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We previously validated the physical, but not the mental subscale of the Pittsburgh Fatigability Scale (PFS). Thus, we aimed to validate the PFS mental subscale in 1,738 individuals aged ≥60 from the Long Life Family Study (55.5% female, age 74.8±11.1 years, PFS mental score 7.1±10.1, range 0-50). Confirmatory factor analysis with promax rotation showed all 10 items loaded on two factors: social and physical activities (SRMR=0.07, RMSEA=0.13, CFI=0.90). PFS mental score had strong internal consistency (Cronbach's α=0.90) and demonstrated moderate concurrent and construct validity using Pearson correlations against measures of cognition (Trail Making A (r=0.26) and B (r=0.29) time), gait speed (r=-0.30), and the Center for Epidemiologic Studies Depression Scale (r=0.35), p<0.0001 for all. In conclusion, by accounting for self-pacing inherent in common fatigue questionnaires, the validated PFS mental subscore may be a more sensitive tool to examine perceived mental fatigability as an important contributor to cognitive and physical function.

PREVALENCE AND HERITABILITY OF PERCEIVED MENTAL FATIGABILITY IN THE LONG LIFE FAMILY STUDY

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We examined the prevalence and heritability of perceived mental fatigability among older adults enrolled in the Long Life Family Study. Participants (N=2342; 55% female) self-administered the Pittsburgh Fatigability Scale (PFS; scores range 0-50; higher score=greater fatigability). Using the PFS mental subscale, we evaluated differences across age strata (adjusted for family structure and field center) and estimated genetic heritability using the variance covariance methods implemented in SOLAR to determine genetic heritability (adjusted for age, sex, and field center). PFS mental score (mean±SD) and prevalence of higher mental fatigability (PFS ≥13) was greater across age strata: 60-69 (N=996, 5.9± 6.5, 14.5%), 70-79 (N=830, 6.8 ±7.6, 18.7%), 80-89 (N=251, 11.7±10.8, 41.8%), and ≥90 (N=265, 20.2±13.6, 67.2%), p<0.0001. Only among those ≥90, females (21.7±13.5) had greater mental fatigability than males (18.0±13.5), p=0.03. Residual heritability of mental fatigability was 0.17, p<0.0001. Future analyses will evaluate correlates of mental fatigability to identify potential avenues for intervention.

ROLE OF COPING STYLES AND NEGATIVE LIFE EVENTS ON HIGHER PERCEIVED MENTAL FATIGABILITY IN OLDER ADULTS

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Older adults are vulnerable to negative recent life events (RLE) which deplete attentional resources and leads to cognitive exhaustion. Adaptive coping styles reduce perceived stress severity but their role on cognitive tiredness is unknown. We examined RLE and coping styles on perceived mental fatigability (Pittsburgh Fatigability Scale (PFS), 0-50pts, higher=greater fatigability) in the Long Life Family Study (N=1464, age=74.7±12.6, female=57.7%, 43.9% ≥1 major RLE past 6 months, 27.8% higher mental fatigability≥13). All analyses adjusted for family structure, field center, age, and sex. PFS mental scores correlated with all NEO-FFI (60-item, 5-domain) personality traits representing maladaptive (neuroticism r=0.25 p<.0001) and adaptive (conscientiousness r=-0.18, extraversion r=-0.24, p<.00001) coping. Having ≥1RLE was associated with higher mental fatigability (OR=1.4, 95% CI:1.2,1.8, p=.0004); adjustment for neuroticism (OR=1.3, 95% CI:0.9,1.7, p=.06) attenuated the association. Education on adaptive coping may be a modifiable skill that allows older adults to maintain lower perceived mental fatigability despite stressful events.

IS VARIABILITY OF FREE-LIVING ACTIVITY ASSOCIATED WITH PHYSICAL AND MENTAL FATIGABILITY IN OLDER ADULTS?

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Greater fatigability in older adults may be moderated by physical activity (PA). However, what features of PA timing are most strongly related to fatigability remains unknown. We examined the relationship between variability of free-living activity patterns and perceived physical and mental fatigability using the Pittsburgh Fatigability Scale (PFS, 0-50pts, higher=greater fatigability) in older adults from the Developmental Epidemiologic Cohort Study (DECOS, n=57,