**Supplementary Material**

**Measures**

***Social Engagement***

Social engagement was measured using the Social Engagement and Activities Questionnaire (SEAQ; Marti & Choi, 2020). The SEAQ is comprised of 9 items inquiring about the frequency of engagement in social activities from 0 (*not at all*) to 5 (*every day*) within the previous month. The following social activities are assessed: religious services, going outside the home for anything other than religious services or doctor’s appointments, getting together with friends and/or family, engagement in recreational activities for fun and relaxation, engagement in group exercise activities, attendance at organized meetings that are political and non-political in nature, volunteer, and participation in self-enrichment and educational activities. Each question was asked about engagement in the activity either virtually or in person, with the exception of the item inquiring about leaving the home. Scores for each item were summed to yield a total score ranging from 0 to 45 with higher scores indicating greater engagement in social activities. The SEAQ is a valid measure of engagement in social activities among older adults and has demonstrated good convergent validity with measure of social support (*r* = 0.20; Marti & Choi, 2020).

***Sleep Quality***

Global sleep quality was assessed using the Pittsburgh Sleep Quality Index (PSQI; Buysse et al., 1989), a 19-item index that evaluates 7 components of sleep quality including subjective sleep quality, sleep onset latency, total sleep duration, sleep efficiency, sleep disturbances, use of sleep medications, and daytime dysfunction within the previous month. Each component is reflected by a score ranging from 0 to 3. PSQI total score was calculated by summing scores on each component, yielding a total score ranging from 0 to 21, with a higher score reflecting poorer overall sleep quality and a score of 5 or more indicating poor sleep quality (Buysse et al., 1989). The PSQI has demonstrated good validity and reliability with a Cronbach’s alpha of 0.77 to 0.83 and a test-retest reliability of 0.85 to 0.87 (Buysse et al., 1989; Carpenter & Andrykowski, 1998).

***Physical Activity***

Physical activity was measured using the Physical Activity Scale for the Elderly (PASE; Washburn et al., 1999). The PASE is comprised of 10 items that inquire about leisure, household, and occupational activity over the previous week. Questions assess frequency and duration of sitting, walking, resistance training, and light, moderate, and strenuous aerobic activity (e.g., “Over the past 7 days, how often did you engage in strenuous sport and recreational activities such as jogging, swimming, cycling, singles tennis, aerobic dance, skiing (downhill or cross-country) or other similar activities?”). Items also inquire about engagement in light housework, heavy housework, gardening/yard work, caregiving, and volunteering (e.g., “During the past 7 days, did you work for pay or as a volunteer?”). The PASE total score was computed by multiplying the amount of time spent on each activity (in hours per week) by an empirically derived item weight and summing across all activities. Total scores range from 0 to 400+ with higher scores reflecting higher levels of physical activity. The PASE has a test-retest reliability of 0.75 (Washburn et al., 1993), and has demonstrated good evidence for construct validity with correlations between PASE scores and peak oxygen uptake at r = 0.20 (Washburn et al., 1999).

***Mindful Relaxation***

Mind-body relaxation was assessed using the standard Mindful Self-Care Scale (MSCS; Cook-Cottone & Guyker, 2018). The MSCS is comprised of 33 items that measure six domains of mindful self-care including physical care, supportive relationships, mindful awareness, self-compassion and purpose, mindful relaxation, and supportive structure. For the purposes of the current study, only the mindful relaxation subscale will be used yielding a total of six items. Items inquire about the frequency of engagement in each behaviour within the previous month from 1 (never) to 5 (regularly). An example of an item is “I did something creative to relax (e.g., drew, played instrument, wrote creatively, sang, organized)”. Scores on each of the six items were averaged to obtain a total score with higher scores indicating greater mindful relaxation. The MSCS mindful relaxation subscale has demonstrated good internal validity, with a Cronbach’s alpha for mindful relaxation of 0.77 (Cook-Cottone & Guyker, 2018).

