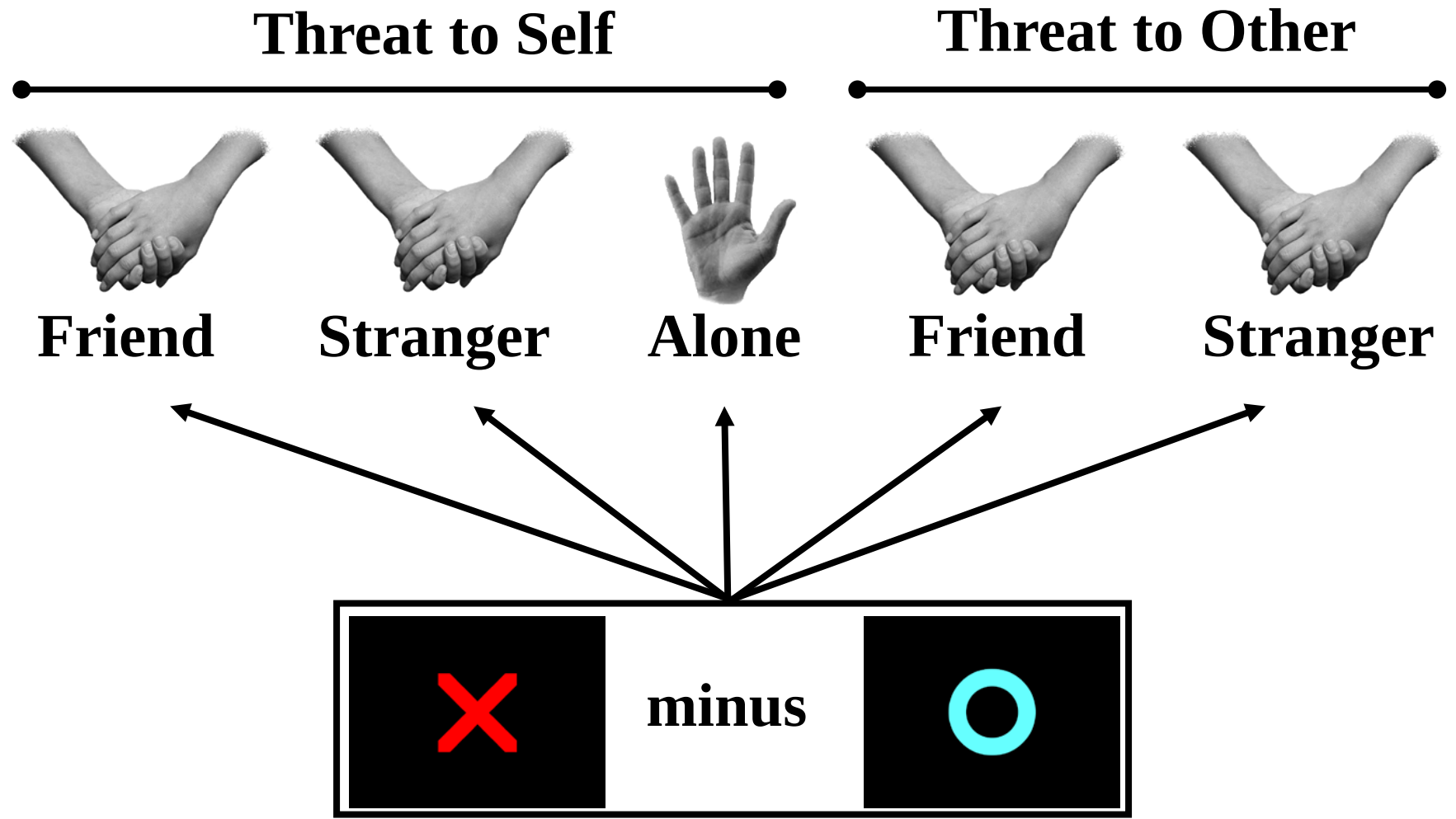
The Blurring of Self and Other



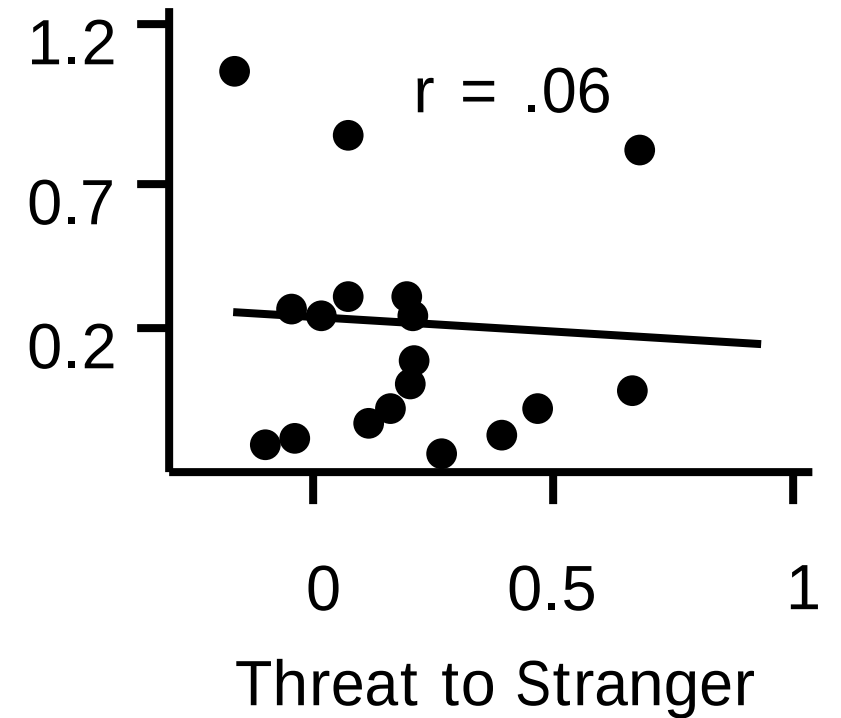
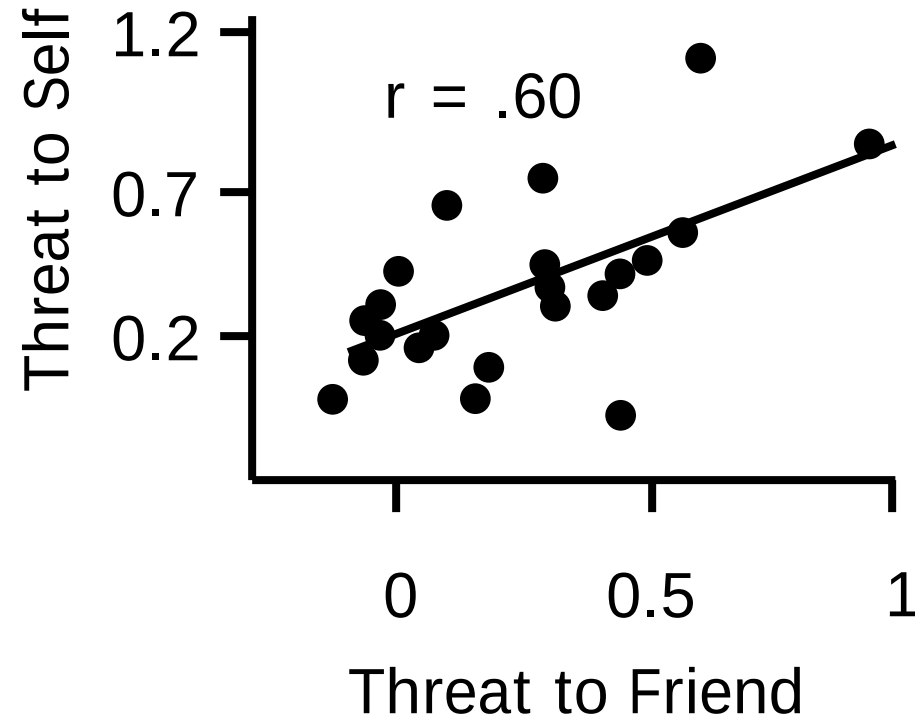
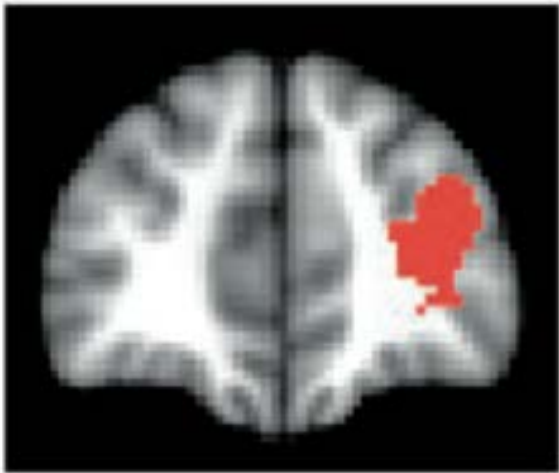
Lane Beckes



Karen Hasselmo



Lateral Prefrontal Cortex



Self-Friend Correlation

Self-Stranger Correlation

Left OFC

Right OFC

Left LPFC

Right LPFC

Left SupFG

Right IFG

Right SMG

Left Anterior Insula

Right Anterior Insula

Left Putamen

Right Putamen

Right OFC

So the other may be
encoded as part of
the self – **expanding
what the self is
capable of.**

Social Baseline Theory

An ecological perspective

Humans are adapted to social environments

**To function optimally, the human brain requires
predictable access to social resources**

Beckes & Coan, 2011; Coan, 2008; Coan & Maresh, 2013; Coan & Sbarra, 2015

