



Psychology 316: Embodied Cognition Seminar

Location	KINSC East Wing 115
Haverford College	M/W 1:00 – 2:30
Department of Psychology	Spring 2016

Instructor: Jake Kurczek, PhD
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Office Hours: By appointment – If my door is open feel free to come in

Textbook: *None Required*

Class Website: You will be able to find PDFs of the lectures and discussions posted on Moodle.

Course Goals and Overview

Embodied cognition (EC), the view that the body plays a central role in shaping the mind, is gaining considerable traction in cognitive science (Wilson, 2002). At the heart of EC is the idea that high-level cognitive processes (e.g., memory, decision-making, language) are influenced by sensory, motor, and affective information from the body. The last ten years have seen an explosion of theory and research connected by the term “embodiment.” A typical claim of embodied theories is that many forms of cognition make use of perceptual/action systems. That is, cognition is not something that can be accomplished with abstract symbols outside of a body that interacts with the world. Our main goals are to understand this claim, examine evidence regarding this claim across multiple areas of psychology and application, and to determine if there can be a coherent, unified, embodied approach to understanding behavior.

- To provide an opportunity to work through scientific controversies by analyzing, comparing and contrasting theories and research
- To provide an opportunity to work through the scientific process through writing an annotated bibliography and research proposal
- To practice and improve your writing and presentation skills



Course Requirements and Policies

Course web page. Lecture slides, assignments and readings are available on the course web page - [moodle](#).

Lecture Attendance. Students are required –and expected - to attend all of the classes for this course. While I will not enforce a daily attendance policy, a failure to attend will reflect poorly in your participation/question portion of your final grade. A portion of this grade is reflected in the critical thinking journals, which are randomly distributed throughout the course. If you are going to miss a lecture, please do your best to let me know *before* class.

Absences and Make-ups. It is expected that you will take each examination at the scheduled time. A make-up exam can be taken only for excused absences. Unless highly unusual circumstances prevail, approval for excused absences must be obtained prior to the scheduled exam. If you fail to take an examination (an unexcused absence), you will receive a score of zero for that exam.

Posting of Lectures. PDF's of the lectures will be posted on the Moodle page for your reference. I will do my best to post lectures within 24 hours **after** the lecture. This is for both practical (I'm often working on these until the last minute) and pedagogical (I like you to take your own notes) reasons. Please note that these PDFs are not comprehensive in their information as much of what we study in class is through discussion and activities.

Academic Integrity. At Haverford College, the Honor Code is a defining aspect of life both inside and outside of the classroom. You can find the code [here](#) and read about how it interfaces with your academic conduct.

Cell phones, etc. Please turn off or silence all electronic devices during class. I will remember to do the same. Feel free to use a computer/tablet for taking notes in class. If you want to record a lecture for personal use, please get my permission and do not post or share it publically.

Students with disabilities. Haverford College is committed to supporting the learning process for all students. Please contact me as soon as possible if you are having difficulties in the course. There are also many resources on campus available to you as a student, including the [Office of Academic Resources](#) and the [Office of Access and Disability Services](#). If you think you may need accommodations because of a disability, you should contact [Access and Disability Services](#). If you have already been approved to receive academic accommodations and would like to request accommodations in this course because of a disability, please meet with me privately at the beginning of the semester (ideally within the first two weeks) with your verification letter.

Getting Help. If you find that you are having difficulties with the any of the material please contact me as soon as possible! Do not wait until late in the course. It is difficult to significantly improve your grade if there are only a few weeks left in the course. I am happy to help you. If you are not able to see me during office hours we can make other arrangements. You can also find resources at various centers including the [Library](#), [Writing Center](#), [Office of Academic Resources](#) and [Student Counseling Center](#).



Assignments

- Daily Reflections

For each day (starting 2/8) I'd like you to write down your thoughts/reactions about the readings. These should include critical thoughts about the readings (e.g., what and why you agree or disagree with, what did you find interesting or confusing, etc.) rather than summaries. Post these to moodle (Subject Topic Forums) the night before class (9:00PM) so that I can 1) read them before class & 2) possibly assemble them all together, print them out and hand them out in class for all to see. - There are 19 opportunities, so my plan is to take your top 15.

- Discussion Leader

Students will be expected to be the "discussion leader" for 2 different days of articles/topics distributed over the semester, beginning – 2/10. The job of the discussion leader is to provide some structure to the discussion of the issues that week. This could be a powerpoint or handouts, sets of questions for discussion, etc. The point is not for the leader to do all of the talking that day, rather to facilitate discussion. Feel free to consult with me about this. - We'll use the articles/topics I've chose, but if you find a different (better??) article that you think would fit that week's topic you may submit it to me for possible substitution for an assigned article. I'll need these at least 1 week in advance for review and dissemination to the other students (and if the article is available in electronic format that would be helpful).

