Sensory Perception

Instructions

Watch the video about bundles.

This bundle was created to edify and support your research interests. Recommended resources have the first word of the reference highlighted with light text over a dark background (e.g., Akbarian).

Some of the links go to research paper vendor sites with just the abstract available. To read the full article, sign in to HOLLIS Library and do the title search there.

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Resources

Abdallah, C. G., & Geha, P. (2017). Chronic pain and chronic stress: Two sides of the same coin? *Chronic Stress, 1,* 1-10. https://doi.org/10.1177/2470547017704763

Aizawa, Y., Harada, T., Nakata, H., Tsunakawa, M., Sadato, N., & Nagashima, K. (2019). Assessment of brain mechanisms involved in the processes of thermal sensation, pleasantness/unpleasantness, and evaluation. *IBRO Reports*, *6*, 54-63. https://doi.org/10.1016/j.ibror.2019.01.003

American Speech, Language and Hearing Association. (2015). *How we hear*. https://www.asha.org/public/hearing/how-we-hear/

Argueta, P., Dominguez, J., Zachman, J., Worthington, P., & Kana, R. K. (2025). "The giant black elephant with white tusks stood in a field of green grass": Cognitive and brain mechanisms underlying aphantasia. *Consciousness and Cognition*, 127, 103790. https://doi.org/10.1016/j.concog.2024.103790

Armstrong, A. G., & Vlasov, Y. (2025). Neural correlates of perceptual decision making in primary somatosensory cortex. *bioRxiv,* 2025-03. https://doi.org/10.1101/2025.03.29.646003

Balla, E., Nabbefeld, G., Wiesbrock, C., Linde, J., Graff, S., Musall, S., & Kampa, B. M. (2025). Broadband visual stimuli improve neuronal representation and sensory perception. *Nature Communications, 16*(1), 2957. https://doi.org/10.1038/s41467-025-58003-1

Banissy, M. J., & Ward, J. (2007). Mirror-touch synesthesia is linked with empathy. *Nature Neuroscience*, *10*(7), 815-816. https://doi.org/10.1038/nn1926

Barbieri, M., Negrini, M., Nitsche, M. A., & Rivolta, D. (2016). Anodal-tDCS over the human right occipital cortex enhances the perception and memory of both faces and objects. *Neuropsychologia, 81*, 238-244. https://doi.org/10.1016/j.neuropsychologia.2015.12.030

Barry, S.R. (2021). *Coming to our senses: A boy who learned to see, a girl who learned to hear, and how we all discover the world*. Basic Books.

Barry, S. R. (2009). *Fixing my gaze: A scientist's journey into seeing in three dimensions.* Basic Books.

Bendova, S. (2025). Impact of sensory cortex dysfunction on sensory perception. Edinburgh Research Archive. http://dx.doi.org/10.7488/era/5561

Boyd, L. (2024). From sensory perception to realtime nonverbal communication. In L.A. Boyd's (Ed.) *The sensory accommodation framework for technology: Bridging sensory processing to social cognition* (pp. 85-99). Cham: Springer Nature Switzerland. https://doi.org/10.1007/978-3-031-48843-6_6

Bregman, A. S. (1994). *Auditory scene analysis: The perceptual organization of sound*. MIT press.

Burgess, N. (2011, November). *How your brain tells you where you are* [Video] (9:03 minutes). TED Conferences. https://www.ted.com/talks/neil_burgess_how_your_brain_tells_you_where_you_are?language=en#t-74520

Bushak, L. (2015). How does the nose smell? The inner workings of our sense of smell. *Medical Daily. https://www.medicaldaily.com/how-does-nose-smell-inner-workings-our-sense-smell-324566*

Carr, M., Haar, A., Amores, J., Lopes, P., Bernal, G., Vega, T., Rosello, O., Jain, A., & Maes, P. (2020). Dream engineering: Simulating worlds through sensory stimulation. *Consciousness and Cognition*, *83*, Article 102955. https://doi.org/10.1016/j.concog.2020.102955

Center for Hearing and Communication (2015). The impact of noise on a healthy, happy childhood.). Selectiveness of the exposure-based perceptual learning. *Learning and Perception, 1*(1), 89-98. https://dx.doi.org/10.1556%2FLP.1.2009.1.7

