

is mediated by daily fatigue. Sixty nurses reported their sleep characteristics, fatigue, and work impairment using ecological momentary assessment for two weeks. We used a series of multilevel models (a path: sleep→fatigue, b path: fatigue→work impairment, c path: sleep→work impairment, c' path: sleep and fatigue→work impairment), adjusting for sociodemographics and work shift. At the between-person level, poorer sleep quality was associated with greater work impairment ( $\beta_c = -23.36$ ,  $p < .001$ ). This association was mediated by fatigue such that poorer sleep quality was associated with greater fatigue ( $\beta_a = -19.54$ ,  $p < .01$ ), which was further associated with greater work impairment ( $\beta_b = 0.79$ ,  $p < .001$ ). After including fatigue, the association of sleep quality with work impairment was reduced ( $\beta_{c'} = -7.07$ ,  $p = .08$ ). Similarly, fatigue mediated the relationship between sleep sufficiency and work impairment ( $\beta_a = -16.49$ ;  $\beta_b = 0.79$ ;  $\beta_c = -19.36$ ;  $p < .001$ ;  $\beta_{c'} = -6.32$ ,  $p = .05$ ). At the within-person level, on days after long sleep duration (>8hrs), nurses reported greater work impairment ( $\beta_c = 10.08$ ,  $p < .01$ ), however, this was not mediated by fatigue. Our results suggest that poor sleep health may impair next-day work performance, mostly through increased fatigue. Future interventions for nurses can target daily fatigue to reduce the adverse effects of poor sleep on work impairment.

#### RELATIONSHIPS AMONG TYPES OF ACTIVITY ENGAGEMENT AND SLEEP QUALITY AMONG OLDER ADULTS

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There is increasing awareness that lack of activity engagement is associated with poor sleep quality. However, the majority of studies have focused on the effect of a single type of activity engagement on sleep quality. Little is known about the combined effect of multiple types of activity engagement on sleep quality. The aim of this study is to identify relationships among different types of activity engagement and sleep quality among older adults. This study is a secondary data analysis using the Health and Retirement Study data. The participants included 3,357 persons who were age 65 or older and who responded to survey modules on activity engagement and sleep quality in 2016. Before we conducted primary analysis, factor analyses and calculating coefficient omega were conducted to identify factor structure, construct validity and reliability of the activity engagement questionnaire. Then, regression was conducted to examine the relationships among multiple types of activity engagement and sleep quality after adjusting for covariates based on the senescent sleep model. Exploratory and confirmatory factor analysis showed the 14-item questionnaire was comprised of three factors; social, cognitive, and physical activity and the three-factor model showed adequate validity and reliability. In the regression model social ( $\beta = 0.25$ ,  $p = 0.033$ ) and cognitive ( $\beta = 0.36$ ,  $p = 0.001$ ) activity engagement were positively related to better sleep quality. Based on these results, future research is needed to identify the mechanisms in which social and cognitive activities influence sleep quality positively and to develop targeted activity interventions for older adults.

## SESSION 2961 (POSTER)

### CHRONIC DISEASE MANAGEMENT I

#### CARDIOMETABOLIC RISK AND BIOMARKER TRAJECTORIES AMONG OLDER ADULTS: FINDINGS FROM THE HEALTH AND RETIREMENT STUDY

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The deterioration of the cardiovascular system is a process associated with aging. Most of the prior works have examined changes in cardiometabolic risk (CMR) while aging at the population level using cross-sectional data, but we study within-person changes for total CMR and separate risk factors, including pulse pressure, resting heart rate, C-reactive protein, glycosylated hemoglobin (HbA1c), high-density lipoprotein cholesterol, total cholesterol, waist circumference, and obesity. We examine 8-year changes (from 2006 to 2014) among respondents from the Health and Retirement Study biomarker sample ( $n = 19,776$ ). We use growth curve models to identify differences at baseline and the changes while aging, by age, gender, race/ethnicity, and education. Blacks, the old-old, the less educated, and current smokers have higher baseline CMR. The total CMR increases while people age over 8 years. HbA1c, waist circumference, and pulse pressure increase significantly with age. A reduction in total cholesterol can be observed and is likely due to medication. The CMR increase is no longer significant after accounting for socioeconomic status. The next step of this study is to focus on the disparity of risk distribution, in order to identify the individuals that are most in need of specific care and support.

#### EVALUATING THE ASSOCIATION BETWEEN SINGLE ITEM LITERACY SCREENER AND HEALTH OUTCOMES IN PATIENTS WITH LUNG CANCER

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Health literacy is becoming increasingly important in areas such as cancer care, where treatments are relatively difficult to navigate. This study aims to describe the how health literacy is associated with healthcare outcomes and health system usage among patients with lung cancer. Data include retrospective medical record data from 456 patients with lung cancer; half were age 70 and older. Patients were coded as having adequate or limited health literacy based on their response to their Single Item Literacy Screener (SILS). Data were collected from a 12 month period following diagnosis for each patient. One-third of patients had limited health literacy; this was significantly more common among adults age 70 and older. Patients with limited health literacy were more likely to have newly diagnosed lung cancers of stage 3B or higher (59.18% vs. 42.76%,  $p = 0.0011$ ) compared to those with adequate health literacy. Patients with limited health literacy had higher median levels of depression based