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, W2630, W3410, 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 courseworks 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 1010 (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.

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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

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 chose 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
- Ochsner, K. N. (2007). Social Cognitive Neuroscience: Historical Development, Core Principles, and Future Promise. Kruglanksi, A., & Higgins, E. T. (Eds.). *Social Psychology: A Handbook of Basic Principles* (pp. 39-66). 2nd Ed. New York: Guilford Press. [***pages 39-40, 45-52***]
- Dunbar, R. I., & Shultz, S. (2007). Evolution in the social brain. *Science, 317*(5843), 1344-1347.

Behavior
- Baron-Cohen, S. (1995). *Mindblindness: An essay on autism and theory of mind*. Cambridge, MA: The MIT Press. [***Chapters 1-3***]

Brain
- Damasio, A. (1994). *Descartes' error: emotion, reason, and the human brain*. New York: G.P. Putnam. [***Chapters 1 and 3***]

Podcast
- Invisbilia: *Fearless*, from Jan 15, 2015

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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)
- Moors, A., Ellsworth, P. C., Scherer, K. R., & Frijda, N. H. (2013). Appraisal theories of emotion: State of the art and future development. *Emotion Review, 5*(2), 119-124.
- Tracy, J. L., & Randles, D. (2011). Four models of basic emotions: A review of Ekman and Cordaro, Izard, Levenson, and Panksepp and Watt. *Emotion Review, 3*(4), 397-405.
- Cunningham, W. A., & Brosch, T. (2012). Motivational salience: Amygdala tuning from traits, needs, values, and goals. *Current Directions in Psychological Science, 21*(1), 54-59.
- Kringelbach, M. L., & Berridge, K. C. (2012). The joyful mind. *Sci Am, 307*(2), 40-45
- See also April 2013 special issue of *Emotion Review*, which focused on appraisal theories.

Behavior
- Bargh, J. A., Chaiken, S., Govender, R., & Pratto, F. (1992). The generality of the automatic attitude activation effect. *Journal of Personality & Social Psychological, 62*(6), 893-912. [***Exp 1 only***]
- Lindquist, K. A., & Barrett, L. F. (2008). Constructing emotion: the experience of fear as a conceptual act. *Psychol Sci, 19*(9), 898-903.

Brain
- Mobbs, D., Petrovic, P., Marchant, J. L., Hassabis, D., Weiskopf, N., Seymour, B., et al. (2007). When fear is near: threat imminence elicits prefrontal-periaqueductal gray shifts in humans. *Science, 317*(5841), 1079-1083.

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
- Shariff, A. F., & Tracy, J. L. (2011). What are emotion expressions for? *Current Directions in Psychological Science, 20*(6), 395-399.
- Barrett, L. F. (2011). Was Darwin wrong about emotional expressions? *Current Directions in Psychological Science, 20*(6), 400-406.

Behavior (pick 1)
- Susskind, J. M., Lee, D. H., Cusi, A., Feiman, R., Grabski, W., & Anderson, A. K. (2008). Expressing fear enhances sensory acquisition. *Nat Neurosci, 11*(7), 843-850.
- Davis, J. I., Senghas, A., Brandt, F., & Ochsner, K. N. (2010). The effects of BOTOX injections on emotional experience. *Emotion, 10*(3), 433-440.
- Carney, D. R., Cuddy, A. J. C., & Yap, A. J. (2010). Power posing: Brief nonverbal displays affect neuroendocrine levels and risk tolerance. *Psychological Science, 21*(10), 1-6.

Brain (pick 1)
- Knutson, B., Rick, S., Wimmer, G. E., Prelec, D., & Loewenstein, G. (2007). Neural predictors of purchases. *Neuron, 53*(1), 147-156.
- Harrison, N. A., Gray, M. A., Gianaros, P. J., & Critchley, H. D. (2010). The embodiment of emotional feelings in the brain. *J Neurosci, 30*(38), 12878-12884.

02/07 Week 4.

