Social Cognitive Neuroscience
Fall 2013

Basics

Prof. Kevin Ochsner
Monday 10:10 am – 12:00 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).

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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

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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 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. Located 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

9/09 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***]
- Ochsner, K. N., & Kosslyn, S. M. (in press). 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

Behavior

- Dunbar, R. I., & Shultz, S. (2007). Evolution in the social brain. *Science, 317*(5843), 1344-1347.
- 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***]

Brain

- Damasio, A. (1994). *Descartes' error: emotion, reason, and the human brain*. New York: G.P.

Putnam. [***Chapters 1 and 3***]

9/16 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

- Lindquist, K. A., & Barrett, L. F. (2008). Constructing emotion: the experience of fear as a conceptual act. *Psychol Sci, 19*(9), 898-903.
- Tomaka, J., Blascovich, J., Kibler, J., & Ernst, J. M. (1997). Cognitive and physiological antecedents of threat and challenge appraisal. *J Pers Soc Psychol, 73*(1), 63-72.

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.
- Berridge, K. C., & Kringelbach, M. L. (2013). Neuroscience of affect: brain mechanisms of pleasure and displeasure. *Curr Opin Neurobiol, 23*(3), 294-303.

9/23 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.

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Behavior (pick 2)

- Mauss, I. B., Levenson, R. W., McCarter, L., Wilhelm, F. H., & Gross, J. J. (2005). The Tie That Binds? Coherence Among Emotion Experience, Behavior, and Physiology. *Emotion, 5*(2), 175-190.
- 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 2)

- Ekman, P., Davidson, R. J., & Friesen, W. V. (1990). The Duchenne smile: emotional expression and brain physiology. II. *Journal of Personality and Social Psychology, 58*(2), 342-353.
- Knutson, B., Rick, S., Wimmer, G. E., Prelec, D., & Loewenstein, G. (2007). Neural predictors of purchases. *Neuron, 53*(1), 147-156.
- Hennenlotter, A., Dresel, C., Castrop, F., Ceballos-Baumann, A. O., Wohlschlager, A. M., & Haslinger, B. (2009). The link between facial feedback and neural activity within central circuitries of emotion--new insights from botulinum toxin-induced denervation of frown muscles. *Cereb Cortex, 19*(3), 537-542.
- 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.

9/30 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, Kron + pick 1)

- Tamir, M., John, O. P., Srivastava, S., & Gross, J. J. (2007). Implicit theories of emotion:

affective and social outcomes across a major life transition. *J Pers Soc Psychol, 92*(4), 731-744.

- Killingsworth, M. A., & Gilbert, D. T. (2010). A wandering mind is an unhappy mind. *Science, 330*(6006), 932.
- Shu, L. L., Mazar, N., Gino, F., Ariely, D., & Bazerman, M. H. (2011). *When to sign on the dotted line? Signing first makes ethics salient and decreases dishonest self-reports*. Cambridge, MA: Harvard Business School.
- 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.
- Mason, M. F., Brown, K., Mar, R. A., & Smallwood, J. (2013). Driver of discontent or escape vehicle: the affective consequences of mindwandering. *Front Psychol, 4*, 477.

Brain

- 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.

10/07 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

- Fredrickson, B. L. (2000). Extracting meaning from past affective experiences: The importance of peaks, ends, and specific emotions. *Cognition & Emotion. Special Emotion, cognition, and decision making, 14*(4), 577-606.
- 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.
- Lerner, J. S., Small, D. A., & Loewenstein, G. (2004). Heart strings and purse strings: Carryover effects of emotions on economic decisions. *Psychol Sci, 15*(5), 337-341.
- 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.

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Brain (pick one of first two and one of second 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.
- Subramaniam, K., Kounios, J., Parrish, T. B., & Jung-Beeman, M. (2009). A brain mechanism for facilitation of insight by positive affect. *J Cogn Neurosci, 21*(3), 415-432.
- 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.