- Class Participation

This is a reading and discussion based course. I expect that everybody come to class having read the articles and put some thought into them. To facilitate the discussion (starting 2/8), in addition to the reaction/reflection papers, I'd like everybody to come up with at least 2 questions about each of the readings/concepts and post these to moodle (Pre-Class Qs) the night before class (9:00PM). The discussion leader for the day does not need to post questions to moodle the night before their presentation. Class participation will be based on active participation in the discussions and also the submission of these questions the night before class.

- Annotated bibliography (AB)

I'd like you to search for additional related articles on one of the topics (that your research paper is on), read them, and prepare a brief (e.g., 1 paragraph to 1 page) summary, as well the full reference. You'll need a minimum of 10 articles included in the bibliography for full credit and these are due each week (starting 2/8). You may select a topic for which you were a discussion leader, or select another topic. The assigned articles do not count towards the minimum 10 articles.

- Research Paper

The major project for this course is a 15-20 page research proposal paper. Your final paper will include an introduction (literature review and hypotheses) and a methods section. You do not need to conduct an actual research study. Think through (and write about) the proposed methodology, the theory and hypotheses, and your predictions. While an exhaustive literature review is not required, review is necessary for providing context in which to understand the proposed experiment(s), the theory which it is designed to test, and for backing up any



underlying assumptions which underlie the hypotheses. Each time you turn something in, it should be in APA style.

On February 3rd, you will turn in a 1-2 page paper that includes your research question and briefly describes at least 2 academic studies that you are using as a basis for your research question to your first writing partner. These should be returned within 1 week and be posted to moodle with track changes. While you only need to discuss 2 studies in your paper, you should include in the reference section at least 5 academic sources that you have reviewed and will use in your final paper.

On March 2nd, you will turn in the first draft of the introduction of your paper (6 pages minimum) to your writing partner. These should be returned within by 3/16 and be posted to moodle with track changes. In this draft, you should summarize relevant research studies and describe how these research studies support your hypotheses. You should include at least 11 academic sources in the reference section. You should also include an abstract. I will attempt to meet with everyone individually during the weeks of March 14th and March 18th. On March 30th you should turn in your first draft of your whole paper.

By 5:00(12:00)PM on May 9(13)th, you will turn in the final draft of your paper (15-20 pages). This paper should be a revised and improved edition of your abstract and your introduction as well as method section.

Your final paper will be graded using the following criteria:

- a) Identification of gaps in literature
- b) Summaries of supporting research studies
- c) Clear description of research proposal
- d) Quality of research method proposed
- e) APA style

- **Research Presentation**

Psychology conferences typically host symposium sessions, in which researchers construct talks to present their research findings from a recent study or studies. The last week of class, starting April 25th, will consist of an academic symposium. During the session, each student will present a powerpoint slideshow describing their research proposal that they have developed over the course of the semester. The presentation should include the following: literature review, hypotheses, method, and references. Each presentation should be 15 minutes with 5 minutes for questions. A graph of expected results would be especially helpful! You should post your presentations to moodle by April 24th.

The presentations will be graded using the following criteria:

- a) Clear description of research proposal
- b) Overall attractiveness of presentation
- c) Quality of information presented
- d) Oral description/presentation to audience

- **Grading.** Grades will be based on the total points shown below.

A / 4.0 94% and above	B- / 2.7 80-82%	D+ / 1.3 67-69%
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A- / 3.7 90-93%	C+ / 2.3 77-79%	D / 1.0 63-66%
B+ / 3.3 87-89%	C / 2.0 73-76%	D- / 0.7 60-62%
B / 3.0 83-86%	C- / 1.7 70-72%	F 59% and below

Grading Criteria:

Reflections	= 125 pts	20.84%
Discussion Leader	= 125 pts	20.84%
Class Participation	= 50 pts	8.34%
Research Presentation	= 50 pts	16.67%
Annotated Bibliography	= 50 pts	16.67%
Final Paper	= 200 pts	33.33%
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Total	= 600 pts	100%

Late Work. Late assignments will be docked 10% for everyday after the assigned due date.