Socioaffective Responding III: Reflecting (or, self-awareness, self-consciousness, self-reflection, self-knowledge and *intra*personal 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
- Wicklund, R. A. (1979). The influence of self-awareness on human behavior. *American Scientist, 67*(2), 187-193.
- Garfinkel, S. N., Nagai, Y., Seth, A. K., & Critchley, H. D. (2013). Neuroimaging studies of interoception and self-awareness. In A. E. Cavanna, A. Nani, H. Blumenfeld & S. Laureys (Eds.), *Neuroimaging of Concsciousness* (pp. 207-224). Berlin: Springer.

Behavior
- Killingsworth, M. A., & Gilbert, D. T. (2010). A wandering mind is an unhappy mind. *Science, 330*(6006), 932.
- Kron, A., Goldstein, A., Lee, D. H., Gardhouse, K., & Anderson, A. K. (2013). How are you feeling? Revisiting the quantification of emotional qualia. *Psychol Sci, 24*(8), 1503-1511.

Brain (Mason + 1 other)
- Beer, J. S., John, O. P., Scabini, D., & Knight, R. T. (2006). Orbitofrontal cortex and

social behavior: integrating self-monitoring and emotion-cognition interactions. *J Cogn Neurosci, 18*(6), 871-879.
- Mason, M. F., Norton, M. I., Van Horn, J. D., Wegner, D. M., Grafton, S. T., & Macrae, C. N. (2007). Wandering minds: the default network and stimulus-independent thought. *Science, 315*(5810), 393-395.
- Satpute, A. B., Shu, J., Weber, J., Roy, M., & Ochsner, K. N. (2013). The functional neural architecture of self-reports of affective experience. *Biol Psychiatry, 73*(7), 631-638.

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
- Clore, G. L., & Huntsinger, J. R. (2007). How emotions inform judgment and regulate thought. *Trends Cogn Sci, 11*(9), 393-399.

Behavior
- Kahneman, D., Fredrickson, B. L., Schreiber, C. A., & Redelmeier, D. A. (1993). When more pain is preferred to less: Adding a better end. *Psychological Science, 4*(6), 401-405.
- Murty, V. P., LaBar, K. S., Hamilton, D. A., & Adcock, R. A. (2011). Is all motivation good for learning? Dissociable influences of approach and avoidance motivation in declarative memory. *Learn Mem, 18*(11), 712-717.

Brain (pick two)
- Cahill, L., Haier, R. J., Fallon, J., Alkire, M. T., Tang, C., Keator, D., et al. (1996). Amygdala activity at encoding correlated with long-term, free recall of emotional information. *Proc Natl Acad Sci U S A, 93*(15), 8016-8021.
- Anderson, A. K., & Phelps, E. A. (2001). Lesions of the human amygdala impair enhanced perception of emotionally salient events. *Nature, 411*(6835), 305-309.
- Adcock, R. A., Thangavel, A., Whitfield-Gabrieli, S., Knutson, B., & Gabrieli, J. D. (2006). Reward-motivated learning: mesolimbic activation precedes memory formation. *Neuron, 50*(3), 507-517.

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 selves more generally – from the kinds of strategies we can deploy to brain systems underlying them.

Overview
- Ochsner, K. N., Silvers, J. A., & Buhle, J. T. (2012). Functional imaging studies of emotion regulation: a synthetic review and evolving model of the cognitive control of emotion. *Ann N Y Acad Sci, 1251*, E1-24.

Behavior (pick 2)
- Pennebaker, J. W. (1997). Writing about emotional experiences as a therapeutic process. *Psychological Science, 8*(3), 162-166.
- Lieberman, M. D., Ochsner, K. N., Gilbert, D. T., & Schacter, D. L. (2001). Do amnesics exhibit cognitive dissonance reduction? The role of explicit memory and attention in attitude change. *Psychol Science, 12*(2), 135-140.
- Wegner, D. M., Wenzlaff, R. M., & Kozak, M. (2004). Dream rebound: the return of suppressed thoughts in dreams. *Psychol Sci, 15*(4), 232-236.