10/14 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

- Leotti, L. A., Iyengar, S. S., & Ochsner, K. N. (2010). Born to choose: the origins and value of the need for control. *Trends Cogn Sci, 14*(10), 457-463.
- 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 (Gross + pick 2)

- Pennebaker, J. W. (1997). Writing about emotional experiences as a therapeutic process. *Psychological Science, 8*(3), 162-166.
- Gross, J. J. (1998). Antecedent- and response-focused emotion regulation: divergent consequences for experience, expression, and physiology. *Journal of Personality and Social Psychology, 74*(1), 224-237.
- 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.
- Schiller, D., Monfils, M. H., Raio, C. M., Johnson, D. C., Ledoux, J. E., & Phelps, E. A. (2010). Preventing the return of fear in humans using reconsolidation update mechanisms. *Nature, 463*(7277), 49-53.

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Brain (pick 2)

- 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*.
- Crockett, M. J., Braams, B. R., Clark, L., Tobler, P. N., Robbins, T. W., & Kalenscher, T. (2013). Restricting temptations: neural mechanisms of precommitment. *Neuron, 79*(2), 391-401.

10/21 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 (Ambady + 1 of next two)

- 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. (2009). Why bodies? Twelve reasons for including bodily expressions in affective neuroscience. *Philos Trans R Soc Lond B Biol Sci, 364*(1535), 3475-3484.

Behavior (pick 2)

- 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.
- Neal, D. T., & Chartrand, T. L. (2011). Embodied emotion perception: Amplifying and dampening facial feedback modulates emotion perception accuracy. *Social Psychological and Personality Science, 2*(6), 673-678.
- Stewart, L. H., Ajina, S., Getov, S., Bahrami, B., Todorov, A., & Rees, G. (2012). Unconscious evaluation of faces on social dimensions. *J Exp Psychol Gen, 141*(4), 715-727.

Brain (Tamietto + one other)

- Adolphs, R., Gosselin, F., Buchanan, T. W., Tranel, D., Schyns, P., & Damasio, A. R. (2005). A mechanism for impaired fear recognition after amygdala damage. *Nature, 433*(7021), 68-72.
- 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.
- Tamietto, M., & de Gelder, B. (2010). Neural bases of the non-conscious perception of

emotional signals. *Nat Rev Neurosci, 11*(10), 697-709.

10/28 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

- Gallese, V., Gernsbacher, M. A., Heyes, C., Hickok, G., & Iacoboni, M. 2011. Mirror Neuron Forum. *Perspectives on Psychological Science, 6*(4), 369-407.Gallese, V., & Goldman, A. (1998). Mirror neurons and mind-reading. *Trends in Cognitive Sciences, 2*(12), 493-501.
- Zaki, J., & Ochsner, K. (2012). The neuroscience of empathy: progress, pitfalls and promise. *Nat Neurosci, 15*(5), 675-680.

Behavior

- Zaki, J., Bolger, N., & Ochsner, K. (2008). It takes two: the interpersonal nature of empathic accuracy. *Psychol Sci, 19*(4), 399-404.
- Waytz, A., & Young, L. (2012). The group-member mind trade-off: attributing mind to groups versus group members. *Psychol Sci, 23*(1), 77-85.

Brain (pick 2)

- Zaki, J., Hennigan, K., Weber, J., & Ochsner, K. N. (2010). Social cognitive conflict resolution: contributions of domain-general and domain-specific neural systems. *J Neurosci, 30*(25), 8481-8488.
- 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.
- Hassabis, D., Spreng, R. N., Rusu, A. A., Robbins, C. A., Mar, R. A., & Schacter, D. L. (2013). Imagine All the People: How the Brain Creates and Uses Personality Models to Predict Behavior. *Cereb Cortex*.

11/04 Week 9.

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

- 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.
- Waytz, A., Gray, K., Epley, N., & Wegner, D. M. (2010). Causes and consequences of mind perception. *Trends Cogn Sci, 14*(8), 383-388.