***Nutritional Intake and Mediterranean Diet Adherence***

Dietary intake was measured using the EPIC-Norfolk Food Frequency Questionnaire (FFQ; Bingham et al., 1997), a 130-item semi quantitative measure that records the average intake of 130 foods widely consumed in the USA during the previous year. For all food items, respondents were asked to report the frequency of consumption on a 9- point scale for a medium serving, standard unit (e.g., tablespoon), or household measure (e.g., glass) from “never or less than once per month” to “more than 6 times per day”. The questionnaire also contains items inquiring about types of fats cooked with, cereals, and milk products. Using FETA statistical software (Mulligan et al., 2014), individual nutrients were converted into grams per day and daily energy intake was calculated. The FFQ has been validated in older adults (Bingham et al., 2001), and against a 16-day weighed food record, and has a correlation of 0.60 to 0.70 to daily food diaries (Bingham et al., 1997). The FFQ has also been used widely to derive adherence to the Mediterranean dietary pattern (Tong et al., 2016).

The following procedure was used to derive the Mediterranean diet pattern score. Firstly, individual food consumption will be converted from the FFQ scale raw scores to times per day from 0 (*never*) to 6 (*6 times per day*). The food items corresponding to the Mediterranean diet pattern were collapsed into the following nine Mediterranean diet food categories: fruits, vegetables, legumes, whole grains, fish and seafood, meat, dairy, alcohol, and olive oil. See A value of 0, 1, or 2 was assigned for each of the nine components of the Mediterranean diet (i.e., fruits, vegetables, legumes, whole-grains, fish and seafood, meat, dairy, alcohol intake, and olive oil) with predetermined nutritional guidelines for each of the components used as cut-offs (Sofi et al., 2014). Healthful components of the Mediterranean diet (i.e., vegetables, fruits, legumes, fish and seafood, and whole grains) were scored such that low intake was assigned a score of 0, moderate intake was assigned a score of 1, and high intake was assigned a score of 2. Unhealthful components of the diet (i.e., meat and dairy intake) were scored such that low intake was assigned a score of 2, moderate intake was assigned a score of 1, and high intake was assigned a score of 0. Olive oil was scored such that non-consumption was assigned a score of 0, low to moderate intake was assigned a score of 1, and high intake was assigned a score of 2. Alcohol consumption was scored such that moderate intake was assigned a score of 2, low intake was assigned a score of 1, and high intake was assigned a score of 0. The total Mediterranean diet score was computed by summing the scores for each component, yielding a total score that ranges from 0 to 18, with higher scores reflecting greater adherence to the Mediterranean diet.