Brain
- Kober, H., Mende-Siedlecki, P., Kross, E. F., Weber, J., Mischel, W., Hart, C. L., et al. (2010). Prefrontal-striatal pathway underlies cognitive regulation of craving. *Proc Natl Acad Sci U S A, 107*(33), 14811-14816.
- Wagner, D. D., & Heatherton, T. F. (2012). Self-regulatory depletion increases emotional reactivity in the amygdala. *Soc Cogn Affect Neurosci*.

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)
- Ambady, N. (2010). The perils of pondering: Intuition and thin slice judgments. *Psychological Inquiry, 21*(4), 271-278.
- Atkinson, A. P., & Adolphs, R. (2011). The neuropsychology of face perception: beyond simple dissociations and functional selectivity. *Philos Trans R Soc Lond B Biol Sci, 366*(1571), 1726-1738.

- de Gelder, B., de Borst, A. W., & Watson, R. (2015). The perception of emotion in body expressions. *Wiley Interdiscip Rev Cogn Sci, 6*(2), 149-158.

Behavior
- Ballew, C. C., 2nd, & Todorov, A. (2007). Predicting political elections from rapid and unreflective face judgments. *Proc Natl Acad Sci U S A, 104*(46), 17948-17953.
- Maringer, M., Krumhuber, E. G., Fischer, A. H., & Niedenthal, P. M. (2011). Beyond smile dynamics: mimicry and beliefs in judgments of smiles. *Emotion, 11*(1), 181-187.

Brain
- Whalen, P. J., Shin, L. M., McInerney, S. C., Fischer, H., Wright, C. I., & Rauch, S. L. (2001). A functional MRI study of human amygdala responses to facial expressions of fear versus anger. *Emotion, 1*(1), 70-83.
- Schiller, D., Freeman, J. B., Mitchell, J. P., Uleman, J. S., & Phelps, E. A. (2009). A neural mechanism of first impressions. *Nat Neurosci, 12*(4), 508-514.

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
- Zaki, J., & Ochsner, K. (2012). The neuroscience of empathy: progress, pitfalls and promise. *Nat Neurosci, 15*(5), 675-680.
- Waytz, A., Epley, N., & Cacioppo, J. T. (2010). Social cognition unbound: Insights into anthropomorphism and dehumanization. *Current Directions in Psychological Science, 19*(1), 58-62.

Behavior
- Gilbert, D. T., Pelham, B. W., & Krull, D. S. (1988). On cognitive busyness: When person perceivers meet persons perceived. *Journal of Personality & Social Psychology, 54*(5), 733-740.
- Zaki, J., Bolger, N., & Ochsner, K. (2008). It takes two: the interpersonal nature of empathic accuracy. *Psychol Sci, 19*(4), 399-404.

Brain (pick 1)
- Spunt, R. P., & Lieberman, M. D. (2012). An integrative model of the neural systems supporting the comprehension of observed emotional behavior. *NeuroImage, 59*(3), 3050-3059.
- Hackel, L. M., Doll, B. B., & Amodio, D. M. (2015). Instrumental learning of traits versus rewards: dissociable neural correlates and effects on choice. *Nat Neurosci, 18*(9), 1233-1235.

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
- Bhanji, J. P., & Delgado, M. R. (2014). The Social Brain and Reward: Social Information Processing in the Human Striatum. *Wiley Interdiscip Rev Cogn Sci, 5*(1), 61-73.
- Zaki, J., & Cikara, M. (in press). Addressing empathic failures. *Current Directions in Psychological Science*.

Behavior (pick 2)
- Krosch, A. R., & Amodio, D. M. (2014). Economic scarcity alters the perception of race. *Proc Natl Acad Sci U S A, 111*(25), 9079-9084.
- Evans, A. M., Dillon, K. D., & Rand, D. G. (in press). Fast but not intuitive, slow but not reflective: Decision conflict drives reaction times in social dilemmas. *Journal of Experimental Psychology: General*.
- Lakin, J. L., Jefferis, V. E., Cheng, C. M., & Chartrand, T. L. (2003). The chameleon effect as social glue: Evidence for the evolutionary significance of nonconscious mimicry. *Journal of Nonverbal Behavior, 27*(3), 145-162.