Behavior

- 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.
- Bahrami, B., Olsen, K., Latham, P. E., Roepstorff, A., Rees, G., & Frith, C. D. (2010). Optimally interacting minds. *Science, 329*(5995), 1081-1085.
- Gray, K., & Wegner, D. M. (2012). Feeling robots and human zombies: Mind perception and the uncanny valley. *Cognition*, *125*(1), 125–130.

Brain (pick 3)

- 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.
- Tankersley, D., Stowe, C. J., & Huettel, S. A. (2007). Altruism is associated with an increased neural response to agency. *Nat Neurosci, 10*(2), 150-151.
- Cikara, M., Botvinick, M. M., & Fiske, S. T. (2011). Us versus them: social identity shapes neural responses to intergroup competition and harm. *Psychol Sci, 22*(3), 306-313.
- Rameson, L. T., Morelli, S. A., & Lieberman, M. D. (2012). The neural correlates of empathy: experience, automaticity, and prosocial behavior. *J Cogn Neurosci, 24*(1), 235-245.

11/11 Week 10.

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 3)

- 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.
- Srivastava, S., Tamir, M., McGonigal, K. M., John, O. P., & Gross, J. J. (2009). The social costs of emotional suppression: a prospective study of the transition to college. *J Pers Soc Psychol, 96*(4), 883-897.
- 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 one of first two and one of second two)

- 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.
- Spitzer, M., Fischbacher, U., Herrnberger, B., Gron, G., & Fehr, E. (2007). The neural signature of social norm compliance. *Neuron, 56*(1), 185-196.
- Klucharev, V., Hytonen, K., Rijpkema, M., Smidts, A., & Fernandez, G. (2009). Reinforcement learning signal predicts social conformity. *Neuron, 61*(1), 140-151.
- Campbell-Meiklejohn, D. K., Kanai, R., Bahrami, B., Bach, D. R., Dolan, R. J., Roepstorff, A., et al. (2012). Structure of orbitofrontal cortex predicts social influence. *Curr Biol, 22*(4), R123-124.

11/18 Week 11.

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
- Lammers, J., Stapel, D. A., & Galinsky, A. D. (2010). Power increases hypocrisy: moralizing in reasoning, immorality in behavior. *Psychol Sci, 21*(5), 737-744.
- 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.

Brain (Pick 3)
- 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.
- Lewis, P. A., Rezaie, R., Brown, R., Roberts, N., & Dunbar, R. I. (2011). Ventromedial prefrontal volume predicts understanding of others and social network size. *Neuroimage, 57*(4), 1624-1629.
- Ly, M., Haynes, M. R., Barter, J. W., Weinberger, D. R., & Zink, C. F. (2011). Subjective socioeconomic status predicts human ventral striatal responses to social status information. *Curr Biol, 21*(9), 794-797.
- 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.

11/25 Week 12.

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)
- Carstensen, L. L. (2006). The influence of a sense of time on human development. *Science, 312*(5782), 1913-1915.
- Blakemore, S. J. (2008). The social brain in adolescence. *Nat Rev Neurosci, 9*(4), 267-277.
- Somerville, L. H., & Casey, B. J. (2010). Developmental neurobiology of cognitive control and motivational systems. *Curr Opin Neurobiol, 20*(2), 236-241.
- 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.

12/02 Week 13.

Translating II: Dysfunction (or, understanding non-normative changes in, or problems with, socioaffective abilities in clinical disorders). 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. This week asks how we can understand failures to adaptively regulate responses to adverse life events, and varieties of clinical disorders of mood and personality that make coping difficult if not impossible.

Overview

- Bonanno, G. A. (2005). Resilience in the face of potential trauma. *Current Directions in Psychological Science, 14*(3), 135-138.
- Heatherton, T. F., & Wagner, D. D. (2011). Cognitive neuroscience of self-regulation failure. *Trends Cogn Sci, 15*(3), 132-139.
- Southwick, S. M., & Charney, D. S. (2012). The science of resilience: implications for the prevention and treatment of depression. *Science, 338*(6103), 79-82.