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Supplementary Table 1. *Associations between indices of stress across the lifespan, a healthy lifestyle index, and cognitive performance among females (*n *= 154).*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Immediate associative memory | Delayed associative memory | Inhibitory control | Working memory | Global cognition |
| Cumulative stress severity | R2 = 0.07 | R2 = 0.11 | R2 = 0.06 | R2 = 0.04 | R2 = 0.12 |
| Cumulative stress | 0.04 [-0.13, 0.21] | 0.02 [-0.16, 0.20] | 0.004 [-0.12, 0.13] | 0.05 [-0.11, 0.21] | 0.06 [-0.10, 0.22] |
| HLI | 0.07 [-0.10, 0.23] | 0.13 [-0.05, 0.30] | -0.07 [-0.19, 0.06] | -0.02 [-0.19, 0.14] | 0.07 [-0.09, 0.23] |
| Cumulative stress × HLI | -0.02 [-0.20, 0.16] | -0.02 [-0.20, 0.16] | 0.07 [-0.06, 0.20] | 0.09 [-0.08, 0.26] | 0.07 [-0.09, 0.24] |
| Early life stress severity | R2 = 0.09 | R2 = 0.13 | R2 = 0.10 | R2 = 0.04 | R2 = 0.12 |  |  |  |  |  |
| Early life stress severity | -0.10 [-0.27, 0.08] | -0.13 [-0.31, 0.06] | 0.06 [-0.07, 0.18] | -0.05 [-0.22, 0.11] | -0.10 [-0.27, 0.07] |
| HLI | 0.04 [-0.12, 0.21] | 0.12 [-0.06, 0.30] | -0.04 [-0.16, 0.09] | -0.01 [-0.18, 0.15] | 0.07 [-0.09, 0.24] |
| Early life stress severity × HLI | -0.16 [-0.38, 0.06] | -0.04 [0.27, 0.18] | **0.21 [0.06, 0.38]** | 0.08 [-0.13, 0.30] | 0.07 [-0.13, 0.27] |
| Midlife stress severity | R2 = 0.07 | R2 = 0.12 | R2 = 0.10 | R2 = 0.03 | R2 = 0.11 |  |  |  |  |  |
| Midlife stress severity | -0.06 [-0.25, 0.12] | 0.01 [-0.18, 0.20] | 0.02 [-0.12, 0.16] | 0.03 [-0.15, 0.22] | 0.02 [-0.16, 0.19] |
| HLI | 0.07 [-0.10, 0.23] | 0.12 [-0.05, 0.30] | -0.06 [-0.19, 0.06] | -0.02 [-0.19, 0.14] | 0.07 [-0.09, 0.23] |
| Midlife stress severity × HLI | 0.02 [-0.15, 0.19] | -0.04 [-0.22, 0.13] | **0.17 [0.04, 0.30]** | 0.001 [-0.17, 0.17] | 0.06 [-0.10, 0.23] |
| Late life stress severity | R2 = 0.09 | R2 = 0.13 | R2 = 0.08 | R2 = 0.04 | R2 = 0.12 |  |  |  |  |  |
| Late life stress severity | -0.11 [-0.28, 0.05] | -0.10 [-0.27, 0.07] | 0.03 [-0.09, 0.16] | -0.07 [-0.23, 0.10] | -0.11 [-0.27, 0.05] |
| HLI | 0.06 [-0.11, 0.23] | 0.15 [-0.03, 0.34] | -0.05 [-0.17, 0.08] | -0.01 [-0.18, 0.16] | 0.09 [-0.07, 0.26] |
| Late life stress severity × HLI | -0.09 [-0.28, 0.10] | 0.07 [-0.14, 0.28] | 0.13 [-0.02, 0.27] | 0.04 [-0.15, 0.23] | 0.08 [-0.11, 0.27] |

*Notes.* HLI = healthy lifestyle index

All models controlled for age, years of education, daily energy intake (kcal), and perceived socioeconomic status. Data presented as β [95% confidence intervals]

Supplementary Table 2. *Associations between indices of stress across the lifespan, a healthy lifestyle index, and cognitive performance among males (*n *= 72).*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Immediate associative memory | Delayed associative memory | Inhibitory control | Working memory | Global cognition |
| Cumulative stress severity | R2 = 0.06 | R2 = 0.12 | R2 = 0.06 | R2 = 0.01 | R2 = 0.05 |
| Cumulative stress | 0.07 [-0.25, 0.38] | 0.03 [-0.23, 0.29] | -0.06 [-0.54, 0.41] | -0.10 [-0.46, 0.25] | -0.06 [-0.44, 0.33] |
| HLI | -0.14 [-0.44, 0.16] | **-0.30 [-0.55, -0.06]** | 0.17 [-0.28, 0.62] | -0.03 [-0.35, 0.30] | -0.11 [-0.47, 0.25] |
| Cumulative stress × HLI | 0.09 [-0.29, 0.47] | -0.14 [-0.45, 0.17] | 0.33 [-0.24, 0.90] | -0.005 [-0.43, 0.42] | 0.12 [-0.34, 0.58] |
| Early life stress severity | R2 = 0.09 | R2 = 0.14 | R2 = 0.05 | R2 = 0.03 | R2 = 0.05 |
| Early life stress severity | 0.16 [-0.08, 0.40] | 0.15 [-0.05, 0.34] | -0.15 [-0.52, 0.22] | -0.13 [-0.43, 0.17] | 0.02 [-0.31, 0.36] |
| HLI | -0.14 [-0.40, 0.12] | **-0.21 [-0.42, -0.002]** | 0.003 [-0.39, 0.39] | -0.05 [-0.33, 0.24] | -0.15 [-0.46, 0.16] |
| Early life stress severity × HLI | 0.10 [-0.16, 0.37] | 0.02 [-0.19, 0.24] | 0.11 [-0.29, 0.52] | 0.10 [-0.20, 0.41] | 0.16 [-0.18, 0.50] |
| Midlife stress severity | R2 = 0.07 | R2 = 0.12 | R2 = 0.07 | R2 = 0.03 | R2 = 0.05 |
| Midlife stress severity | -0.03 [-0.31, 0.25] | -0.10 [-0.33, 0.13] | -0.10 [-0.52, 0.31] | 0.03 [-0.27, 0.33] | 0.02 [-0.31, 0.36] |
| HLI | -0.19 [-0.46, 0.07] | -0.23 [-0.45, -0.01] | 0.02 [-0.37, 0.41] | -0.05 [-0.33, 0.24] | -0.15 [-0.46, 0.16] |
| Midlife stress severity × HLI | 0.12 [-0.11, 0.35] | 0.04 [-0.15, 0.23] | 0.25 [-0.10, 0.60] | 0.14 [-0.11, 0.39] | 0.16 [-0.18, 0.50] |
| Late life stress severity | R2 = 0.06 | R2 = 0.12 | R2 = 0.14 | R2 = 0.01 | R2 = 0.05 |
| Late life stress severity | -0.001 [-0.27, 0.27] | -0.07 [-0.29, 0.15] | 0.29 [-0.08, 0.67] | 0.01 [-0.27, 0.30] | 0.02 [-0.31, 0.36] |
| HLI | -0.18 [-0.44, 0.08] | **-0.23 [-0.45, -0.02]** | -0.05 [-0.42, 0.32] | -0.01 [-0.30, 0.27] | -0.15 [-0.46, 0.16] |
| Late life stress severity × HLI | -0.009 [-0.31, 0.29] | -0.08 [-0.32, 0.17] | **0.57 [0.14, 0.99]** | -0.08 [-0.40, 0.25] | 0.16 [-0.18, 0.50] |