Çelik, S., Doğan, R. B., Parlatan, C. S., & Güntekin, B. (2021). Distinct brain oscillatory responses for the perception and identification of one's own body from other's body. *Cognitive Neurodynamics*, 1-12. https://doi.org/10.1007/s11571-020-09660-z

Chanda, A. A., Addanki, M. S., Kumar, C., Chinmay, A., & Kokila, P. (2024, May). Integrated sensory perception: Real-time object detection, action recognition and emotion analysis. In *2024 International Conference on Current Trends in Advanced Computing (ICCTAC)* (pp. 1-8). IEEE. doi: 10.1109/ICCTAC61556.2024.10581033.

Chen, G., Yan, J., Wang, C., & Chen, S. (2024). Expanding the associations between landscape characteristics and aesthetic sensory perception for traditional village public space. *Forests, 15*(1), 97. https://doi.org/10.3390/f15010097

Cichy, R. M., & Teng, S. (2017). Resolving the neural dynamics of visual and auditory scene processing in the human brain: a methodological approach. *Philosophical Transactions of the Royal Society B: Biological Sciences, 372*(1714), Article 20160108. https://doi.org/10.1098/rstb.2016.0108

Chen, H., Fu, S., Zhi, X., Wang, Y., Liu, F., Li, Y., ... & Wang, Y. (2025). Research progress on neural processing of hand and forearm tactile sensation: A review based on fMRI research. *Neuropsychiatric Disease and Treatment*, 193-212. https://doi.org/10.2147/NDT.S488059

Choi, H., & Watanabe, T. (2009). Selectiveness of the exposure-based perceptual learning: what to learn and what not to learn. *Learning & perception, 1*(1), 89-98. https://doi.org/10.1556/lp.1.2009.1.7

Collinger, J. L., Gaunt, R. A., & Schwartz, A. B. (2018). Progress towards restoring upper limb movement and sensation through intracortical brain-computer interfaces. *Current Opinion in Biomedical Engineering*, *8*, 84-92. https://doi.org/10.1016/j.cobme.2018.11.005

Daw, N. W. (2014). Plasticity in the visual cortex. In *Visual development* (pp. 191-215). Springer, Boston, MA.

de Matos, A. D., Chen, A., Maggs, R., Godfrey, A. J. R., & Hort, J. (2025). Cross-cultural differences and acculturation in affective response and sensory perception: a case study across Chinese immigrants and local consumers in New Zealand. *Food Quality and Preference,* 122, 105299. https://doi.org/10.1016/j.foodqual.2024.105299

Desantis, A., & Haggard, P. (2016). How actions shape perception: learning action-outcome relations and predicting sensory outcomes promote audio-visual temporal binding. *Scientific Reports, 6,* Article 39086. *https://dx.doi.org/10.1038%2Fsrep39086*

Eagleman, D. M., & Perrotta, M. V. (2023). The future of sensory substitution, addition, and expansion via haptic devices. *Frontiers in Human Neuroscience*, *16*. https://doi.org/10.3389/fnhum.2022.1055546

Emberson, L. L., Boldin, A. M., Riccio, J. E., Guillet, R., & Aslin, R. N. (2017). Deficits in top-down sensory prediction in infants At risk due to premature birth. *Current Biology, 27*(3), 431-436.

Epstein, R. A., & Baker, C. I. (2019). Scene perception in the human brain. *Annual Review of Vision Science, 5*, 373-397. https://doi.org/10.1016/j.cub.2016.12.028

Fagiolini, M., & Hensch, T. K. (2000). Inhibitory threshold for critical-period activation in primary visual cortex *Nature*, *404*(6774), 183-186. https://doi.org/10.1038/35004582

Fontanini, A., & Czarnecki, L. (2023). Neural processing of taste information. *Oxford Research Encyclopedia of Neuroscience*. https://doi.org/10.1093/acrefore/9780190264086.013.99

Gärdenfors, P. (2019). From sensations to concepts: a proposal for two learning processes. *Review of Philosophy and Psychology, 10*(3), 441-464. https://doi.org/10.1007/s13164-017-0379-7

Gandhi, T. K., Ganesh, S., & Sinha, P. (2014). Improvement in spatial imagery following sight onset late in childhood. *Psychological Science, 25(*3), 693-701.

