Social Cognitive Neuroscience
Spring 2017

Basics

Prof. Kevin Ochsner
Tuesday 2:10 pm – 4:00 pm
405 Schermerhorn Hall
Psych W3680/G4685

Overview

Social cognitive neuroscience seeks to integrate the theories and methods of its parent disciplines, social psychology and cognitive neuroscience. As such, it seeks to explain social and emotional behavior at three levels of analysis: The social level, which includes descriptions of experience, behavior, and context; the cognitive level, which specifies information processing (i.e. psychological) mechanisms; and the neural level, which specifies neural systems that instantiate these processes. The course begins with foundational concepts (multilevel analyses of behavior, converging evidence, the evolution of the human brain), which students use to analyze findings in number of core content domains (including emotional appraisal, emotion regulation, person perception, social affiliation and rejection, individual differences).

Prerequisites: Course equivalents of at least two of the following courses (W1001, W1010, W2690, W3420, W3480, W3485) and/or the instructor's permission.

Course requirements

Each week, students will attend a two hour seminar. No later than 5:00 p.m. of the proceeding evening, students will submit a 2 page seed paper to the coursework discussion board for the course. Seed papers analyze and integrate the hypotheses, conceptual premises, methods and findings of assigned research articles, and will be used to launch discussion during each meeting. For the first course meeting, and for selected topics throughout the duration of the course, the instructor will use one-half to one hour of meeting time for lectures that will provide historical context, background, and conceptual explication.

For the final paper students will present a proposal for an original experiment that employs the social cognitive neuroscience approach. This proposal follows a specified format (called QuALMRI, to be described in a handout).

Grading

Grading is allocated as follows:

- Seed papers 35%
- Participation in discussion 30%
- Final paper 35%

Note: Please let me know if you feel that your engagement/ performance in the course may not be adequately reflected in any one of these key course elements (e.g., you are not always comfortable speaking up in groups). Together we can consider alternative weightings of seeds, discussion and final paper that may be more appropriate.

Fulfillment of degree requirements

PSYC W3680 is an advanced undergraduate seminar, designed particularly for students who are majoring in Psychology or in Neuroscience and Behavior. It fulfills the following degree requirements:

- For the Psychology major or concentration, W3680 meets the Group III (Social, Personality, and Abnormal) distribution requirement.

- For the Neuroscience and Behavior joint major, W3680 will fulfill the 5th Psychology requirement: "one advanced psychology seminar from a list approved by the Psychology Department advisor to the program."

- W3680 will meet the social science requirement of GS, provided that students obtain the necessary permissions and have taken the prerequisite psychology courses. For instance, a student who has completed PSYC 1001 (The Science of Psychology) and PSYC 2010 (Mind, Brain, and Behavior), would be able to use W3680 for GS social science requirement. However, students who are majoring in Psychology or in Neuroscience and Behavior will have priority over students who are taking the course for the social science requirement.

PSYC G4685 is a graduate seminar designed for students with interests in the intersection of social psychology and cognitive/affective neuroscience.
Academic Integrity

The University now requires that syllabi include discussion of the importance of academic integrity in your studies at Columbia:

The intellectual venture in which we are all engaged requires of faculty and students alike the highest level of personal and academic integrity. As members of an academic community, each one of us bears the responsibility to participate in scholarly discourse and research in a manner characterized by intellectual honesty and scholarly integrity. In practical terms, this means that, as students:

• You must be responsible for the full citations of others’ ideas in all of your research papers and projects
• You must be scrupulously honest when taking your examinations
• You must always submit your own work and not that of another student, scholar, or internet agent.

From the Faculty Statement on Academic Integrity (www.college.columbia.edu/academics/integrity-statement):

• Students are expected to do their own work on all tests and assignments for this class and act in accordance with the Faculty Statement on Academic Integrity and Honor Code established by the students of Columbia College and the School of General Studies.
• Because any academic integrity violation undermines our intellectual community, students found to have cheated, plagiarized, or committed any other act of academic dishonesty can expect to receive a zero for the work in question and may fail the class.
• Students will also be referred to the Dean’s Disciplinary Process (see: www.college.columbia.edu/academics/disciplinaryprocess).

It is students’ responsibility to ensure their work maintains expected standards. Should you have any questions or concerns regarding these expectations, please:

• Talk with the instructor
• Refer to the Columbia University Undergraduate Guide to Academic Integrity: www.college.columbia.edu/academics/academicintegrity

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Reading List

The reading list has two main parts. The first is the week-to-week syllabus of required readings. Although at times there may appear to be a fair number of readings assigned for a given week, keep in mind two things. For one - often there is an option to pick a subset of readings (denoted by, ‘pick….’ notations). Assuming you won’t all pick the same ones, as a group, we’ll have a richer discussion as folks weigh in on both the readings you did and did not choose to focus on. For another — in reality, there really isn’t nearly enough reading assigned on any one topic to truly go into great depth on it. The idea is to give you an introduction to research on each topic and whet your appetite for more. To the extent the assigned readings serve as an appetizer – you can turn to the second part of the reading list for the entree’ and dessert: Located at the end of the regular syllabus is a more extensive list of optional supplemental readings that can provide additional depth for the topics covered each week.