*Notes.* HLI = healthy lifestyle index

All models controlled for age, years of education, daily energy intake (kcal), and perceived socioeconomic status. Data presented as β [95% confidence intervals]

Supplementary Table 3. *Associations between indices of stress across the lifespan, Mediterranean diet adherence, and cognitive performance.*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Immediate associative memory | Delayed associative memory | Inhibitory control | Working memory | Global cognition |
| Cumulative stress severity | R2 = 0.09 | R2 = 0.08 | R2 = 0.02 | R2 = 0.05 | R2 = 0.08 |
| Cumulative stress | 0.07 [-0.08, 0.21] | 0.06 [-0.09, 0.21] | 0.02 [-0.13, 0.16] | 0.05 [-0.10, 0.19] | 0.09 [-0.06, 0.25] |
| MeDi | 0.02 [-0.12, 0.17] | -0.06 [-0.20, -0.08] | 0.09 [-0.06, 0.23] | 0.07 [-0.07, 0.21] | 0.08 [-0.07, 0.22] |
| Cumulative stress × MeDi | 0.12 [-0.03, 0.27] | 0.07 [-0.08, 0.22] | 0.07 [-0.08, 0.22] | 0.11 [-0.04, 0.25] | **0.16 [0.006, 0.31]** |
| Early life stress severity | R2 = 0.09 | R2 = 0.09 | R2 = 0.02 | R2 = 0.05 | R2 = 0.07 |
| Early life stress severity | 0.02 [-0.12, 0.16] | 0.02 [-0.12, 0.16] | -0.004 [-0.15, 0.14] | -0.09 [-0.23, 0.06] | -0.03 [-0.19, 0.12] |
| MeDi | -0.003 [-0.14, 0.13] | -0.06 [-0.20, 0.07] | 0.09 [-0.05, 0.23] | 0.03 [-0.10, 0.17] | 0.04 [-0.09, 0.19] |
| Early life stress severity × MeDi | 0.13 [-0.005, 0.27] | 0.12 [-0.02, 0.26] | 0.06 [-0.08, 0.20] | -0.03 [-0.17, 0.11] | 0.11 [-0.04, 0.25] |
| Midlife stress severity | R2 = 0.07 | R2 = 0.08 | R2 = 0.02 | R2 = 0.05 | R2 = 0.06 |
| Midlife stress severity | -0.05 [-0.19, 0.10] | -0.005 [-0.15, 0.14] | -0.01 [-0.16, 0.14] | 0.03 [-0.12, 0.17] | -0.01 [-0.16, 0.14] |
| MeDi | -0.02 [-0.16, 0.11] | -0.08 [-0.21, 0.05] | 0.09 [-0.05, 0.22] | 0.05 [-0.08, 0.18] | 0.04 [-0.10, 0.18] |
| Midlife stress severity × MeDi | -0.03 [-0.17, 0.12] | 0.01 [-0.13, 0.15] | 0.09 [-0.06, 0.23] | 0.07 [-0.08, 0.21] | 0.05 [-0.10, 0.20] |
| Late life stress severity | R2 = 0.08 | R2 = 0.09 | R2 = 0.03 | R2 = 0.04 | R2 = 0.07 |
| Late life stress severity | -0.09 [-0.23, 0.04] | -0.09 [-0.22, 0.05] | 0.05 [-0.08, 0.18] | -0.05 [-0.18, 0.09] | -0.06 [-0.20, 0.08] |
| MeDi | -0.009 [-0.14, 0.13] | -0.07 [-0.20, 0.06] | 0.09 [-0.04, 0.23] | 0.04 [-0.09, 0.18] | 0.05 [-0.09, 0.19] |
| Late life stress severity × MeDi | 0.07 [-0.08, 0.22] | 0.07 [-0.09, 0.22] | 0.15 [-0.003, 0.30] | -0.06 [-0.21, 0.09] | 0.11 [-0.05, 0.26] |

