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Individuals low in conscientiousness are typically characterized by higher rates of dropout in longitudinal studies compared to individuals high in conscientiousness. Given that low conscientiousness is associated with increased risk of mortality and several adverse health behaviours and outcomes, attrition of individuals low in conscientiousness may result in systematic bias particularly relevant to developmental research focused on morbidity and mortality in older adulthood. Further, methods commonly used to estimate missing data require monotone coding patterns and untestable assumptions (e.g., MAR), and do not typically account for death as a competing risk factor. This project analyzed data drawn from the Memory and Aging Project (N=1156; Mage=79.2 years; 76.1% female) using multistate survival models to estimate the impact of conscientiousness on transitions between study wave participation over time (i.e., response, non-response), and death. With conscientiousness measured at baseline and death status determined by death records, complete state data are available for each study wave, unlike methods commonly used to model and estimate missingness. Adjusting for age, sex, and education, analyses revealed that higher levels of conscientiousness are associated with decreased likelihood of transitioning to non-response (HR= 0.97, CI's 0.95, 0.99) and death (HR=0.96, CI's 0.93, 0.99). These results suggest that over-sampling individuals low in conscientiousness during study recruitment may be important to better represent the general population, particularly when data are collected over several years or decades. Discussion will focus on how systematic bias introduced by higher response rates of individuals high in conscientiousness may impact health-related research based on longitudinal data.

SESSION 2954 (POSTER)

HEALTH BEHAVIORS

A TIME-, GENDER-, AND DISEASE-STATE INVARIANT MODEL OF FITNESS ACROSS THE ADULT LIFESPAN

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In studies of community-based health behavior interventions (diet and physical activity) one goal in analysis is to show expected relationships between measures of intervention and clinically relevant outcomes. Many programs fail to show such clear links for many reasons beyond lack of intervention effectiveness. These secondary analyses were undertaken to assess if the measurement properties (stability and responsiveness) of intervention measures could have contributed to study findings. A feasibility study of lifestyle treatment of metabolic syndrome (n=293; mean age = 59yrs) had achieved 19% reversal over one year, yet neither diet quality nor fitness were associated with cardiovascular disease risk. Confirmatory factor analysis was used to examine fit of measurement models and factorial invariance was tested across three time points (baseline, 3-month, 12-month), gender (male/female), and disease status (diabetes) for the Healthy Eating Index (HEI) (Canada 2005) and several fitness measures (VO2max, flexibility, curl-ups, push-ups). The model fit for HEI was poor and could account for the lack of association seen in the original study. More development of diet quality measures is needed. The model for fitness, however, demonstrated excellent fit and displayed measurement equivalence across time, gender, and disease state. A higher degree of confidence exists when measurement equivalence/invariance is demonstrated, allowing for reliable tests of differences in comparison groups. The use of a multiple measure of fitness, including cardiorespiratory fitness, flexibility, and strength, helps eliminate limitations of using measures from a single domain or self-reported data is promising and should be considered in future work.

AGING WITH AUTISM SPECTRUM DISORDER: AN EXPLORATION OF PHYSICAL ACTIVITY ENGAGEMENT

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Adults with Autism Spectrum Disorder (ASD) participate in physical activity (PA) infrequently compared to adults in the general population. This is problematic as individuals with ASD suffer from disproportionate physical and mental health co-morbidities as well as diminished life expectancy, but do not reap the physical and mental health benefits of PA. This study used data from the National Core Indicators-In Person Consumer Survey (n=4,370; age: 18-78) to analyze factors associated with both aerobic PA and muscle strengthening (MS) activity in adults with ASD receiving state Developmental Disability Services. This research used multilevel logistic regression modeling, with mediation and moderation analyses to explore personal and environmental factors associated with PA/MS in this population. Findings indicated the following significant associations between community engagement and PA and MS: community contact (OR=1.17; $p<0.001$; OR=1.07; $p<0.001$), community group participation (OR=1.83; $p<0.001$; OR=1.91; $p<0.001$), and employment/day program participation (OR=1.32; $p<0.05$; OR=1.32; $p<0.001$). Additionally, at older ages, participants were less likely to engage in PA and MS three or more times a week (OR=0.99; $p<0.05$; OR=0.99; $p<0.05$). These findings indicate that increasing age is associated with decreased PA and MS activity in this group, while community engagement may facilitate their PA and MS activity. While much remains unknown about the population aging with ASD, it is evident that they suffer from poorer health than the general population and have experienced lifelong difficulties with socialization and communication. Greater access to community engagement opportunities may promote this population's healthy aging, as well as support their unique social needs.