Gordon, G. (2016). Models of tactile perception and development. In *Scholarpedia of touch* (pp. 797-808). Atlantis Press. http://www.scholarpedia.org/article/Models_of_tactile_perception_and_development

Grossenbacher, P. G., & Lovelace, C. T. (2001). Mechanisms of synesthesia: cognitive and physiological constraints. *Trends in Cognitive Sciences*, *5*(1), 36-41. https://doi.org/10.1016/S1364-6613(00)01571-0

Hauw, F., El Soudany, M., & Cohen, L. (2023). The advantage of being a synesthete: The behavioral benefits of ticker-tape synesthesia. *Cortex*, *168*, 226–234. https://doi.org/10.1016/j.cortex.2023.08.011

Henry, M. J., Herrmann, B., & Grahn, J. A. (2017). What can we learn about beat perception by comparing brain signals and stimulus envelopes? *PloS One, 12*(2), Article e0172454. https://doi.org/10.1371/journal.pone.0172454

Hockley, A., Bohórquez, L. H., & Malmierca, M. S. (2025). Top-down prediction signals from the medial prefrontal cortex govern auditory cortex prediction errors. *Cell Reports, 44*(4). DOI: 10.1016/j.celrep.2025.115538

Hubbard, E. M., & Ramachandran, V. S. (2005). Neurocognitive mechanisms of synesthesia. *Neuron*, *48*(3), 509-520. https://doi.org/10.1016/j.neuron.2005.10.012

Jean-Remi, K. I. N. G., Pescetelli, N., & Dehaene, S. (2016). Selective maintenance mechanisms of seen and unseen sensory features in the human brain. *Biorxiv,* Article 040030. *https://doi.org/10.1101/040030*

Jiang, J., Wang, D., Liu, Y., Xu, Y., & Liu, J. (2018). A study on pupils' learning performance and thermal comfort of primary schools in China. *Building and Environment, 134,* 102-113. https://doi.org/10.1016/j.buildenv.2018.02.036

Kang, X., Huang, X., Song, M., Guljajeva, V., & Kuchera-Morin, J. (2024). Interdisciplinary translations: Sensory perception as a universal language. Cornell. *arXiv preprint* arXiv:2411.05374. https://doi.org/10.48550/arXiv.2411.05374

Kathofer, M., Lamm, C., Leder, H., & Crone, J. S. (2025). Aesthetic experiences across visual perception and mental imagery: behaviorally indistinguishable, neurally distinct. *iScience, 28*(6). DOI: 10.1016/j.isci.2025.112588

Kelleher, C. (2013, January). *How we see co.lor* [Video] (3:32 minutes). TED Conferences. https://www.ted.com/talks/colm_kelleher_how_we_see_color

Keller, H. (2004). *The story of my life* (Vol. 1). Library of Alexandria.

Kim, F. (2015). The mystery of tetrachromacy: if 12% of women have four cone types in their eyes, why do so few of them actually see more colours? [Blog]. *The Neurosphere.* https://theneurosphere.com/2015/12/17/the-mystery-of-tetrachromacy-if-12-of-women-have-four-cone-types-in-their-eyes-why-do-so-few-of-them-actually-see-more-colours/

King, J. R., Pescetelli, N., & Dehaene, S. (2016). Brain mechanisms underlying the brief maintenance of seen and unseen sensory information. *Neuron, 92*(5), 1122-1134. https://doi.org/10.1016/j.neuron.2016.10.051

Kolarik, A. J., Moore, B. C., Zahorik, P., Cirstea, S., & Pardhan, S. (2016). Auditory distance perception in humans: a review of cues, development, neuronal bases, and effects of sensory loss. *Attention, Perception, & Psychophysics, 78*(2), 373-395. https://doi.org/10.3758/s13414-015-1015-1

König, S. U., Schumann, F., Keyser, J., Goeke, C., Krause, C., Wache, S., ... & Kaspar, K. (2016). Learning new sensorimotor contingencies: Effects of long-term use of sensory augmentation on the brain and conscious perception. *PloS One, 11*(12), Article e0166647. https://doi.org/10.1371/journal.pone.0166647

