Our finding that DIF by sensory domain was independent of between unadjusted and DIF-adjusted measures of cognition.

We found no clinically meaningful differences between hearing impairment for tests that do not rely on hearing and vision impairment for tests that do not rely on vision. Nineteen (23%) cohorts offered hearing accommodations during cognitive testing. Findings indicate variation in methods used to assess hearing and vision as well as in accommodation practices that could impact estimates of cognition among older adults.

Despite the high prevalence of sensory impairment in older adults, there are no standard practices for its consideration in cognitive studies. We conducted a systematic review to identify and survey prospective cohort studies collecting cognitive data in older adults in order to determine whether and how hearing and vision were considered. Among 81 cohorts that responded, 30 (37%) objectively assessed hearing, with audiometry as the most frequently-used method; 61 (75%) used patient-report and 12 (15%) used provider-report to subjectively assess hearing. Forty-one (51%) cohorts objectively assessed vision, half of which measured distance or near visual acuity; 55 (68%) used patient-report and 10 (12%) used provider-report to subjectively assess vision. Nineteen (23%) cohorts offered hearing accommodations and 30 (37%) offered vision accommodations during cognitive testing. Findings indicate variation in methods used to assess hearing and vision as well as in accommodation practices that could impact estimates of cognition among older adults.

WHAT AM I MEASURING? DISENTANGLING COGNITIVE STATUS FROM SENSORY IMPAIRMENT

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Some studies have shown sensory impairment is associated with impaired cognitive test performance, however tests rely to varying degrees on hearing and vision. We hypothesized scores for cognitive tests whose administration depends on vision or hearing are biased among those with vision or hearing impairment, respectively, after controlling for underlying cognitive performance. We used item response theory methods to test for differential item functioning (DIF) by hearing and vision impairment in the Baltimore Longitudinal Study of Aging (BLSA) and the Atherosclerosis Risk in Communities study (ARIC). We identified DIF by hearing impairment for tests that do not rely on hearing and DIF by vision impairment for tests that do not rely on vision. We found no clinically meaningful differences between unadjusted and DIF-adjusted measures of cognition. Our finding that DIF by sensory domain was independent of administration modality suggests cognitive load may play a larger role than previously acknowledged.

WHO’S IN AND WHO’S OUT? SELECTION BIAS IN AGING RESEARCH

Elizabeth Rose Mayeda,1 Eleanor Hayes-Larson,3 and Hailey Banack,2 1. University of California Los Angeles, Los Angeles, California, United States, 2. University of Buffalo, Buffalo, New York, United States

Selection bias presents a major threat to both internal and external validity in aging research. “Selection bias” refers to sample selection processes that lead to statistical associations in the study sample that are biased estimates of causal effects in the population of interest. These processes can lead to: (1) results that do not generalize to the population of interest (threat to external validity) or (2) biased effect estimates (associations that do not represent causal effects for any population, including the people in the sample; a threat to internal validity). In this presentation, we give an overview of selection bias in aging research. We will describe processes that can give rise to selection bias, highlight why they are particularly pervasive in this field, and present several examples of selection bias in aging research. We end with a brief summary of strategies to prevent and correct for selection bias in aging research.

SESSION 7560 (SYMPOSIUM)

TECHNOLOGY USE OF OLDER ADULTS AND CAREGIVERS: DISCOVERIES AND OPPORTUNITIES FOR IMPROVEMENT

Chair: Justine Sefcik
Discussant: Jina Huh-Yoo

Innovative technology can improve the lives of older adults, including those diagnosed with dementia, and their caregivers. Yet a lack of careful attention to preferences and needs of end-users and continuous updates to resources could leave consumers without a valuable user experience. This symposium will cover exemplar cases of innovative technologies, available resources, and current research. The first presentation will discuss virtual reality used among older adults with dementia and the opportunities to further explore it’s use as an intervention. The second presentation will share the process of seeking stakeholders’ preferences in the design specifications for a socially assistive robot and how the perspectives shaped the development of the Quori robot. The third presentation will focus on detailing the Information Quality Framework for Online Dementia Care Resources. The fourth presentation will discuss the implications of a systematic review that revealed researchers are reporting on all older adults within a category of 65 and older, thus failing to present variance among different older age cohorts. These presentations will all conclude with a discussion on opportunities for improvement in the respective areas.

VIRTUAL REALITY USE AMONG PERSONS WITH DEMENTIA: AN INTEGRATIVE REVIEW

Justine Sefcik,1 Darina Petrovsky,2 Pamela Cacchione,2 Sungho Oh,2 and George Demiris,1 1. Drexel University, Philadelphia, Pennsylvania, United States, 2. University of Pennsylvania, Philadelphia, Pennsylvania, United States
It is not well understood how virtual reality (VR) is currently used by older adults who have cognitive deficits due to dementia. The aim of this integrative review was to examine and report on published research exploring VR use among older adults with dementia. We searched 3 data bases for publications and used Whitttemore and Knaf’s methodology for data extraction. Out of 122 articles we identified 24 that met our inclusion criteria, 15 published in 2012 and later. Most articles (12) used VR for assessment, and the others used VR for cognitive training (5) and as an intervention (3) (i.e., for exercise). Sample sizes were 30 or fewer persons with dementia. There is heterogeneity in the types of VR equipment, experiences, and foci of assessment through VR use. We identify opportunities to further explore VR as an intervention for persons with dementia to improve quality of life.