Part 1: Required Readings

01/17 Week 1. Introduction, origins, basic principles (or, what’s life all about, and how do we start trying to understand it?). This week introduces us to the kinds of content – i.e. the social and emotional things that make us who we are – that will be the focus of the course. We will also consider the approach we will take to understanding them – which includes the development of multi-level analyses, a reliance on converging evidence and the use of multiple methods.

Overview


Behavior


Brain


Podcast

➤ Invisibilia: Fearless, from Jan 15, 2015
01/24  Week 2.
Socioaffective Responding I: Appraising (or, subjective construal as the basis of being). How we respond to situations is at its root, an affective matter, and a function of how we appraise or construe the meaning of situations. This week’s readings consider the psychological processes and brain systems critical for appraisal processes.

Overview (pick first two or second two)
- See also April 2013 special issue of Emotion Review, which focused on appraisal theories.

Behavior

Brain

01/31  Week 3.
Socioaffective Responding II: Expressing (or, communicating our internal states to others). Our affective responses to situations are manifest in various kinds of behavioral, physiological and experiential changes. These responses are not just readouts of underlying appraisals, but can themselves initiate responses. This week’s readings consider expressions as both outputs of and inputs to emotional responses.

Overview

02/07  Week 4.
Socioaffective Responding III: Reflecting (or, self-awareness, self-consciousness, self-reflection, self-knowledge and intrapersonal understanding… and how they influence our responses to situations). How do we know what we’re feeling right now, or what we’re like in general? This week we consider how our implicit (or ‘lay’) theories about how our minds work influence our beliefs about ourselves, our ability to self-report our thoughts and feelings, the mechanisms underlying these reports, and why it matters what we think about our feelings and selves more generally.

Overview

Behavior

Brain (Mason + 1 other)
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Podcast
- Radiolab: The secret history of thoughts, from Jan 8, 2015

02/14 Week 5.
Socioaffective Responding IV: Modulating (or, how affect and emotion modulate perceptual and cognitive processes). Affective responses color what we attend to, perceive, judge and remember. This week’s readings consider the mechanisms underlying the influence of affect on perception and cognition.

Overview

Behavior

Brain (pick two)

02/21 Week 6.
Socioaffective Responding V: Regulating (or, self-control and self-regulation).

Anyone who has been rejected, depressed, embarrassed, afraid, angry, had a crush, been in love, drunk-dialed, or committed some other faux pas, knows that not all our emotions and actions are context appropriate, adaptive or desirable. How do we take control of our emotions and motivated actions? This week explores what we know about how to regulate our emotions and serves more generally – from the kinds of strategies we can deploy to brain systems underlying them.

Overview

Behavior (pick 2)

Brain

Podcast
- Freakonomics radio: Preventing crime for pennies on the dollar, from Sept 9, 2015

02/28 Week 7.
Connecting I: Identifying (…social cues and their meaning, … or, perceiving and decoding the dynamic flow of nonverbal and verbal cues to emotion and social intent). Each of us sends expressive signals that convey our emotions and intentions to others. Here we start to ask what mechanisms enable us to identify the meaning of the signals others send to us.

Overview (pick 2)
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Behavior

Brain

03/07 Week 8
Connecting II: Interpreting (or, making attributions about what others think, feel, want or intend – now, or in general). Anyone who has ever been on a date, played a strategic game, or simply had a conversation knows that facial and bodily cues provide initial clues to what others think, feel and want – but by themselves aren’t veridical indicators of those underlying mental states. What’s more, we don’t just get one or two of these clues at a time – we are sent multiple cues in parallel, each changing with a person’s mood, situation, and so on. This week we ask what psychological and brain mechanisms enable us to interpret – or draw inferences about – the internal feelings and intentions that underlie the rich and dynamic combinations of cues other people send us.

Overview

Behavior

Brain (pick 1)


Podcast
- Radiolab: *Juicervose*, from Sept 18, 2014

03/14 Week 9.
Spring Break

03/21 Week 10.
Connecting III: Interacting (or, emotions about and actions towards others, from empathy to enmity). Having considered how we identify what cues others send us and what they reveal about underlying mental states, the question becomes how we then respond affectively and chose to act towards the senders of those cues. Sometimes we respond with warmth and connection... and other times we reject and ostracize them. This week we consider when, how and why this happens.