Brain (1 of first pair, 1 of second pair)
- Eisenberger, N. I., Lieberman, M. D., & Williams, K. D. (2003). Does rejection hurt? An fMRI study of social exclusion. *Science, 302*, 290-292.
- Lieberman, M. D., Hariri, A., Jarcho, J. M., Eisenberger, N. I., & Bookheimer, S. Y. (2005). An fMRI investigation of race-related amygdala activity in African-American and Caucasian-American individuals. *Nat Neurosci, 8*(6), 720-722. .

- Telzer, E. H., Ichien, N., & Qu, Y. (2015). The ties that bind: Group membership shapes the neural correlates of in-group favoritism. *Neuroimage, 115*, 42-51.
- Van Bavel, J. J., Packer, D. J., & Cunningham, W. A. (2008). The neural substrates of in-group bias: A functional magnetic resonance imaging investigation. *Psychological Science, 19*(11), 1131-1139.

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 about earlier in the course come into play when we exert social influence over each other's beliefs, preferences and emotions.

Overview
- Coan, J. A. (2011). The social regulation of emotion. In J. Decety & J. T. Cacioppo (Eds.), *Oxford Handbook of Social Neuroscience* (pp. 614-623). New York, NY: Oxford University Press.

Behavior (pick 2)
- Mikulincer, M., Gillath, O., & Shaver, P. R. (2002). Activation of the attachment system in adulthood: threat-related primes increase the accessibility of mental representations of attachment figures. *J Pers Soc Psychol, 83*(4), 881-895. [***Exp 1 only***]
- Bolger, N., & Amarel, D. (2007). Effects of social support visibility on adjustment to stress: experimental evidence. *J Pers Soc Psychol, 92*(3), 458-475. **[*Exp 1 only*]**
- Olsson, A., & Phelps, E. A. (2007). Social learning of fear. *Nat Neurosci, 10*(9), 1095-1102.
- Master, S. L., Eisenberger, N. I., Taylor, S. E., Naliboff, B. D., Shirinyan, D., & Lieberman, M. D. (2009). A picture's worth: partner photographs reduce experimentally induced pain. *Psychol Sci, 20*(11), 1316-1318.
- Ernest-Jones, M., Nettle, D., & Bateson, M. (2011). Effects of eye images on everyday cooperative behavior: A field experiment. *Evolution and Human Behavior, 32*(3), 172-178.

Brain (Pick 1)
- Coan, J. A., Schaefer, H. S., & Davidson, R. J. (2006). Lending a hand: social regulation of the neural response to threat. *Psychol Sci, 17*(12), 1032-1039.
- Klucharev, V., Hytonen, K., Rijpkema, M., Smidts, A., & Fernandez, G. (2009). Reinforcement learning signal predicts social conformity. *Neuron, 61*(1), 140-151.

Podcast
- Radiolab: *The trust engineers*, from Feb 9, 2015

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
- Fowler, J. H., & Christakis, N. A. (2008). Dynamic spread of happiness in a large social network: longitudinal analysis over 20 years in the Framingham Heart Study. *BMJ, 337*, a2338.
- Anderson, C., & Kilduff, G. J. (2009). The pursuit of status in social groups. *Current Directions in Psychological Science, 18*(5), 295-298.

Behavior (pick 2)
- Anderson, C., Kraus, M. W., Galinsky, A. D., & Keltner, D. (2012). The local-ladder effect: social status and subjective well-being. *Psychol Sci, 23*(7), 764-771.
- Rand, D. G., Arbesman, S., & Christakis, N. A. (2011). Dynamic social networks promote cooperation in experiments with humans. *Proc Natl Acad Sci U S A, 108*(48), 19193-19198.
- Piff, P. K., Stancato, D. M., Cote, S., Mendoza-Denton, R., & Keltner, D. (2012). Higher social class predicts increased unethical behavior. *Proc Natl Acad Sci U S A, 109*(11), 4086-4091.