Behavior

- Kring, A. M., & Caponigro, J. M. (2010). Emotion in Schizophrenia: Where Feeling Meets Thinking. *Curr Dir Psychol Sci, 19*(4), 255-259.
- Vrieze, E., Pizzagalli, D. A., Demyttenaere, K., Hompes, T., Sienaert, P., de Boer, P., et al. (2013). Reduced reward learning predicts outcome in major depressive disorder. *Biol Psychiatry, 73*(7), 639-645.

Brain (pick 2)

- Wagner, D. D., Boswell, R. G., Kelley, W. M., & Heatherton, T. F. (2012). Inducing negative affect increases the reward value of appetizing foods in dieters. *J Cogn Neurosci, 24*(7), 1625-1633.
- Demos, K. E., Heatherton, T. F., & Kelley, W. M. (2012). Individual differences in nucleus accumbens activity to food and sexual images predict weight gain and sexual behavior. *J*

Neurosci, 32(16), 5549-5552.

- Heller, A. S., Johnstone, T., Light, S. N., Peterson, M. J., Kolden, G. G., Kalin, N. H., et al. (2013). Relationships between changes in sustained fronto-striatal connectivity and positive affect in major depression resulting from antidepressant treatment. *Am J Psychiatry, 170*(2), 197-206.

12/09 Week 14.

Translating III: Optimization (or, understanding how to reduce stress and lead a happy life). Our journey ends on an upbeat note 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?

Overview

- Davidson, R. J., & McEwen, B. S. (2012). Social influences on neuroplasticity: stress and interventions to promote well-being. *Nat Neurosci, 15*(5), 689-695.
- Southwick, S. M., & Charney, D. S. (2012). The science of resilience: implications for the prevention and treatment of depression. *Science, 338*(6103), 79-82.
- Jamieson, J. P., Mendes, W. B., & Nock, M. K. (2013). Improving acute stress responses: The power of reappraisal. *Curr Dir Psychol Sci, 22*(1), 51-56.

Behavior (pick 2)

- Keltner, D., & Bonanno, G. A. (1997). A study of laughter and dissociation: Distinct correlates of laughter and smiling during bereavement. *Journal of Personality & Social Psychology, 73*(4), 687-702.
- Lyubomirsky, S., & Ross, L. (1999). Changes in attractiveness of elected, rejected, and precluded alternatives: a comparison of happy and unhappy individuals. *J Pers Soc Psychol, 76*(6), 988-1007.
- Kross, E., & Ayduk, O. (2008). Facilitating Adaptive Emotional Analysis: Distinguishing Distanced-Analysis of Depressive Experiences From Immersed-Analysis and Distraction. *Personality and Social Psychology Bulletin, 34*(7), 924-938.
- Brunye, T. T., Gagnon, S. A., Paczynski, M., Shenhav, A., Mahoney, C. R., & Taylor, H. A. (2013). Happiness by association: breadth of free association influences affective states. *Cognition, 127*(1), 93-98.
- Mitchell, L., Frank, M. R., Harris, K. D., Dodds, P. S., & Danforth, C. M. (2013). The geography of happiness: connecting twitter sentiment and expression, demographics, and objective characteristics of place. *PLoS One, 8*(5), e64417.

Brain (pick 2)

- Bartz, J. A., Zaki, J., Bolger, N., Hollander, E., Ludwig, N. N., Kolevzon, A., et al. (2010). Oxytocin selectively improves empathic accuracy in less socially proficient individuals. *Psychol Sci, 21*(10), 1426-1428.
- Koslov, K., Mendes, W. B., Pajtas, P. E., & Pizzagalli, D. A. (2011). Asymmetry in resting intracortical activity as a buffer to social threat. *Psychol Sci, 22*(5), 641-649.

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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.
- Cunningham, W. A., & Kirkland, T. (2013). The joyful, yet balanced, amygdala: moderated responses to positive but not negative stimuli in trait happiness. *Soc Cogn Affect Neurosci*.
- Fredrickson, B. L., Grewen, K. M., Coffey, K. A., Algoe, S. B., Firestine, A. M., Arevalo, J. M., et al. (2013). A functional genomic perspective on human well-being. *Proc Natl Acad Sci U S A, 110*(33), 13684-13689.

