

**CONTEMPORARY PROBLEMS IN PSYCHOLOGY, NEUROSCIENCE & BEHAVIOUR**  
**MODULE 1: COGNITION AND PERCEPTION (SHORE)**  
**MULTISENSORY INTERACTIONS : VISUAL DOMINANCE**

**Content**

Multisensory interaction refers to those processes that combine information from different sensory modalities into a unitary percept. We will approach this topic by considering first: how many senses are there? Second, we will address the question of whether or not vision is a dominant sense in perception.

**Expectations on your Assignments**

Presentations: I expect you to prepare a 15-20 minute presentation based on the target and supplementary readings. Following, or concurrent with, this presentation, you will **lead a discussion** on the topic. You should assume that the other students have read the target article and have come prepared to discuss the main theme of that article. You should expect to discuss the articles for about 50 minutes. Come with questions and discussion points to keep things flowing. Then, let people discuss, but lend support when needed.

Position papers: I expect you to make and defend an argument in your paper. In week 2 (September 22) you will take a position on the issue of “how many senses are there?” and defend that position. In week 3 (September 29) you will take a position on the issue of “vision is or is not dominant” and defend that position. I am not looking for a critique of the articles, or a recitation of the data, but rather a logical and forceful argument supporting your stated position.

**Weekly readings and assignments**

**September 15**

There are two required readings:

Rock, I., & Harris, C. S. (1967). Vision and touch. *Scientific American*, 216(5), 96-104.

Ernst, M. O., Banks, M. S., & Bulthoff, H. H. (2000). Touch can change visual slant perception. *Nature Neuroscience*, 3(1), 69-73.

While reading, you should consider what types of evidence would support the claim that vision is a dominant sense. What types of evidence would refute this claim. Is this an appropriate question to ask in the first place? Try to come to class with an opinion on whether vision is dominant or not.

**September 22**

The main theme for this week shows that vision is dominant in sensory experience. You are required to read the target articles listed below. There will be supplementary material posted to the web meant for the benefit of the presenter and for you to access if you are interested in the topic. To be clear, if you are not the presenter, then you only need read the three target articles:

Colavita, F. B. (1974). Human sensory dominance. *Perception & Psychophysics*, 16, 409-412.

Botvinick, M., & Cohen, J. (1998). Rubber hands 'feel' touch that eyes see. *Nature*, 391(6669), 756.

Duncker, K. (1939). The influence of past experience upon perceptual properties. *American Journal of Psychology*, 52, 255-265.

While reading, you should evaluate the quality of evidence supporting the claim of visual dominance. Also, think if there is another way to account for these data without making that claim.

## September 29

The main theme for this week brings into question the claims from last week. Specifically, we consider if there is a more parsimonious account that evaluates the relative quality of information in the different modalities. Again, you are only required to read the three articles listed below. Supplementary articles will be posted on-line.

Ernst, M. O., & Bulthoff, H. H. (2004). Merging the senses into a robust percept. *Trends in Cognitive Sciences*, 8(4), 162-169.

Alais, D., & Burr, D. (2004). The ventriloquist effect results from near-optimal bimodal integration. *Current Biology : CB*, 14(3), 257-262.

Shams, L., Kamitani, Y., & Shimojo, S. (2000). Illusions. what you see is what you hear. *Nature*, 408(6814), 788.

While reading, you should think back to the readings from week 2 and consider if the ideas presented here can account for all of those data or if some of the data still support a sensory dominance perspective.