Overview

Behavior (pick 2)

Brain (1 of first pair, 1 of second pair)
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Podcast
- Radiolab: *What's left when you're right?* from Feb 24, 2014 [Golden Balls segment at beginning]

03/28  Week 11.

- Connecting IV: Influencing (or, how your actions socially alter, regulate and otherwise exert influence over other people’s emotions, attitudes and beliefs).
- Whether we love or hate each other – we try to influence, sway, and regulate each other’s behavior in order to persuade, dissuade, deceive and support each other. This week we consider how the psychological and brain mechanisms we’ve learned earlier in the course come into play when we exert social influence over each other’s beliefs, preferences and emotions.

Overview

Behavior (pick 2)

Brain (Pick 1)

04/04  Week 12.

- Connecting IV: Networking (or, how groups and our status in them exert influence over us as individuals,... and how we, in turn, perceive and influence groups). The final leg of our interpersonal journey moves up to the level of the group to consider the kinds of status we seek within them, what this status confers upon us, and how being a member of an extended network of people influences how we perceive those who are – or are not – members of our groups and networks.

Overview

Behavior (pick 2)

Brain (Pick 2)

04/11  Week 13.

- Translating I: Development (or, understanding normative changes in socioaffective abilities across the lifespan, from adolescence to old age). The first two segments of the course laid a foundation for understanding the psychological and brain mechanisms supporting a set of intra- and inter-personal experiential...
and behavioral phenomena that make us who we are. This week kicks off the final segment of the course by asking how variability in these mechanisms underlies the range of variability we see in emotion and social behavior across the lifespan – from adolescence through old age.

Overview (pick one about adolescence and one about aging)
- Development
- Aging

Behavior

Brain (Mather + Casey or Telzer)

04/18 Week 14
Translating II: Optimization vs. Dysfunction (or, understanding how to reduce stress and lead a happy life vs. expressing vulnerabilities to psychopathology). Coping with the slings and arrows of everyday life is a tough business, and all of us experience some degree of success and failure along the way. Our journey ends on by taking into consideration everything we've learned in the course thus far in order to ask: What can we do to promote happiness, meaning and well-being and reduce our risk of depression, anxiety and other forms of psychopathology.

Overview (pick 2)

Behavior (pick 2)

Brain (pick 2)


04/25 Week 15. Final course paper due (by email only, please).

05/09 Week 17. Final course paper due (by email only, please).
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Part 2: Optional Supplemental/Background Readings

9/08  Week 1.
Introduction, origins, basic principles

Supplemental/Background

9/15  Week 2.
Socioaffective Responding I: Appraising

Supplemental/Background

9/22  Week 3.
Socioaffective Responding II: Expressing

Supplemental/Background
- Ekman, P., Davidson, R. J., & Friesen, W. V. (1990). The Duchenne smile: emotional...


9/29 Week 4.
Socioaffective Responding III: Reflecting

**Supplemental/Background**


**10/06 Week 5.**
Socioaffective Responding IV: Modulating

**Supplemental/Background**


### 10/13 Week 6.

**Socioaffective Responding V: Regulating**

#### Supplemental/Background


### 10/20 Week 7.

**Connecting I: Identifying**

#### Supplemental/Background


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10/27 Week 8.
Connecting II: Interpreting

Supplemental/Background
[Selection: Chapter 1 (History: Past research on Attribution and Behavior Explanation); Chapter 2 (Foundation: The Folk Theory of Mind and Behaviour)]
Empathy for pain involves the affective but not sensory components of pain. Science, 302(5661), 1157-1162.


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Week 11
Connecting IV: Networking

Supplemental/Background

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11/24    Week 12.
Translating I: Development

Supplemental/Background

  yearbook pictures and their relationship to personality and life outcomes across
  Predicting cognitive control from preschool to late adolescence and young adulthood.
  *Psychol Sci, 17*(6), 478-484.
  Neurosci, 27*(30), 8040-8045.
  attitudes: an fMRI investigation of age differences in inhibiting prejudice. *Psychol Aging,
  24*(3), 530-542.
  6.
  61*, 383-409.
- Carstensen, L. L., Turan, B., Scheibe, S., Ram, N., Ersner-Hershfield, H., Samanez-
  over 20 years of experience sampling. *Psychol Aging, 26*(1), 21-33.
  Neurosci, 15*(9), 1186-1192.
  (2013). Dimensionality of brain networks linked to life-long individual differences in
  affective engagement and goal flexibility. *Nat Rev Neurosci, 13*(9), 656-660.
  brain: implications from human imaging and mouse genetics. *Annu Rev Med, 64*, 427-
  439.

12/08    Week 14.
Translating III: Optimization

Supplemental/Background

  personality in early and middle adulthood: set like plaster or persistent change? *J Pers
  Soc Psychol, 84*(6), 1042-1053.
  receptor gene (OPRM1) is associated with dispositional and neural sensitivity to social