12/18 **Week 14. Final course paper due** (by email only, please).

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Part 2: Optional Supplemental/Background Readings

9/09 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*]**
- Baron-Cohen, S. (1995). *Mindblindness: An essay on autism and theory of mind*. Cambridge, MA: The MIT Press. [***Chapters 1-3***]
- Dunbar, R. I., & Shultz, S. (2007). Understanding primate brain evolution. *Philos Trans R Soc Lond B Biol Sci, 362*(1480), 649-658.
- Gilbert, D. T. (1999). What the mind's not. In S. Chaiken & Y. Trope (Eds.), *Dual process theories in social psychology*. New York: Guilford.
- Klein SB, Kihlstrom JF. 1998. On bridging the gap between social-personality psychology and neuropsychology. *Personality & Social Psychological Review* 2: 228-42
- 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., & Lieberman, M. D. (2001). The emergence of social cognitive neuroscience. *American Psychologist*, 56(9), 717-734.
- Wegner, D. M., & Bargh, J. A. (1998). Control and automaticity in social life. In D. T. Gilbert & S. T. Fiske (Eds.), *The handbook of social psychology*, Vol. 1 (4th ed.) (pp. 446-496). New York, NY: McGraw-Hill. [*Selection: pp. 447-465*]

9/16 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.
- Zajonc, R. B. (1984). On the primacy of affect. *American Psychologist, 39*(2), 117-123.
- Fazio, R. H., Sanbonmatsu, D. M., Powell, M. C., & Kardes, F. R. (1986). On the automatic activation of attitudes. *Journal of Personality & Social Psychology, 50*(2), 229-238.
- 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.
- 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.
- Panksepp, J. (2007). Neurologizing the psychology of affects: How appraisal-based constructivism and basic emotion theory can coexist. *Perspectives on Psychological Science, 2*(3), 281-296.
- Barrett, L. F., Lindquist, K. A., Bliss-Moreau, E., Duncan, S., Gendron, M., Mize, J., et al. (2007). Of mice and men: Natural kinds of emotions in the mammalian brain? A response to Panksepp and Izard. *Perspectives on Psychological Science, 2*(3), 298-312.
- Cunningham, W. A., & Zelazo, P. D. (2007). Attitudes and evaluations: a social cognitive neuroscience perspective. *Trends Cogn Sci, 11*(3), 97-104.
- Wager, T. D., Barrett, L. F., Bliss-Moreau, E., Lindquist, K., Duncan, S., Kober, H., et al. (2008). The neuroimaging of emotion. In M. Lewis, J. M. Haviland-Jones & L. F. Barrett (Eds.), *The handbook of emotion* (3rd ed., pp. 249-271). New York: Guilford.
- Berridge, K. C., & Kringelbach, M. L. (2008). Affective neuroscience of pleasure: reward in humans and animals. *Psychopharmacology (Berl), 199*(3), 457-480.
- Mobbs, D., Marchant, J. L., Hassabis, D., Seymour, B., Tan, G., Gray, M., et al. (2009). From threat to fear: the neural organization of defensive fear systems in humans. *J Neurosci, 29*(39), 12236-12243.
- Gendron, M., & Barrett, L. F. (2009). Reconstructing the past: A century of ideas about emotion in psychology. *Emotion Review*, 1, 1-24.
- 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.
- Shenhav, A., & Greene, J. D. (2010). Moral judgments recruit domain-general valuation mechanisms to integrate representations of probability and magnitude. *Neuron, 67*(4), 667-677.
- Ellsworth, P. C. (2013). Appraisal theory: Old and new questions. *Emotion Review, 5*(2), 125-131.