*Notes.* MeDi = Mediterranean diet

All models controlled for age, sex, years of education, daily energy intake (kcal), and perceived socioeconomic status. Data presented as β [95% confidence intervals]

Supplementary Table 4. *Associations between indices of stress across the lifespan, physical activity, and cognitive performance.*

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | Immediate associative memory | Delayed associative memory | | | | Inhibitory control | | | | | Working memory | | Global cognition | |
| Cumulative stress severity | | R2 = 0.07 | | R2 = 0.07 | | | R2 = 0.02 | | R2 = 0.05 | | | | R2 = 0.07 | | |
| Cumulative stress | | 0.05 [-0.10, 0.19] | 0.05 [-0.10, 0.20] | | | | -0.003 [-0.15, 0.14] | | | | | 0.03 [-0.11, 0.17] | | 0.05 [-0.10, 0.20] | |
| Physical activity | | 0.02 [-0.12, 0.15] | 0.03 [-0.11, 0.16] | | | | -0.05 [-0.18, 0.09] | | | | | 0.08 [-0.05, 0.21] | | 0.03 [-0.11, 0.16] | |
| Cumulative stress × Physical activity | | -0.05 [-0.20, 0.11] | 0.003 [-0.15, 0.16] | | | | 0.12 [-0.03, 0.27] | | | | | 0.09 [-0.06, 0.24] | | 0.08 [-0.08, 0.24] | |
| Early life stress severity | | R2 = 0.07 | | R2 = 0.07 | | | R2 = 0.02 | | R2 = 0.05 | | | | R2 = 0.07 | | |
| Early life stress severity | | -0.01 [-0.15, 0.13] | -0.008 [-0.15, 0.13] | | | | -0.02 [-0.16, 0.11] | | | | | -0.07 [-0.21, 0.07] | | -0.06 [-0.21, 0.08] | |
| Physical activity | | 0.01 [-0.12, 0.15] | 0.02 [-0.11, 0.16] | | | | -0.05 [-0.18, 0.08] | | | | | 0.07 [-0.06, 0.20] | | 0.02 [-0.12, 0.15] | |
| Early life stress severity × Physical activity | | -0.01 [-0.17, 0.15] | 0.07 [-0.09, 0.23] | | | | 0.13 [-0.03, 0.29] | | | | | 0.03 [-0.14, 0.19] | | 0.09 [-0.08, 0.26] | |
| Midlife stress severity | | R2 =0.07 | | | R2 = 0.09 | | | R2 = 0.03 | | | R2 = 0.05 | | | | R2 = 0.06 |
| Midlife stress severity | | -0.05 [-0.20, 0.10] | 0.005 [-0.14, 0.15] | | | | -0.01 [-0.16, 0.14] | | | | | 0.03 [-0.12, 0.18] | | -0.008 [-0.16, 0.14] | |
| Physical activity | | 0.01 [-0.13, 0.15] | 0.05 [-0.09, 0.18] | | | | -0.08 [-0.21, 0.06] | | | | | 0.06 [-0.07, 0.20] | | 0.01 [-0.13, 0.15] | |
| Midlife stress severity × Physical activity | | 0.02 [-0.10, 0.14] | -0.11 [-0.23, 0.005] | | | | **0.13 [0.01, 0.25]** | | | | | 0.06 [-0.06, 0.18] | | 0.04 [-0.08, 0.17] | |
| Late life stress severity | R2 = 0.09 | | R2 = 0.08 | | | R2 = 0.01 | | | | R2 = 0.05 | | | | R2 = 0.06 | |
| Late life stress severity | | -0.13 [-0.27, 0.01] | -0.10 [-0.25, 0.04] | | | | 0.05 [-0.09, 0.20] | | | | | -0.04 [-0.18, 0.10] | | -0.08 [-0.23, 0.07] | |
| Physical activity | | 0.01 [-0.12, 0.14] | 0.02 [-0.11, 0.15] | | | | -0.05 [-0.18, 0.09] | | | | | 0.08 [-0.06, 0.21] | | 0.02 [-0.12, 0.15] | |
| Late life stress severity × Physical activity | | -0.08 [-0.22, 0.06] | -0.03 [-0.17, 0.11] | | | | 0.03 [-0.11, -0.18] | | | | | -0.01 [-0.16, 0.13] | | -0.03 [-0.18, 0.11] | |