Important Dates

Discussion Leader Sign-up:	1/20 – 1/27
Topics Due:	2/3
First Draft Introduction:	2/22
Spring Break	3/4 – 3/13
Daylight Savings	3/13
First Draft Paper	3/30
CNS NO CLASS	4/4
Presentations Due:	4/24
Presentations:	4/25 – 4/27
Class Evaluation:	4/27 – 5/7
Final Paper Due:	5/9 5:00PM or 5/13 12:00PM

Schedule of Lecture Topics and Assigned Readings*

Date	Topic & Assignment	Readings
1/20	<i>Introduction</i>	
1/25	<i>Issues in Science</i>	Brandt, M.J., Ijzerman, H., Dijksterhuis, A., Farach, F.J., Geller, J., Giner-Sorolla, R., ... & Veer, A. (2014). The replication recipe: What makes for convincing replication? <i>Journal of Experimental Social Psychology</i> , 50, 217-224. Smedslund, J. (2015). Why psychology cannot be an empirical science. <i>Integrative Psychological Behavior</i> , 1-11.
1/27	<i>Issues in</i>	Open Science Collaboration. (2015). Estimating the



	<i>Science</i>	<p>reproducibility of psychological science. <i>Science</i>, 349, 943-942.</p> <p>Simmons, J.P., Nelson, L.D., & Simonsohn, U. (2011). False-positive psychology: Undisclosed flexibility in data collection and analysis allows presenting anything as significant. <i>Psychological Science</i>, 22(11), 1359-1366.</p> <p>Simmons, J.P., Nelson, L.D., & Simonsohn, U. (2012). A 21 word solution. <i>Dialogue</i>.</p>
2/1	<i>Anatomy</i>	Leitan, N.D. & Chaffey, L. (2014). Embodied cognition and its applications: A brief review. <i>Sensoria: A Journal of Mind, Brain & Culture</i> , 3-10.
2/3	<i>Anatomy Topics Due</i>	Fogalia, L. & Wilson, R.A. (2013). Embodied cognition. <i>WIREs Cognitive Science</i> , 4, 319-325.
2/8	<i>Traditional Cognitive Science AB1</i>	<p>Newell, A. & Simon, H. A. (1976). Computer Science as Empirical Inquiry: Symbols and Search. <i>Communications of the ACM.</i>, 19, 113-126.</p> <p>Searle, J. R. (1980), Minds, Brains, and Programs. <i>Behavioral and Brain Sciences</i>, 3, 417-457.</p>
2/10	<i>Philosophy Discussion Leader Starts</i>	<p>Beer, R., (2011). Dynamical systems and embedded cognition. In K. Frankish, & W. Ramsey (Eds.), <i>The Cambridge Handbook of Artificial Intelligence</i>. Cambridge: Cambridge University Press.</p> <p>Gallagher, S. (2009). Philosophical antecedents to situated cognition. In P. Robbins, & Aydede, M. (Eds). <i>Cambridge Handbook of Situated Cognition</i>. Cambridge: Cambridge University Press.</p> <p>Garbarini, F., & Adenzatio, M. (2004). At the root of embodied cognition: Cognitive science meets neurophysiology. <i>Brain and Cognition</i>, 56, 100-106.</p> <p>Zlatev, J. (2007) Embodiment, language, and mimesis. In Ziemke, T, Zlatev, J., and Frank, R. <i>Body, Language and Mind: Vol 1 Embodiment</i>. Berlin, Mouton.</p>
2/15	<i>Grounded Cognition AB2</i>	<p>Adams, F. (2010). Embodied cognition. <i>Phenomenological Cognitive Science</i>, 9, 619-628.</p> <p>Spackman, J., & Yanchar, S.C. (2014). Embodied cognition, representationalism, and mechanism: A review and analysis. <i>Journal for the Theory of Social Behavior</i>, 44(1), 46-79.</p>
2/17	<i>Mirror Neurons</i>	<p>Caramazza, A., Anzellotti, S., Strnad, L., & Lingnau, A. (2014). Embodied cognition and mirror neurons: A critical assessment. <i>Annual Reviews of Neuroscience</i>, 37, 1-15.</p> <p>Gallese, V. & Sinigaglia, C. (2011). What is so special about embodied simulation? <i>Trends in Cognitive Sciences</i>, 15(11), 512-519.</p>