9/23 Week 3.
Socioaffective Responding II: Expressing

Supplemental/Background

- Carroll, J. M., & Russell, J. A. (1997). Facial expressions in Hollywood's protrayal of emotion. *Journal of Personality and Social Psychology, 72*(1), 164-176.
- Barrett, L. F., Robin, L., Pietromonaco, P. R., & Eyssell, K. M. (1998). Are women the "more emotional" sex? Evidence from emotional experiences in social context. *Cognition & Emotion, 12*(4), 555-578.
- Ongur, D., & Price, J. L. (2000). The organization of networks within the orbital and medial prefrontal cortex of rats, monkeys and humans. *Cereb Cortex, 10*(3), 206-219.
- Mauss, I. B., Wilhelm, F. H., Gross, J. J., & Gross, J. J. (2004). Is there less to social anxiety than meets the eye? Emotion experience, expression, and bodily responding. *Cognition & Emotion, 18*(5), 631-662.

- Hurlemann, R., Walter, H., Rehme, A. K., Kukolja, J., Santoro, S. C., Schmidt, C., et al. (2010). Human amygdala reactivity is diminished by the beta-noradrenergic antagonist propranolol. *Psychol Med, 40*(11), 1839-1848.
- 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.

9/30 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.
- Anderson, A. K., & Phelps, E. A. (2002). Is the human amygdala critical for the subjective experience of emotion? Evidence of intact dispositional affect in patients with amygdala lesions. *J Cogn Neurosci, 14*(5), 709-720.
- Kelley, W. M., Macrae, C. N., Wyland, C. L., Caglar, S., Inati, S., & Heatherton, T. F. (2002). Finding the self? An event-related fMRI study. *Journal of Cognitive Neuroscience, 14*(5), 785-794.
- Beer, J. S., Heerey, E. A., Keltner, D., Scabini, D., & Knight, R. T. (2003). The regulatory function of self-conscious emotion: insights from patients with orbitofrontal damage. *Journal of Personality and Social Psychology, 85*(4), 594-604.
- Ochsner, K. N., Beer, J. S., Robertson, E., Cooper, J., Gabrieli, J. D. E., Kihlstrom, J. F., et al. (2005). The neural correlates of direct and reflected self-knowledge. *Neuroimage, 28*(4), 797-814.
- Medford, N., & Critchley, H. D. (2010). Conjoint activity of anterior insular and anterior cingulate cortex: awareness and response. *Brain Struct Funct, 214*(5-6), 535-549.
- Craig, A. D. (2011). Significance of the insula for the evolution of human awareness of feelings from the body. *Ann N Y Acad Sci, 1225*, 72-82.
- Zaki, J., Davis, J. I., & Ochsner, K. N. (2012). Overlapping activity in anterior insula during interoception and emotional experience. *Neuroimage, 62*(1), 493-499.
- Kappes, A., & Schikowski, A. (2013). Implicit theories of emotion shape regulation of negative affect. *Cogn Emot, 27*(5), 952-960.

10/07 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.
- Forgas, J. P. (1995). Mood and judgment: the affect infusion model (AIM). *Psychological Bulletin, 117*(1), 39-66. [selection: ***pp. 39-41, 46-51***]