Brain (Pick 2)
- Muscatell, K. A., Morelli, S. A., Falk, E. B., Way, B. M., Pfeifer, J. H., Galinsky, A. D., et al. (2012). Social status modulates neural activity in the mentalizing network. *Neuroimage, 60*(3), 1771-1777.
- Tavares, R. M., Mendelsohn, A., Grossman, Y., Williams, C. H., Shapiro, M., Trope, Y., et al. (2015). A Map for Social Navigation in the Human Brain. *Neuron, 87*(1), 231-243.
- Zerubavel, N., Bearman, P., Weber, J., & Ochsner, K. N. (under review). Neural systems tracking popularity in real-world social networks.

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
  a. Blakemore, S. J. (2008). The social brain in adolescence. *Nat Rev Neurosci, 9*(4), 267-277.
  b. Somerville, L. H., & Casey, B. J. (2010). Developmental neurobiology of cognitive control and motivational systems. *Curr Opin Neurobiol, 20*(2), 236-241.
- Aging
  a. Carstensen, L. L. (2006). The influence of a sense of time on human development. *Science, 312*(5782), 1913-1915.
  b. Mather, M. (2012). The emotion paradox in the aging brain. *Ann N Y Acad Sci, 1251*, 33-49.

Behavior

- Mischel, W., Shoda, Y., & Rodriguez, M. I. (1989). Delay of gratification in children. *Science, 244*(4907), 933-938.
- Elfenbein, H. A., & Ambady, N. (2003). Universals and Cultural Differences in Recognizing Emotions of a different cultural group. *Current Directions in Psychological Science, 12*(5), 159-164.

Brain (Mather + Casey or Telzer)

- Mather, M., Canli, T., English, T., Whitfield, S., Wais, P., Ochsner, K., et al. (2004). Amygdala responses to emotionally valenced stimuli in older and younger adults. *Psychol Sci, 15*(4), 259-263.
- Casey, B. J., Somerville, L. H., Gotlib, I. H., Ayduk, O., Franklin, N. T., Askren, M. K., et al. (2011). Behavioral and neural correlates of delay of gratification 40 years later. *Proc Natl Acad Sci U S A, 108*(36), 14998-15003.
- Telzer, E. H., Fuligni, A. J., Lieberman, M. D., & Galvan, A. (2013). Ventral striatum activation to prosocial rewards predicts longitudinal declines in adolescent risk taking. *Dev Cogn Neurosci, 3*, 45-52.

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)

- Davidson, R. J., & McEwen, B. S. (2012). Social influences on neuroplasticity: stress and interventions to promote well-being. *Nat Neurosci, 15*(5), 689-695.
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Behavior (pick 2)

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Brain (pick 2)

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- Nikolova, Y. S., Bogdan, R., Brigidi, B. D., & Hariri, A. R. (2012). Ventral striatum reactivity to reward and recent life stress interact to predict positive affect. *Biol Psychiatry, 72*(2), 157-163.
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04/25 **Week 15. Final course paper due** (by email only, please).

05/09 **Week 17. Final course paper due** (by email only, please).

Social Cognitive Neuroscience
Spring 2017

Part 2: Optional Supplemental/Background Readings

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

Supplemental/Background

- Osgood, C. E., & Suci, G. J. (1955). Factor analysis of meaning. *J Exp Psychol, 50*(5), 325-338. **[*Experiment 1*]**
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- Gilbert, D. T. (1999). What the mind's not. In S. Chaiken & Y. Trope (Eds.), *Dual process theories in social psychology*. New York: Guilford.
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- Dunbar, R. I., & Shultz, S. (2007). Understanding primate brain evolution. *Philos Trans R Soc Lond B Biol Sci, 362*(1480), 649-658
- Lieberman, M. D. (2010). Social cognitive neuroscience. S. T. Fiske, D. T. Gilbert, & G. Lindzey (Eds). *Handbook of Social Psychology* (5th ed.) (pp. 143-193). New York: NY: McGraw Hill**.**
- Ochsner, K. N., & Kosslyn, S. M. (2014). Introduction to The Handbook of Cognitive Neuroscience. Cognitive Neuroscience: Where are we now? In K. N. Ochsner & S. M. Kosslyn (Eds.), *The Handbook of Cognitive Neuroscience*. New York: Oxford University Press