*Notes.* All models controlled for age, sex, years of education, and perceived socioeconomic status. Data presented as β [95% confidence intervals]

Supplementary Table 5. *Associations between indices of stress across the lifespan, social engagement, and cognitive performance.*

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | Immediate associative memory | | Delayed associative memory | | Inhibitory control | Working memory | | Global cognition |
| Cumulative stress severity | R2 = 0.07 | | R2 = 0.07 | | R2 = 0.02 | | | R2 = 0.04 | R2 = 0.06 |
| Cumulative stress | | 0.04 [-0.10, 0.19] | | 0.05 [-0.10, 0.19] | | 0.01 [-0.13, 0.15] | 0.03 [-0.11, 0.18] | | 0.06 [-0.09, 0.21] |
| Social engagement | | 0.03 [-0.11, 0.16] | | 0.05 [-0.08, 0.19] | | -0.09 [-0.22, 0.05] | -0.03 [-0.16, 0.10] | | -0.01 [-0.15, 0.13] |
| Cumulative stress × Social engagement | | -0.04 [-0.18, 0.10] | | -0.01 [-0.15, 0.12] | | 0.06 [-0.08, 0.20] | -0.02 [-0.16, 0.12] | | -0.02 [-0.16, 0.12] |
| Early life stress severity | R2 = 0.08 | | R2 = 0.08 | | R2 = 0.03 | | | R2 = 0.05 | R2 = 0.06 |
| Early life stress severity | | -0.02 [-0.16, 0.12] | | -0.02 [-0.16, 0.12] | | -0.02 [-0.15, 0.12] | -0.08 [-0.22, 0.06] | | -0.07 [-0.22, 0.07] |
| Social engagement | | 0.02 [-0.11, 0.15] | | 0.05 [-0.08, 0.18] | | -0.08 [-0.22, 0.05] | -0.03 [-0.16, 0.11] | | -0.01 [-0.15, 0.13] |
| Early life stress severity × Social engagement | | -0.12 [-0.27, 0.03] | | -0.08 [-0.22, 0.07] | | 0.11 [-0.04, 0.26] | 0.06 [-0.09, 0.21] | | -0.005 [-0.15, 0.14] |
| Midlife stress severity | R2 = 0.07 | | R2 = 0.07 | | R2 = 0.02 | | | R2 = 0.04 | R2 = 0.06 |
| Midlife stress severity | | -0.05 [-0.20, 0.10] | | -0.01 [-0.16, 0.14] | | 0.01 [-0.14, 0.17] | 0.03 [-0.12, 0.18] | | -0.001 [-0.15, 0.15] |
| Social engagement | | 0.03 [-0.10, 0.16] | | 0.06 [-0.08, 0.19] | | -0.09 [-0.22, 0.04] | -0.02 [-0.16, 0.11] | | -0.007 [-0.14, 0.13] |
| Midlife stress severity × Social engagement | | 0.04 [-0.11, 0.19] | | -0.02 [-0.17, 0.12] | | 0.06 [-0.09, 0.21] | -0.05 [-0.20, 0.09] | | 0.01 [-0.13, 0.16] |
| Late life stress severity | R2 = 0.08 | | R2 = 0.08 | | R2 =0.03 | | | R2 = 0.04 | R2 = 0.06 |
| Late life stress severity | | -0.11 [-0.24, 0.03] | | -0.10 [-0.24, 0.04] | | 0.04 [-0.09, 0.18] | -0.04 [-0.17, 0.10] | | -0.07 [-0.22, 0.07] |
| Social engagement | | 0.04 [-0.09, 0.17] | | 0.07 [-0.06, 0.21] | | -0.11 [-0.24, 0.03] | -0.02 [-0.15, 0.11] | | < 0.001 [-0.14, 0.14] |
| Late life stress severity × Social engagement | | 0.01 [-0.11, 0.13] | | -0.04 [-0.17, 0.08] | | 0.11 [-0.01, 0.24] | -0.001 [-0.12, 0.12] | | 0.03 [-0.10, 0.16] |

