vasculature and structure to establish early modifiable biomarkers of age-related cognitive decline.

Methods: Adults ≥60y, 20 cognitively healthy and 20 with cognitive impairment, will be recruited. Peripheral microvascular abnormalities will be quantified in real-time using computer-assisted intravital microscopy, a novel noninvasive technology. Additionally, plasma levels of Hcy and its determinants (folate, B12, B6, creatinine) will be measured. Microvascular abnormalities and the plasma analytes will be compared to cerebral vasculature and structure (subcortical infarcts, lacunes, white matter hyperintensities, enlarged perivascular spaces, cerebral microbleeds, cerebral perfusion, and total and regional brain volumes) using magnetic resonance imaging.

Results: N/A.

Conclusions: This study will elucidate the relationships among peripheral microvascular abnormalities, Hcy, and cerebral vasculature and structure in older adults paving the way for targeted interventions to modify these biomarkers (e.g., B vitamin supplementation) and potentially prevent or slow disease progression.

Funding Sources: Rutgers University Brain Health Institute/ Center for Advanced Human Brain Imaging Research.

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P30-035-24 Exploring Real-Life Consumer Engagement and Food Choice Behaviours Within an Online Supermarket: The "Finding Healthy Online" Project Study Protocol

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Objectives: To (1) establish an academic-industry collaboration, (2) co-design and undertake a pilot study to collect eye-tracking and qualitative insights from online-grocery shoppers, and (3) explore consumer navigation and interactions with supermarket website features and their potential to influence purchase choices to (4) create a large open-access dataset of shoppers behaviour.

Methods: Participants (n=10) will be recruited to complete their weekly shopping using a UK online supermarket. Consenting participants will complete and pay for their shopping at the Psychology lab (Manchester, UK) during which, their screen will be recorded and non-invasive eye tracking data collected (Tobii Pro). Following the shopping trip, participants will be asked to verbalise their thoughts while viewing their recorded eye-movements on the screen ("playback" interviews). Prompts from the researchers will explore the use of website features (i.e. search box, filters, virtual aisle etc.), particularly with regards to spontaneous purchases and near-purchases. Analysis of screen recording and eye tracking data will include evaluation of frequency and time spent attending to specific "Regions of Interest" (ROIs) as well as evaluation of how participants move and navigate through the website. Findings will be combined with qualitative analysis of transcripts from post-shopping verbal data, in order to gain insights into trends observed (e.g., why navigate in particular ways, or why shoppers focus on, or avoid, certain information on products or their shopping). Data will be made open access. Given the complexity and amount of data, the pilot will also explore the feasibility of using this method for future investigations.

Results: N/A.

Conclusions: The study will provide a new approach for generating real-world evidence on how shoppers interact with navigational and other website features, which can be used to underpin digital food environments' design and support healthier and more sustainable food choices.

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P30-036-24 Yeast-Derived Beta-Glucan Supplementation on Antibody Response Following Influenza Vaccination: A Protocol for a Randomized, Placebo-Controlled Study (M-Unity)

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Objectives: Yeast beta-glucans have shown immune-modulating effects by enhancing innate and adaptive immune responses through cytokine release and antibody production, among other immunomodulating effects. This study aims to determine the effect of yeast-derived beta-glucan supplementation on antibody titer response to influenza vaccination. Secondary outcomes include cytokine profile, incidence of fever, cold and flu symptoms, and self-perceived fatigue.

Methods: This is a 2-arm parallel, randomized, placebo-controlled study, recruiting 90 adults (45 per arm) ≥ 50 years of age planning to be vaccinated for seasonal influenza. Exclusion includes a history of a severe reaction or hypersensitivity to vaccination or the investigational products, and currently on immune-suppression therapy. Participants will be randomized to either 500 mg of yeast beta-glucan or placebo (cellulose) supplementation at 2 capsules daily for 28 days. Following an initial blood draw, participants will receive the seasonal influenza vaccination, a second blood draw within 24-48 hours, and a final blood draw on day 28. Participants will complete a daily questionnaire on compliance, cold and flu symptoms by the Modified Jackson Criteria, and self-perceived fatigue. Adverse events will be queried. Influenza-specific serum antibody titers will be determined using a hemagglutination inhibition assay and plasma cytokine profile by Luminexâ. Two-sided tests will be used to test the hypothesis, and a linear model ($\alpha = 0.05$). Primary and secondary outcomes will be tested by comparing between-group differences from baseline.

Results: We hypothesize that concurrent yeast beta-glucan supplementation will elicit an enhanced cytokine response and a more robust antibody titer following seasonal influenza vaccination. Additionally, we hypothesize that yeast beta-glucan supplementation will reduce perceived fatigue.