

Psychology 351
Psychology of Perception
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Possible paper topics

1. Perceptual illusions: compare and contrast two or more illusions, perhaps in different sensory modalities
2. Perceptual aftereffects: pick any two, then compare and contrast
3. Hecht, Schlaer and Pirenne's 1942 experiment on minimal threshold for vision
4. Psychophysical methods: review and compare
5. Opponent process model of color vision
6. Treisman's "Feature Integration Theory" of attention (see Yantis reading)
7. The perceptual constancies
8. J. J. Gibson's theory of perception (see reading from Yantis)
9. The perception of musical structures
10. Categorical perception of speech
11. Subjective contours (work of Kanizsa and others)
12. Imagery vs. perception: similarities and differences
13. Biederman's "Recognition by Components" theory of form perception
14. Compare computer vision (robotics) with human pattern recognition
15. Speech perception by infants
16. David Marr's approach to vision (elaborate on what is in Yantis)
17. The perception of faces
18. Comparative visual systems: human vs. bird vs. ?
19. The evolution of sensory and perceptual systems
20. Cognitive neuroscience of vision: what have we learned from brain damage?
21. Balint's syndrome – a condition in which patients can perceive only one thing at a time
22. Phantom limbs
23. Subjective contours
24. Echolocation in bats
25. Eye movements and the perception of motion
26. Disappearance of stabilized images
27. Supertasters: individual differences in people's ability to taste
28. Depth perception, random dot stereograms, and the "magic eye"
29. Color blindness
30. Face blindness (prosopagnosia)
31. Change blindness
32. The octave illusion in pitch perception
33. The moon illusion(s)
34. Visual illusions and accidents in the real world
35. Depth perception and perspective in art
36. Perception of color by infants
37. Gestalt laws of grouping
38. Illusory (apparent) motion in movies
39. Perceptual learning and expertise (e.g., wine tasters, chicken sex-typers)
40. Metacontrast (backward masking)

41. Sound localization: determining where sound is coming from
42. Perception of timbre (e.g., in musical instruments)
43. Intra-sensory conflict (when the different senses disagree)
44. Auditory scene analysis
45. Synesthesia (tasting shapes, etc.)
46. Blindsight
47. Mach bands
48. The spotlight of attention
49. Scintillating grid
50. Pain perception
51. Face recognition by birds
(<http://www.nytimes.com/2008/08/26/science/26crow.html?ref=science>)
52. The perception of itch
(http://www.newyorker.com/reporting/2008/06/30/080630fa_fact_gawande)
53. The “fingernails on a chalkboard) phenomenon
(http://www.nytimes.com/2008/06/24/science/24qna.html?_r=1&ref=science&oref=slogin)
54. Taste adaptation and Miracle Fruit (Linda Bartoshuk’s research
(<http://www.nytimes.com/2008/05/28/dining/28flavor.html>)

Review of ground rules:

First, select a topic and email us your selection, using the numbers above, by the deadline announced in class. If more than two people pick the same topic, the topic number will be crossed out, so pick one that is not crossed out. If you want to pick a special topic not on the list, or to do a special project, send us a proposal. We welcome these! Unless you negotiate a separate topic or project with us, you must write a paper, and it must cover a topic from the list above. Each student must work separately. Your paper should be 5 - 6 double-spaced pages of typed text (font size 10 – 12; please, no tiny print or narrow margins), plus references, and it will be due by the date listed on the syllabus. You may turn in a draft prior to that date for comments; we will give you feedback before the due date **if** you get it to us early enough. Again, anyone wishing to write a paper on a topic not listed project should consult us before proceeding. Anyone wishing to do a project instead of a paper likewise should consult with the instructor or the teaching assistant first about a topic. The project could involve designing, conducting, and analyzing data from a perceptual experiment; or preparing and delivering an in-class demonstration of a perceptual effect, including presenting background material and an explanation of the phenomenon.

For papers, there is no set formula. You may review the literature on a topic, summarizing findings and theories; you may chronicle a debate or controversy, exploring both (all) sides; you may pick an argument and advocate for it so long as your presentation is balanced; or you may take on a novel topic or propose a new experiment to investigate a new phenomenon or settle an issue. Your paper does not need to conform precisely to any particular style (although APA style is great if you know it). You do need to be clear, however, and grammar, spelling, and the like does count. We encourage you to use figures; this is a course in perception, after all, and some concepts are extremely hard to convey in words only. References to the primary literature are important. That is, go beyond your textbook or other

textbooks, and certainly go beyond encyclopedias. Some good places to start looking for the references are: (1) your course texts; (2) other texts and advanced books available from Fondren; (3) Psychological Abstracts, available at Fondren; (4) Science Citation Index, Social Science Citation Index, also at Fondren. Many resources are available on line. As always, be careful about those because there is a lot of low-quality 'information' out there on the web. See:

<http://library.rice.edu/>

<http://psycnet.apa.org/index.cfm?fa=search.advancedSearchForm>

<http://apps.isiknowledge.com>

About your topics

We may have to reject some topics you propose principally because we do not think the perception content is high enough. We of course want you to write on subjects that interest you, but if you are writing on (for instance) some musical phenomenon, we are interested in what you have learned about perception, not what you can teach us about music. This is not a general knowledge exercise. In general we do not want social psychology papers or medical papers, unless there are clear and explicit links to perception

Source material

We are not interested in a simple rehash of the material in your textbook or another textbook. We know what the textbooks say so include other source material. The website list places you can look. Generally 3 or 4 original works will give you a good perspective on the topic. Web sites you reference must be cited but it is typically unwise to depend on web sites that don't end in .edu. Folk psychology is even bigger than the real study of psychology.

APA style is not required but highly recommended. You don't have to be exacting in keeping to the standard (it is long and complicated) but many professional bodies use this standard and if you are going on in academia it will help you to learn it.

Whatever style you use, you need to site your references in the body of the paper. It is no good having a long list of references where I have no way to determine what, if anything you absorbed.

Length

The body of the paper should be 5-6 pages of TEXT. A paragraph one way or the other will not be held against you. You of course should use figures where appropriate but these are in addition to 5-6 pages of double spaced text.

Grading

Papers are graded for their quality and content keeping in mind the emphasis on perception covered above. We usually pick about 6 papers at random and read them all before assigning any grades. We then assign numeric grades to these and judge all the rest of the papers relative to these.

