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Engineering & Scientific Consulting

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Professional Profile

Dr. Hilary Dorton is a neuroscientist with expertise in visual processing, attentional bias, habit formation, impulsivity, as well as metabolism and neuroendocrinology. She applies her expertise to investigate human behavior and decision-making under different physiological states, and how humans integrate internal and external stimuli to drive behavior. Her experience allows her to evaluate a variety of scenarios, including automobile and motorcycle accidents, trip-and-fall accidents, and product-related injury.

Dr. Dorton's dissertation work combined functional imaging techniques (fMRI, ASL) behavioral measures (eating, exercise, sleep), and hormone sampling (e.g. glucose metabolism) to understand how metabolic state impacts attention to environmental cues. She led a multi-year study exploring GLP-1 signaling, sugar intake, visual food-cue reactivity, and food-choice. She was also a key contributor to a longitudinal neuroimaging study exploring neural development in children exposed to gestational diabetes in utero. She has worked with young children, adolescents, and adults.

Prior to her work at USC, Dr. Dorton was a researcher at Children's Hospital Los Angeles, where she studied visual circuitry. In particular, she studied the impacts of developmental genetic and physical perturbations on visual acuity. In addition to her academic training, she brings consulting experience in the biotechnology space and user experience research.

Academic Credentials & Professional Honors

Ph.D., Neuroscience, University of Southern California, 2019

B.A., Psychology, Auburn University, 2011

Society for Neuroscience

Society for the Study of Ingestive Behavior

Professional Affiliations

Society for Automotive Engineers

Human Factors & Ergonomics Society

Publications

Yunker AG, Luo S, Jones S, **Dorton HM**, Alves JM, Angelo B, ... & Page KA. Appetite-regulating hormones are reduced after oral sucrose vs glucose: Influence of obesity, insulin resistance, and sex. The Journal of Clinical Endocrinology & Metabolism 2021; 106(3):654-664.

Jones S, Luo S, **Dorton HM**, Angelo B, Yunker AG, Monterosso JR, Page KA. Evidence of a role for the hippocampus in food-cue processing and the association with body weight and dietary added sugar. Obesity 2021; 29(2):370-378.

Jones S, Luo S, **Dorton HM**, Yunker AG, Angelo B, Defendis A, ... & Page KA. Obesity and dietary added sugar interact to affect postprandial GLP-1 and its relationship to striatal responses to food cues and feeding behavior. Frontiers in Endocrinology 2021; 12:638504.

Dorton HM, Luo S, Monterosso JR, Page KA. Influences of dietary added sugar consumption on striatal food cue reactivity and postprandial GLP-1 response. Frontiers in Psychiatry 2018; 8:297.

Stephany CÉ, Ma X, **Dorton HM**, Wu J, Solomon AM, Frantz MG, ... & McGee AW. Distinct circuits for recovery of eye dominance and acuity in murine amblyopia. Current Biology 2018; 28(12):1914-1923

Luo S, Melrose AJ, **Dorton HM**, Alves J, Monterosso JR, Page KA. Resting state hypothalamic response to glucose predicts glucose-induced attenuation in the ventral striatal response to food cues. Appetite 2017; 116:464-470.

Frantz MG, Kast RJ, **Dorton HM**, Chapman KS, McGee AW. Nogo receptor 1 limits ocular dominance plasticity but not turnover of axonal boutons in a model of amblyopia. Cerebral Cortex 2016; 26(5):1975-1985.

Stephany CÉ, Chan LL, Parivash SN, **Dorton HM**, Piechowicz M, Qiu S, McGee AW. Plasticity of binocularity and visual acuity are differentially limited by nogo receptor. The Journal of Neuroscience 2014; 34(35):11631-11640.

Park JI, Frantz MG, Kast RJ, Chapman KS, **Dorton HM**, Stephany CÉ, ... & McGee AW. Nogo receptor 1 limits tactile task performance independent of basal anatomical plasticity. PloS one 2014; 9(11):e112678.

Presentations

Dorton HM. Brain responses to sweet food cues predict food intake after sucralose consumption. Invited Oral Presentation, Annual Meeting for The Obesity Society, Nashville, TN, 2018.

Dorton HM. Linking habitual added sugar intake with susceptibility to environmental food cues. Invited Oral Presentation, USC Neuroscience Graduate Program Annual Symposium, Los Angeles, CA, 2018.

Dorton HM. Relationships between Added Sugar Intake, GLP-1, and Food Cue Reactivity. Invited Oral Presentation, Annual Meeting for the Society for the Study of Ingestive Behavior, Montreal, Quebec, Canada, 2017.

Dorton HM. Effects of habitual dietary sugar intake on neural responses to food cues following acute sugar intake. Invited Oral Presentation, Diabetes and Obesity Research Institute Special Symposium, Los Angeles, CA, 2016.

Dorton HM, Melrose AJ, Luo S, Alves J, Romero A, Monterosso JR, Page KA. Effects of chronic dietary sugar intake on brain response to food cues: ROI Analysis. Diabetes and Obesity Research Institute Annual Symposium, Los Angeles, CA, 2016. *1st Place Winner: Best Poster*