- Ochsner, K. N. (2000). Are affective events richly recollected or simply familiar? The experience and process of recognizing feelings past. *Journal of Experimental Psychological: General, 129*(2), 242-261.
- Lerner, J. S., & Keltner, D. (2001). Fear, anger, and risk. *J Pers Soc Psychol, 81*(1), 146-159.
- Schwarz, N., & Clore, G. L. (2003). Mood as Information: 20 Years Later. *Psychological Inquiry, 14*(3-4), 296-303.
- Davis, K. D., Taylor, K. S., Hutchison, W. D., Dostrovsky, J. O., McAndrews, M. P., Richter, E. O., et al. (2005). Human anterior cingulate cortex neurons encode cognitive and emotional demands. *J Neurosci, 25*(37), 8402-8406.
- Haas, B. W., Omura, K., Constable, R. T., & Canli, T. (2006). Interference produced by emotional conflict associated with anterior cingulate activation. *Cogn Affect Behav Neurosci, 6*(2), 152-156.
- Cryder, C. E., Lerner, J. S., Gross, J. J., & Dahl, R. E. (2008). Misery is not miserly: sad and self-focused individuals spend more. *Psychol Sci, 19*(6), 525-530.
- Droit-Volet, S., & Gil, S. (2009). The time-emotion paradox. *Philos Trans R Soc Lond B Biol Sci, 364*(1525), 1943-1953.
- Murty, V. P., Ritchey, M., Adcock, R. A., & LaBar, K. S. (2010). fMRI studies of successful emotional memory encoding: A quantitative meta-analysis. *Neuropsychologia, 48*(12), 3459-3469.
- Schwabe, L., Merz, C. J., Walter, B., Vaitl, D., Wolf, O. T., & Stark, R. (2011). Emotional modulation of the attentional blink: the neural structures involved in capturing and holding attention. *Neuropsychologia, 49*(3), 416-425.
- Cocenas-Silva, R., Bueno, J. L., & Droit-Volet, S. (2012). Temporal memory of emotional experience. *Mem Cognit, 40*(2), 161-167.
- Murty, V. P., Labar, K. S., & Adcock, R. A. (2012). Threat of punishment motivates memory encoding via amygdala, not midbrain, interactions with the medial temporal lobe. *J Neurosci, 32*(26), 8969-8976.
- Todd, R. M., Schmitz, T. W., Susskind, J., & Anderson, A. K. (2013). Shared neural substrates of emotionally enhanced perceptual and mnemonic vividness. *Front Behav Neurosci, 7*, 40.

10/14 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.
- Barrett, L. F., Gross, J., Christensen, T. C., & Benvenuto, M. (2001). Knowing what you're feeling and knowing what to do about it: Mapping the relation between emotion differentiation and emotion regulation. *Cognition & Emotion, 15*(6), 713-724.
- Wegner, D. M., & Schneider, D. J. (2003). The White Bear Story. *Psychological Inquiry, 14*(3-

4), 326-329.
- Slatcher, R. B., & Pennebaker, J. W. (2006). How do I love thee? Let me count the words: the social effects of expressive writing. *Psychol Sci, 17*(8), 660-664.
- Mitchell, J. P., Heatherton, T. F., Kelley, W. M., Wyland, C. L., Wegner, D. M., & Neil Macrae, C. (2007). Separating sustained from transient aspects of cognitive control during thought suppression. *Psychol Sci, 18*(4), 292-297.
- Wager, T. D., Davidson, M. L., Hughes, B. L., Lindquist, M. A., & Ochsner, K. N. (2008). Prefrontal-subcortical pathways mediating successful emotion regulation. *Neuron, 59*(6), 1037-1050.
- Seih, Y. T., Chung, C. K., & Pennebaker, J. W. (2011). Experimental manipulations of perspective taking and perspective switching in expressive writing. *Cogn Emot, 25*(5), 926-938.
- Teffer, K., & Semendeferi, K. (2012). Human prefrontal cortex: evolution, development, and pathology. *Prog Brain Res, 195*, 191-218.
- Jamieson, J. P., Nock, M. K., & Mendes, W. B. (2012). Mind over matter: Reappraising arousal improves cardiovascular and cognitive responses to stress. *Journal of Experimental Psychology: General, 141*(3), 417-422.
- Buhle, J. T., Silvers, J. A., Wager, T. D., Lopez, R., Onyemekwu, C., Kober, H., et al. (2013). Cognitive Reappraisal of Emotion: A Meta-Analysis of Human Neuroimaging Studies. *Cereb Cortex*.
- Shenhav, A., Botvinick, M. M., & Cohen, J. D. (2013). The expected value of control: an integrative theory of anterior cingulate cortex function. *Neuron, 79*(2), 217-240.
- Rudebeck, P. H., Saunders, R. C., Prescott, A. T., Chau, L. S., & Murray, E. A. (2013). Prefrontal mechanisms of behavioral flexibility, emotion regulation and value updating. *Nat Neurosci, 16*(8), 1140-1145.