Kuehn, E., Dinse, J., Jakobsen, E., Long, X., Schäfer, A., Bazin, P. L., ... & Margulies, D. S. (2017). Body topography parcellates human sensory and motor cortex. *Cerebral Cortex*, 1-16. https://doi.org/10.1093/cercor/bhx026

Lametti, D. R., & Watkins, K. E. (2016). Cognitive neuroscience: The neural basis of motor learning by observing. *Current Biology, 26*(7), R288-R290. https://doi.org/10.1016/j.cub.2016.02.045

Landelle, C., Anton, J. L., Nazarian, B., Sein, J., Gharbi, A., Felician, O., & Kavounoudias, A. (2020). Functional brain changes in the elderly for the perception of hand movements: A greater impairment occurs in proprioception than touch. *NeuroImage, 220,* Article 117056. https://www.sciencedirect.com/science/article/pii/S1053811920305425

Lee, W., Kim, S., Kim, B., Lee, C., Chung, Y. A., Kim, L., & Yoo, S. S. (2017). Non-invasive transmission of sensorimotor information in humans using an EEG/focused ultrasound brain-to-brain interface. *PloS one*, *12*(6), Article e0178476. https://doi.org/10.1371/journal.pone.0178476

Lucini, F. A., Del Ferraro, G., Sigman, M., & Makse, H. A. (2019). How the brain transitions from conscious to subliminal perception. *Neuroscience*, *411*, 280-290. https://doi.org/10.1016/j.neuroscience.2019.03.047

Mao, J., & Stocker, A. A. (2024). Sensory perception is a holistic inference process. *Psychological Review*. https://doi.org/10.1037/rev0000457

Marin, A. (2015, January 27). *Making sense of scents: Smell and the brain.* Brain Facts. https://www.brainfacts.org/thinking-sensing-and-behaving/smell/2015/making-sense-of-scents-smell-and-the-brain

Marini, G. (2024). What's the sense of a classroom? Sensory perception in classrooms and relationships with nature in the wake of COVID-19. *Studies in Philosophy and Education*, 1-16. https://doi.org/10.1007/s11217-024-09962-3

Marshall, A. C., Gentsch-Ebrahimzadeh, A., & Schütz-Bosbach, S. (2022). From the inside out: Interoceptive feedback facilitates the integration of visceral signals for efficient sensory processing. *NeuroImage*, *251*, Article 119011. https://doi.org/10.1016/j.neuroimage.2022.119011

Martin, A. (2016). GRAPES—Grounding representations in action, perception, and emotion systems: How object properties and categories are represented in the human brain. *Psychonomic Bulletin & Review, 23*(4), 979-990. https://doi.org/10.3758/s13423-015-0842-3

Mastinu, M., Thaploo, D., Warr, J., & Hummel, T. (2025). Cortical representation of food-related odors in gustatory areas differs according to their taste association: An fMRI study. *Brain Sciences, 15*(4), 418. https://doi.org/10.3390/brainsci15040418

Matthews, T. E., Witek, M. A., Lund, T., Vuust, P., & Penhune, V. B. (2020). The sensation of groove engages motor and reward networks. *NeuroImage*, *214*, 116768. https://doi.org/10.1016/j.neuroimage.2020.116768

Milazzo, S. (2011). Visual development in infants: physiological and pathological mechanisms. *Current Opinion in Ophthalmology,* 22, 1.

Mioni, G., Grondin, S., Bardi, L., & Stablum, F. (2020). Understanding time perception through non-invasive brain stimulation techniques: A review of studies. *Behavioural brain research*, *377*, Article 112232. https://doi.org/10.1016/j.bbr.2019.112232

Monson, B. B., Eaton-Rosen, Z., Kapur, K., Liebenthal, E., Brownell, A., Smyser, C. D., ... & Neil, J. J. (2018). Differential rates of perinatal maturation of human primary and nonprimary auditory cortex. *eNeuro*, *5*(1), 1-12. https://dx.doi.org/10.1523%2FENEURO.0380-17.2017

Morishita, H., & Hensch, T. K. (2008). Critical period revisited: impact on vision. *Current Opinion in Neurobiology*, *18*(1), 101-107. https://doi.org/10.1016/j.conb.2008.05.009

