

Objective: Compliance with safety precautions plays significant role in containing pandemic. On a personal level, one critical precaution is to disclose sickness status to people who one comes into direct contact with. Yet, factors governing this personal decision remain uncertain. This study examined age-related differences across adulthood in (i) the likelihood to disclose symptoms of sickness (LDSS) during COVID-19 pandemic, (ii) the level of COVID-19-associated anxiety (CAA), and (iii) the relationship between LDSS and CAA.

Participants and Methods: Data were obtained from a large-scale survey “Measuring Worldwide COVID-19 Attitudes and Beliefs” (Fetzer et al., 2020). Retained data included sociodemographic characteristics, number of chronic conditions and self-rated quality of health for USA sample ($n=11,445$) which we stratified by age into five groups (18-29 years old $n=2065$; 30-39 $n=3765$; 40-49 $n=2463$; 50-59 $n=1760$; 60+ $n=1392$). Disclosure of sickness was measured with statement: “in the past week if I had exhibited symptoms of sickness, I would have immediately informed the people around me”, where participants self-rated it on the scale from 0–“does not apply at all to me” to 100–“applies very much to me”. We computed LDSS score with thresholds: ≤ 50 –unlikely/uncertain, > 50 –likely, 100–certain to disclose. CAA symptoms were measured with the following statements which participants self-rated on a scale from 1–“does not apply at all” to 5–“strongly applies”: I am nervous when I think about current circumstances; I am calm and relaxed; I am worried about my health; I am worried about the health of my family members; I am stressed about leaving my house. ANOVA w/Bonferroni post-hoc tests compared LDSS and CAA between the age groups. Multivariate regression (accounting for: gender, education, self-rated health, number of chronic conditions) examined LDSS–CAA relationship.

Results: Age groups were comparable in gender (~40% males), education (~17 years of education), and relationship status (~65% married/cohabitating). Most participants rated own health as good and reported one chronic condition. LDSS was increasing with aging, $F(df=4)=35.552$ ($p<0.001$), with 72% youngest vs. 85% oldest adults indicating certainty about disclosing sickness status. Anxiety about own health was increasing with age, $F(df=4)=7.319$ ($p<0.001$), while anxiety about health of family members was decreasing with age, $F(df=4)=25.398$ ($p<0.001$). Middle-aged adults

showed the highest anxiety related to thinking about the current circumstances, $F(df=4)=10.476$ ($p<0.001$), and feeling stressed about leaving own house, $F(df=4)=6.368$ ($p<0.001$). LDSS was positively related to anxiety about health of family members and/or feeling stressed about leaving own house in young and middle-aged adults ($B=0.042$, $p=0.001$, $CI95\%=0.017-0.068$), but not related to any CAA symptoms in adults aged 60+.

Conclusions: This study suggests that people can become more likely to disclose sickness status as they age and can be prone to different CAA symptoms across life stages. The results further indicate that distinct CAA symptoms can play a role in LDSS in young and middle adulthood, but may lose significance in older age. Acknowledgement of these diverse mechanisms can inform clinical practice dedicated to individuals with illness anxiety, as well as can help develop age-targeted campaigns that promote compliance with the safety precautions.

Categories: Aging

Keyword 1: aging (normal)

Keyword 2: anxiety

Keyword 3: everyday functioning

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10 Female *APOE* $\epsilon 4$ Carriers with Slow Rates of Biological Aging Have Better Verbal Memory Performance Compared to Female Carriers with Faster Rates of Aging, Independent of Chronological Age, Education, and Depressive Symptoms.

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Objective: The presence of an $\epsilon 4$ allele of the apolipoprotein E gene (*APOE* $\epsilon 4$) is considered the strongest genetic risk factor for Alzheimer's disease (AD) in the US. Evidence suggests that *APOE* $\epsilon 4$ carriers have worse memory performances compared to *APOE* $\epsilon 4$ non-

carriers in cognitively normal older adults and that female *APOE* ϵ 4 carriers are at greater risk of AD compared to male carriers. Recent advancements in estimating biological age using DNA methylation markers may enhance understanding of the associations between sex and *APOE* ϵ 4 on cognitive aging. Thus, the current study aimed to investigate whether associations between *APOE* ϵ 4 status and memory vary according to rates of biological aging, using a DNA methylation age biomarker, in older men and women without dementia.

Participants and Methods: Cross-sectional data were obtained from 1771 older adults enrolled in the 2016 wave of the Health and Retirement Study (Mean_{age} = 75, SD = 7; 57% female; 76% non-Hispanic white). The standardized residual from regressing chronological age on the epigenetic clock "DNAGrimAge" was used as a measure of the aging rate. A series of ANCOVAs with Bonferroni corrected post hoc pairwise tests, adjusting for education, white blood cell count, chronological age, and depressive symptoms were used to test the main and interaction effects of *APOE* ϵ 4 status (non-carriers = 0; carriers = 1) and aging rates, defined as 1 standard deviation below (i.e., slow rate), or above (i.e., fast rate) sex-specific mean rate (i.e., average) of aging, on a standardized composite measure of verbal memory. Alpha was set at .05 and all raw scores were converted to z-score metric prior to analyses.

Results: *APOE* ϵ 4 female carriers with slow rates of aging ($n = 34$) had significantly better memory performances compared to *APOE* ϵ 4 female carriers with fast rates of aging ($n = 41$), mean difference = .61, $p = .006$, and average rates of aging ($n = 170$), mean difference = .44, $p = .017$. There was no effect of aging rate on memory in the female non-carriers and there were no significant differences in memory performances based on rates of aging in either male *APOE* ϵ 4 carriers or non-carriers.

Conclusions: Although the presence of the *APOE* ϵ 4 has previously been shown to represent a stronger risk of AD for women compared to men, results from the current study suggest that slower rates of aging in this high-risk group may confer protection against clinical symptoms (i.e., memory impairment). Conversely, faster than average aging in female *APOE* ϵ 4 carriers may represent a group at greater risk of memory impairment due to AD. However, longitudinal studies with larger sample sizes are needed to evaluate the risk of

dementia/memory impairment based on rates of aging in female *APOE* ϵ 4 carriers.

Categories: Aging

Keyword 1: apolipoprotein E

Keyword 2: aging (normal)

Keyword 3: memory: normal

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11 Contributions of Cardiovascular Burden, Peripheral Inflammation, and Brain Integrity on Digital Clock Drawing Performance in Non-Demented Older Adults

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Objective: Higher cardiovascular burden and peripheral inflammation are associated with small vessel vascular disease, a predominantly dysexecutive cognitive profile, and a higher likelihood of conversion to vascular dementia. The digital clock drawing test, a digitized version of a standard neuropsychological tool, is useful in identifying cognitive dysfunction related to vascular etiology. However, little is known about the specific cognitive implications of vascular risk, peripheral inflammation, and varying levels of overall brain integrity. The current study aimed to examine the role of cardiovascular burden, peripheral inflammation, and brain integrity on digitally acquired clock drawing latency and graphomotor metrics in non-demented older adults.

Participants and Methods: The final prospectively recruited IRB-consented participant sample included 184 non-demented older adults (age: 69±6 years, education: 16±3 years, 46% female, 94% white) who completed digital clock drawing, vascular assessment, blood draw, and brain MRI. Digital clock drawing variables of interest included: total completion time (TCT), pre-first hand latency (PFHL), digit