10/21 Week 7.
Connecting I: Identifying

Supplemental/Background

- Allison, T., Puce, A., & McCarthy, G. (2000). Social perception from visual cues: role of the STS region. *Trends in Cognitive Sciences, 4*(7), 267-278.
- Ellis, H. D., & Lewis, M. B. (2001). Capgras delusion: a window on face recognition. *Trends in Cognitive Sciences, 5*(4), 149-156.
- Borod, J. C., Bloom, R. L., Brickman, A. M., Nakhutina, L., & Curko, E. A. (2002). Emotional processing deficits in individuals with unilateral brain damage. *Appl Neuropsychol, 9*(1), 23-36.
- Adolphs, R. (2002). Recognizing emotion from facial expressions: psychological and neurological mechanisms. *Behav Cogn Neurosci Rev, 1*(1), 21-62.
- Adolphs, R., Baron-Cohen, S., & Tranel, D. (2002). Impaired recognition of social emotions following amygdala damage. J Cogn Neurosci, 14(8), 1264-1274.
- Vuilleumier, P., Armony, J. L., Driver, J., & Dolan, R. J. (2003). Distinct spatial frequency

sensitivities for processing faces and emotional expressions. *Nat Neurosci, 6*(6), 624-631.
- Amaral, D. G., Capitanio, J. P., Jourdain, M., Mason, W. A., Mendoza, S. P., & Prather, M. (2003). The amygdala: is it an essential component of the neural network for social cognition? Neuropsychologia, 41(2), 235-240.
- Anderson, A. K., Christoff, K., Panitz, D., De Rosa, E., & Gabrieli, J. D. (2003). Neural correlates of the automatic processing of threat facial signals. J Neurosci, 23(13), 5627-5633.
- Whalen, P. J., Kagan, J., Cook, R. G., Davis, F. C., Kim, H., Polis, S., et al. (2004). Human amygdala responsivity to masked fearful eye whites. *Science, 306*(5704), 2061.
- Vuilleumier, P., & Pourtois, G. (2007). Distributed and interactive brain mechanisms during emotion face perception: evidence from functional neuroimaging. *Neuropsychologia, 45*(1), 174-194.
- Todorov, A., Said, C. P., Engell, A. D., & Oosterhof, N. N. (2008). Understanding evaluation of faces on social dimensions. *Trends Cogn Sci, 12*(12), 455-460.
- Spezio, M. L., Rangel, A., Alvarez, R. M., O'Doherty, J. P., Mattes, K., Todorov, A., et al. (2008). A neural basis for the effect of candidate appearance on election outcomes. *Soc Cogn Affect Neurosci, 3*(4), 344-352.
- Blank, H., Anwander, A., & von Kriegstein, K. (2011). Direct structural connections between voice- and face-recognition areas. *J Neurosci, 31*(36), 12906-12915.
- 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.
- Tamietto, M., Pullens, P., de Gelder, B., Weiskrantz, L., & Goebel, R. (2012). Subcortical connections to human amygdala and changes following destruction of the visual cortex. *Curr Biol, 22*(15), 1449-1455.

10/28 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.
- Stone, V. E., Baron-Cohen, S., & Knight, R. T. (1998). Frontal lobe contributions to theory of mind. *Journal of Cognitive Neuroscience, 10*(5), 640-656.
- Castelli, F., Happe, F., Frith, U., & Frith, C. (2000). Movement and mind: a functional imaging study of perception and interpretation of complex intentional movement patterns. *Neuroimage, 12*(3), 314-325.
- Gallagher, H. L., Jack, A. I., Roepstorff, A., & Frith, C. D. (2002). Imaging the intentional stance in a competitive game. *Neuroimage, 16*(3 Pt 1), 814-821.

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11/04 Week 9.
Connecting III: Interacting

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11/11 Week 10.
Connecting IV: Influencing

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11/18 Week 11.
Connecting IV: Networking

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11/25 Week 12.
Translating I: Development

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12/02 Week 13.
Translating II: Dysfunction

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12/09 Week 14.
Translating III: Optimization

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