Nemati, E., Grayden, D. B., Burkitt, A. N., & Eskikand, P. Z. (2025). Balancing prior knowledge and sensory data in a predictive coding model of coherent motion detection. *PLOS Computational Biology, 21*(5), e1013116. https://doi.org/10.1371/journal.pcbi.1013116

Nikolaou N, Meyer MP. (2015). Lamination speeds the functional development of visual circuits. *Neuron*, *88*(5), 999-1013. https://doi.org/10.1016/j.neuron.2015.10.020

Ostry, D. J., & Gribble, P. L. (2016). Sensory plasticity in human motor learning. *Trends in Neurosciences, 39*(2), 114-123. http://dx.doi.org/10.1016%2Fj.tins.2015.12.006

Otten, M., Seth, A. K., & Pinto, Y. (2017). A social Bayesian brain: How social knowledge can shape visual perception. *Brain and Cognition, 112,* 69-77. https://doi.org/10.1016/j.bandc.2016.05.002

Parisi, L., Fortunato, M. R., Salerno, M., Maltese, A., Di Folco, A., & DI, T. (2017). Sensory perception in preschool children affected by Autism Spectrum Disorder: A pilot study. *Acta Medica,* 33, 49.

Parker, M., Spennemann, D. H., & Bond, J. (2024). Sensory perception in cultural studies—A review of sensorial and multisensorial heritage. *The Senses and Society, 19*(2), 231-261. https://doi.org/10.1080/17458927.2023.2284532

Prsa, M., Galiñanes, G. L., & Huber, D. (2017). Rapid integration of artificial sensory feedback during operant conditioning of motor cortex neurons. *Neuron, 93*(4), 929-939. https://doi.org/10.1016/j.neuron.2017.01.023

Ružičková, A., Jurkovičová, L., Páleník, J., Hutchison, K. A., Chmelík, J., Mitterová, K., & Juřík, V. (2025). The

effect of individual visual sensitivity on time perception. *Scientific Reports, 15*(1), 6589. https://doi.org/10.1038/s41598-025-88778-8

Saks, O. (1993 May 10). To see and not to see. A Neurologist's Notebook. *The New Yorker.*

Salvesen, L. (2025). Sensory disconnection and dreaming: The functional and phenomenological impact of sensory stimulation during sleep. [Doctoral Thesis] https://doi.org/10.13118/imtlucca/e-theses/441

Sanna, M. (2025). Proprioceptive resonance and multimodal semiotics: Readiness to act, embodied cognition, and the dynamics of meaning. *NeuroSci, 6(*2), 42. https://doi.org/10.3390/neurosci6020042

Sawicki, J. (2025). From empirical brain networks towards modeling music perception--a perspective. arXiv preprint arXiv:2504.07721. https://doi.org/10.48550/arXiv.2504.07721

Sexton, B. M., Liu, Y., & Block, H. J. (2019). Increase in weighting of vision vs. proprioception associated with force field adaptation. *Scientific Reports, 9*(1), 1-13. https://doi.org/10.1038/s41598-019-46625-7

Sherman, C. (2013, September 11). *The senses-a primer (Part I).* Brain Facts. https://www.brainfacts.org/thinking-sensing-and-behaving/vision/2013/the-senses-a-primer-part-i

Sherman, C. (2013, September 25). *The senses-a primer (Part II).* Brain Facts. https://www.brainfacts.org/thinking-sensing-and-behaving/vision/2013/the-senses-a-primer-part-ii

Singhala, M., & Brown, J. D. (2023). Mirror-brush illusion: Creating phantom tactile percepts on intact limbs. *IEEE Transactions on Haptics*, *16*(4), 665–671. https://doi.org/10.1109/toh.2023.3279012

Stevenson, R. A., Segers, M., Ferber, S., Barense, M. D., Camarata, S., & Wallace, M. T. (2016). Keeping time in the brain: Autism spectrum disorder and audiovisual temporal processing. *Autism Research, 9*(7), 720-738. https://doi.org/10.1002/aur.1566

Stoliker, D., Preller, K. H., Novelli, L., Anticevic, A., Egan, G. F., Vollenweider, F. X., & Razi, A. (2025). Neural mechanisms of psychedelic visual imagery. *Molecular Psychiatry, 30*(4), 1259-1266. https://doi.org/10.1038/s41380-024-02632-3