Social Baseline Theory

An ecological perspective

Social relationships economize physiological, cognitive and emotional labor.

When we perceive our relationships to be scarce, low quality, or absent, we mount a stress response

Beckes & Coan, 2011; Coan, 2008; Coan & Maresh, 2013; Coan & Sbarra, 2015

Social relationships must be developed and nurtured if they are going to have the effects I've reviewed.

Policy makers and healthcare providers should treat relationships like diet, sleep and exercise—key determinants of health, well being and longevity.

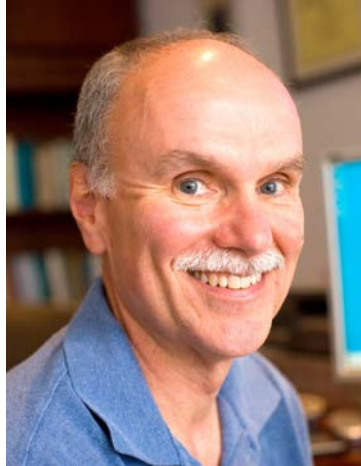
Social Baseline Theoreticians



David
Sbarra



Lane
Beckes



Dennis
Proffitt



Erin
Maresh



Blair
Gross



Tor
Wager



Darby
Saxbe



Andrea
Coppola



Marlen
Gonzalez



Nauder
Namaky



Sara
Medina-Devilliers



Marina
Lopez-Sola