AD
Justine Sefcik, Drexel University, Philadelphia, Pennsylvania, United States

ENGAGING END USERS IN DESIGNING SYSTEMS AND HARDWARE FOR A SOCIALLY ASSISTIVE ROBOT
Pamela Caacchione,1 Caio Mucchiani,1 Kristine Lima,1 Ross Mead,2 Mark Yim,1 and Michelle Johnson,1
1. University of Pennsylvania, Philadelphia, Pennsylvania, United States, 2. Semio AI, Venice, California, United States

Development of low-cost robots to assist older adults requires the input of end users: older adults, paid caregivers and clinicians. This study builds on prior work focused on the task investigation and deployment of mobile robots in a Program of All-inclusive Care for the Elderly. We identified hydration, walking and reaching as tasks appropriate for the robot and helpful to the older adults. In this study we investigated the design specifications for a socially assistive robot to perform the above tasks. Through focus groups of clinicians, older adults and paid caregivers we sought preferences on the design specifications. Using conventional content analysis, the following four themes emerged: the robot must be polite and personable; science fiction or alien like; depends on the need of the older adult; and multifaceted to meet the needs of older adults. These themes were used in the design and deployment of the Quori robot.

INFORMATION QUALITY ASSESSMENT FRAMEWORK FOR ONLINE DEMENTIA CARE RESOURCES
Diva Smriti,1 Rose Ann DiMaria-Ghalili,2 Laura Gitlin,1 Aleksandra Sarcevic,1 Erjia Yan,3 and Jina Huh-Yoo,1
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Persons with dementia and caregivers can benefit from online resources. The quality and accessibility of these resources, however, can vary. We present work on the Information Quality Framework for Online Dementia Care Resources. To develop the framework, we first empirically examine resources being retrieved with query terms developed with a medical librarian. Searching one of the possible keyword combinations related to living with dementia on Google “Alzheimer AND financial planning” returned 18,900,000 results. Among the top 13 results on the first page of the search results, six were websites of government or non-profit organizations, four were for-profit companies, and three were advertisements. Out of eight unique organizations and companies, two provided support through online communities, but only one is active. The next steps include developing systematic ways to evaluate the credibility and accuracy of these resources, and search and test broader topics of dementia care resources online.

OLDER ADULTS AND TECHNOLOGY USE: A SYSTEMATIC LITERATURE REVIEW
Hyung Wook Choi,1 Rose Ann DiMaria-Ghalili,2 Mat Kelly,1 Alexander Poole,1 Erjia Yan,3 and Jina Huh-Yoo,1 1. Drexel University, Philadelphia, Pennsylvania, United States, 2. Drexel University, Jenkintown, Pennsylvania, United States, 3. Information Science, Drexel University, Philadelphia, Pennsylvania, United States

Researchers are increasingly interested in leveraging technology to support the physical and mental well-being of older adults. We systematically reviewed previous scholars’ criteria for sampling older adult populations, focusing on age cohorts (namely adults over 65) and their use of internet and smart technologies. We iteratively developed keyword combinations that represent older adults and technology from the retrieved literature. Between 2011 and 2020, 70 systematic reviews were identified, 26 of which met our inclusion criteria for full review. Most important, not one of the 26 papers used a sample population classification more fine-grained than “65 and older.” A knowledge gap thus exists; researchers lack a nuanced understanding of differences within this extraordinarily broad age-range. Demographics that we propose to analyze empirically include not only finer measures of age (e.g., 65-70 or 71-75, as opposed to “65 and older”), but also those age groups’ attitudes toward and capacity for technology use.

SESSION 7565 (SYMPOSIUM)
FINDINGS FROM THE UNDERSTANDING PATTERNS OF HEALTHY AGING AMONG MEN WHO HAVE SEX WITH MEN PROJECT
Chair: Mark Brennan-Ing
Co-Chair: Michael Plankey
Discussant: Deborah Gustafson

In 1984, the Multicenter AIDS Cohort Study (MACS) was started to identify factors in the HIV epidemic related to disease risk and treatment progression among gay, bisexual, and other men who have sex with men (MSM) in four urban areas in the US: Baltimore, MD/Washington, D.C.; Chicago, IL; Pittsburgh, PA, and Los Angeles, CA. MACS participants complete biannual study visits involving HIV testing, biometric screenings, and psychosocial data collection. In 2015 a MACS sub-study, the Understanding Patterns of Healthy Aging among MSM Project (HAMSMP), was started to better understand resiliencies promoting well-being among MSM age 40 and older, including those with HIV. HAMSMP has helped us to understand aging trajectories among MSM, and