Sturtewagen, L., van Mil, H., & Linden, E. V. D. (2025). Complexity, uncertainty, and entropy: Applications to food sensory perception and other complex phenomena. *Entropy, 27*(2), 191. **https://doi.org/10.3390/e27020191**

Sutherland, S. (2016, December 28). *Smell: An overview*. Brain Facts. https://www.brainfacts.org/thinking-sensing-and-behaving/smell/2016/smell-an-overview

Teufel, C. (2018). Sensory neuroscience: linking dopamine, expectation, and hallucinations. *Current Biology*, *28*(4), R158-R160. https://doi.org/10.1016/j.cub.2018.01.003

Tomasello, R., Garagnani, M., Wennekers, T., & Pulvermüller, F. (2017). Brain connections of words, perceptions and actions: a neurobiological model of spatio-temporal semantic activation in the human cortex. *Neuropsychologia, 98*, 111-129. https://doi.org/10.1016/j.neuropsychologia.2016.07.004

VanRullen, R. (2017). Perception science in the age of deep neural networks. *Frontiers in Psychology*, 8, Article 142. https://dx.doi.org/10.3389%2Ffpsyg.2017.00142

Verma, K. L. (2024). Electrophysiological (EEG) Correlates of reward effects on early sensory perception in humans. *Journal of Neuroeducation, 4*(2). https://doi.org/10.1344/joned.v4i2.43569

Vincis, R., & Fontanini, A. (2016). A gustocentric perspective to understanding primary sensory cortices. *Current Opinion in Neurobiology, 40,* 118-124. https://dx.doi.org/10.1016%2Fj.conb.2016.06.008

Wallace, J. G., & Edin, B. C. (1963/2001). Recovery from early blindness A case study. *Experimental*

Psychology Society Monograph, 2, 1963

Wang, M., Luo, Y., Wang, T., Wan, C., Pan, L., Pan, S., ... & Chen, X. (2021). Artificial skin perception. *Advanced Materials*, *33*(19), 2003014. https://doi.org/10.1002/adma.202003014

Wnuk, A. (2016, January 7). *Insights into the visual system.* Brain Facts. https://www.brainfacts.org/thinking-sensing-and-behaving/vision/2016/insights-to-the-visual-system-010716

Yeon, J., Kim, J., Ryu, J., Park, J. Y., Chung, S. C., & Kim, S. P. (2017). Human brain activity related to the tactile perception of stickiness. *Frontiers in Human Neuroscience*, *11*, Article 8. https://doi.org/10.3389/fnhum.2017.00008

Wu, B., Eldeghaidy, S., Ayed, C., Fisk, I. D., Hewson, L., & Liu, Y. (2021). Mechanisms of umami taste perception: From molecular level to brain imaging. *Critical Reviews in Food Science and Nutrition*, 1-10. https://doi.org/10.1080/10408398.2021.1909532

Ye, J., Gupta, P., Shah, P., Tiwari, K., Gandhi, T., Ganesh, S., ... & Sinha, P. (2021). Resilience of temporal processing to early and extended visual deprivation. *Vision Research*, 186, 80-86. https://doi.org/10.1016/j.visres.2021.05.004

Zheng, Y., Zhang, J., Yang, Y., & Xu, M. (2025). Neural representation of sensorimotor features in language-motor areas during auditory and visual perception. *Communications Biology, 8*(1), 41. https://doi.org/10.1038/s42003-025-07466-5

OTHER RESOURCES:

CrashCourse (2014, March 3). *Sensation and perception: Crash Course psychology #5* [Video] (10:45). YouTube. https://www.youtube.com/watch?v=unWnZvXJH2o

CrashCourse (2014, March 10). *Homunculus: Crash Course psychology #6* [Video] (10:23). YouTube. https://www.youtube.com/watch?v=fxZWtc0mYpQ

CrashCourse (2014, March 10). *Perceiving is believing: Crash Course psychology #7* [Video] (9:59). YouTube. https://www.youtube.com/watch?v=n46umYA_4dM

Lamb, M. (2023, July 1). Sensory substitution: How to see with your tongue [Video]. YouTube. https://www.youtube.com/watch?v=O7inf4PLHvE

Fulton Library (2021). *Deaf memoirs and biographies* [website] https://uvu.libguides.com/deaf-studies-guide/memoirs

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