9/15 Week 2.
Socioaffective Responding I: Appraising

Supplemental/Background

- Lazarus, R. S. (1982). Thoughts on the relations between emotion and cognition. *American Psychologist, 37*(9), 1019-1024.
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- Bargh, J. A., Chaiken, S., Raymond, P., & Hymes, C. (1996). The automatic evaluation effect: Unconditional automatic attitude activation with a pronunciation task. *Journal of Experimental Social Psychology, 32*(1), 104-128.
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- LeDoux, J. E. (1996). *The emotional brain: The mysterious underpinnings of emotional life*. New York N. Y., U. S.: Simon Schuster. [***Chapters 3-4***]
- Roseman, I. J., & Smith, C. A. (2001). Appraisal theory: Overview, assumptions, varieties, controversies. In K. R. Scherer & A. Schorr (Eds.), *Appraisal processes in emotion: Theory, methods, research* (pp. 3-19). New York, NY: Oxford University Press.
- Izard, C. E. (2007). Basic emotions, natural kinds, emotion schemas, and a new paradigm. *Perspectives on Psychological Science, 2*(3), 260-280.
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- Tong, E. M. W., Ellsworth, P. C., & Bishop, G. D. (2009). An S-shaped relationship between changes in appraisals and changes in emotions. *Emotion, .9*(6), pp.
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9/22 Week 3.
Socioaffective Responding II: Expressing

Supplemental/Background

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

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- Gray, M. A., Beacher, F. D., Minati, L., Nagai, Y., Kemp, A. H., Harrison, N. A., et al. (2012). Emotional appraisal is influenced by cardiac afferent information. *Emotion, 12*(1), 180-191.

9/29 Week 4.
Socioaffective Responding III: Reflecting

Supplemental/Background

- Nisbett, R. E., & Wilson, T. D. (1977). Telling more than we can know: Verbal reports on mental processes. *Psychological Review, 84*(3), 231-259.
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10/06 Week 5.
Socioaffective Responding IV: Modulating

Supplemental/Background

- Schwarz, N., & Clore, G. L. (1983). Mood, misattribution, and judgments of well-being: Informative and directive functions of affective states. *Journal of Personality and Social Psychology, 45*(3), 513-523.
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- Schwarz, N., & Clore, G. L. (2003). Mood as Information: 20 Years Later. *Psychological Inquiry, 14*(3-4), 296-303.
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- Cocenas-Silva, R., Bueno, J. L., & Droit-Volet, S. (2012). Temporal memory of emotional experience. *Mem Cognit, 40*(2), 161-167.
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10/13 Week 6.
Socioaffective Responding V: Regulating

Supplemental/Background

- Newman, L. S., Duff, K. J., & Baumeister, R. F. (1997). A new look at defensive projection: thought suppression, accessibility, and biased person perception. *Journal of Personality and Social Psychological, 72*(5), 980-1001.
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10/20 Week 7.
Connecting I: Identifying

Supplemental/Background

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- Van den Stock, J., Tamietto, M., Sorger, B., Pichon, S., Grezes, J., & de Gelder, B. (2011). Cortico-subcortical visual, somatosensory, and motor activations for perceiving dynamic whole-body emotional expressions with and without striate cortex (V1). *Proc Natl Acad Sci U S A, 108*(39), 16188-16193.
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10/27 Week 8.
Connecting II: Interpreting

Supplemental/Background

- Gilbert, D. T., Pelham, B. W., & Krull, D. S. (1988). On cognitive busyness: When person perceivers meet persons perceived. *Journal of Personality & Social Psychology, 54*(5), 733-740.
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Connecting III: Interacting

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11/10 Week 10.
Connecting IV: Influencing

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11/24 Week 12.
Translating I: Development

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12/01 Week 13.
Translating II: Dysfunction

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12/08 Week 14.
Translating III: Optimization

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