2/22	Critiques First Draft Introduction AB3	<p>Mahon, B. & Caramazza, A. (2008). A critical look at the embodied cognition hypothesis and a new proposal for grounding conceptual content. <i>Journal of Physiology – Paris</i>, 102, 59-70.</p> <p>Hellmann, J.H., Echterhoff, G., & Thoben, D.F. (2013). Metaphor in embodied cognition is more than just combining two related concepts: A comment on Wilson and Golonka (2013). <i>Frontiers in Psychology</i>, 4, 1-2.</p> <p>Wilson, A.D., & Golonka, S. (2013). Embodied cognition is not what you think it is. <i>Frontiers in Psychology</i>, 4, 1-13.</p>
2/24	Metaphor	<p>Gibbs, R.W. (2011). Evaluating conceptual metaphor theory. <i>Discourse Processes</i>, 48(8), 529-562.</p> <p>Lakoff, G. (1992). The contemporary theory of metaphor. In A. Ortony (Ed.) <i>Metaphor and Thought</i>. Cambridge: Cambridge University Press.</p> <p>McGlone, M.S. (2011). Hyperbole, homunculi, and hindsight bias: An alternative evaluation of conceptual metaphor theory. <i>Discourse Processes</i>, 48(8), 563-574.</p>
2/29	Priming AB4	<p>Bargh, J.A., Chen, M., & Burrows, L. (1996). Automaticity of social behavior: Direct effects of trait construct and stereotype activation on action. <i>Journal of Personality and Social Psychology</i>, 71(2), 230-244.</p> <p>Doyen, S., Klein, O., Pichon, C. & Cleeremans, A. (2012). Behavioral priming: It's all in the mind, but whose mind? <i>PLoS One</i>, 7(1), e29081.</p>
3/2	Priming	<p>Chartrand, T., & Bargh, J. (1999). The chameleon effect: The perception-behavior link and social interaction. <i>Journal of Personality and Social Psychology</i>, 76(6), 893-910.</p> <p>Gueguen, N., Martin, A., & Meineri, S. (2011). Mimicry and helping behavior: An evaluation of mimicry on explicit helping request. <i>The Journal of Social Psychology</i>, 151(1), 1-4.</p> <p>Van Baaren, R.B., Holland, R.W., Kawakami, K., Knippenberg, A.V. (2004). Mimicry and prosocial behavior. <i>Psychological Science</i>, 15(1), 71-74.</p>
3/4– 3/13	SPRING BREAK!!	
3/14	Morality AB5	<p>Johnson, D.J., Cheung, F., & Donnellan, M.B. (2014). Does cleanliness influence moral judgments? A direct replication of Schnall, Benton, & Harvey (2008). <i>Social Psychology</i>, 45(3), 209-215.</p> <p>Schnall, S., Benton, J. & Harvey, S. (2008). With a clean conscience: Cleanliness reduces the severity of moral judgments. <i>Psychological Science</i>, 19(12), 1219-1222.</p>



		Schnall, S., Haidt, J., Clore, G., & Jordan, A. (2008). Disgust as embodied moral judgment. <i>Perspectives of Social Psychology Bulletin</i> , 34(8), 1096-1109.
3/16	<i>Morality</i>	Earp, B.D. & Everett, J.A.C., (2014). Out, damned spot: Can the “Macbeth Effect” be replicated. <i>Basic and Applied Social Psychology</i> , 36, 91-98. Fayard, J.V., Bassi, A.K., Bernstein, D.M., & Roberts, B.W. (2009). Is cleanliness next to godliness? Dispelling old wives’ tales: Failure to replicate Zhong and Liljenquist (2006). <i>Journal of Articles in Support of the Null Hypothesis</i> , 6(2), 21-30. Gamez, E., Diaz, J.M., & Marrero, H. (2011). The uncertain universality of the Macbeth Effect with a Spanish sample. <i>The Spanish Journal of Psychology</i> , 14(1), 156-162. Zhong, C. & Liljenquist. (2006). Washing away your sins: Threatened morality and physical cleansing. <i>Science</i> , 313, 1451-1453.
3/21	<i>Concepts AB6</i>	Louwerse, M. (2011). Stormy seas and cloudy skies: Conceptual processing is (still) linguistic and perceptual. <i>Frontiers in Psychology</i> , 2, 1-4 Louwerse, M. & Hutchinson, S. (2012). Neurological evidence linguistic processing precede perceptual simulation in conceptual processing. <i>Frontiers in Psychology</i> , 3, 1-11. Louwerse, M. & Jeuniaux, P. (2010). The linguistic and embodied nature of conceptual processing. <i>Cognition</i> , 114, 96-104.
3/23	<i>Memory</i>	Casasanto, D., & Dijkstra, K. (2010). Motor action and emotional memory. <i>Cognition</i> , 115, 179-185. Gottwald, J.M., Elsner, B., & Pollatos, O. (2015). Good is up – spatial metaphors in action observation. <i>Frontiers in Psychology</i> , 6, 1-10. Seno, T., Kawabe, T., Ito, H., Sunaga, S. (2013). Vection modulates emotional valence of autobiographical episodic memories. <i>Cognition</i> , 126, 115-120.
3/28	<i>Time AB7</i>	Boroditsky, L. (2001). Does language shape thought?: Mandarin and English speakers’ conceptions of time. <i>Cognitive Psychology</i> , 43, 1-22. January, D., & Kako, E. (2007). Re-evaluating evidence for linguistic relativity: Reply to Boroditsky (2001). <i>Cognition</i> , 104, 417-426.
3/30	<i>Importance First Draft Paper</i>	Jostmann, N., Lakens, D., & Schubert, T. (2009). Weight as embodiment of importance. <i>Psychological Science</i> , 20(9), 1169-1174. Rabelo, A.L.A., Keller, V.N., Pilati, R., & Wicherts, J.M.



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		<p>(2015). No effect of weight on judgments of importance in the moral domain and evidence of publication bias from a meta-analysis. <i>PLoS One</i>, <i>10</i>(8), e0134808.</p> <p>Schneider, I.K., Parzuchowski, M., Wojciszke, B., Schwarz, N., & Koole, S.L. (2015). Weighty data: Importance information influences estimated weight of digital information storage devices. <i>Frontiers in Psychology</i>, <i>5</i>, 1-7.</p>
4/4		Cognitive Neuroscience Society Meeting – No Class
4/6	<i>Social Cognition</i> AB8	<p>Williams, L. & Bargh, J. (2008). Experiencing physical warmth promotes interpersonal warmth. <i>Science</i>, <i>322</i>, 606-607.</p> <p>Lynott, D., Corker, K.S., Wortman, J., Connell, L., Donnellan, M.B., Lucas, R.E., & O'Brien, K. (2014). Replication of “Experiencing physical warmth promotes interpersonal warmth” by Williams and Bargh (2008). <i>Social Psychology</i>, <i>45</i>(3), 216-222.</p>
4/11	<i>Social Cognition</i>	<p>Izjerman, H. & Semin, G.R. (2009). The thermometer of social relations: Mapping social proximity on temperature. <i>Psychological Science</i>, <i>20</i>(10), 1214-1220.</p> <p>Schilder, J.D., Izjerman, H., & Denissen, J.J.A. (2014). Physical warmth and perceptual focus: A replication of Izjerman and Semin (2009). <i>PLoS One</i>, <i>9</i>(11), e112772.</p>
4/13	<i>Emotion</i> AB9	<p>Goldman, A. & Vignemont, F. (2009). Is social cognition embodied? <i>Trends in Cognitive Science</i>, <i>13</i>(4), 154 – 159.</p> <p>Niedenthal, P. M. (2007). Embodying emotion. <i>Science</i>, <i>316</i>, 1002-1005.</p> <p>Wilkowski, B., Meier, D., Robinson, M., Carter, M., & Feltman, R. (2009). “Hot-headed” is more than an expression: The embodied representations of anger in terms of heat. <i>Cognition</i>, <i>9</i>(4), 864-877.</p>
4/18	<i>Issues in Science</i>	<p>Cesario, J. (2014). Priming, replication and the hardest science. <i>Perspectives on Psychological Science</i>, <i>9</i>, 40-48.</p> <p>Everett, J.A.C., & Earp, B.D. (2015). A tragedy of the (academic) commons: Interpreting the replication crisis in psychology as a social dilemma for early-career researchers. <i>Frontiers in Psychology</i>.</p> <p>Ioannidis, J.P.A. (2005). Why most published findings are false. <i>PLoS Medicine</i>, <i>2</i>(8), e124.</p>
4/20	<i>Critiques</i> AB10	<p>Mahon, B.Z. (2015). The burden of embodied cognition. <i>Canadian Journal of Experimental Psychology</i>, <i>69</i>(2), 172-178.</p> <p>Willems, R.M. & Francken, J.C. (2012). Embodied cognition:</p>



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		Taking the next step. <i>Frontiers in Psychology</i> , 3, 1-3.
4/24	Presentations Due	
4/25	Presentations	
4/27	Presentations	
5/9 5/13	Final Paper Due	Senior Finals – 5/9 – 5:00PM Underclass Finals – 5/13 – 12:00PM

*Tentative schedule subject to change without notice as instructor deems necessary



Potential Research Paper Topics

Almost anything in cognitive psychology/neuroscience can be a potential research topic. The topics listed below are simply topics that I find interesting and are not meant to be exhaustive in terms of your potential topics.

Expertise
Music
Dance
Computers/Artificial Intelligence
Gesture
Emotion
Language
Development
Math
Priming
Social Cognition
Morality
Time