*Notes.* All models controlled for age, sex, years of education, and perceived socioeconomic status. Data presented as β [95% confidence intervals]

Supplementary Table 6. *Associations between indices of stress across the lifespan, sleep quality, and cognitive performance.*

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | Immediate associative memory | | | Delayed associative memory | | | Inhibitory control | | | Working memory | | | Global cognition |
| Cumulative stress severity | | R2 = 0.08 | | R2 = 0.08 | | | R2 = 0.02 | | R2 = 0.04 | | | R2 = 0.07 | | |
| Cumulative stress | | 0.04 [-0.11, 0.18] | | | 0.05 [-0.10, 0.20] | | | 0.008 [-0.13, 0.15] | | | 0.03 [-0.11, 0.17] | | | 0.06 [-0.10, 0.21] |
| Sleep quality | | -0.004 [-0.14, 0.13] | | | -0.06 [-0.20, 0.07] | | | 0.11 [-0.03, 0.25] | | | 0.04 [-0.10, 0.17] | | | 0.02 [-0.12, 0.16] |
| Cumulative stress × Sleep quality | | -0.07 [-0.22, 0.08] | | | -0.06 [-0.21, 0.09] | | | 0.05 [-0.11, 0.21] | | | -0.008 [-0.16, 0.15] | | | -0.07 [-0.23, 0.09] |
| Early life stress severity | | R2 = 0.07 | | R2 = 0.07 | | | R2 =0.02 | | R2 = 0.05 | | | R2 = 0.07 | | |
| Early life stress severity | | -0.01 [-0.15, 0.13] | | | -0.004 [-0.14, 0.13] | | | -0.03 [-0.17, 0.11] | | | -0.08 [-0.22, 0.06] | | | -0.07 [-0.22, 0.07] |
| Sleep quality | | 0.01 [-0.12, 0.14] | | | -0.06 [-0.19, 0.08] | | | 0.10 [-0.03, 0.24] | | | 0.04 [-0.09, 0.18] | | | -0.04 [-0.10, 0.18] |
| Early life stress severity × Sleep quality | | -0.001 [-0.16, 0.16] | | | -0.05 [-0.21, 0.11] | | | 0.007 [-0.16, 0.17] | | | -0.03 [-0.20, 0.15] | | | -0.02 [-0.19, 0.16] |
| Midlife stress severity | R2 = 0.08 | | R2 = 0.07 | | | R2 = 0.02 | | | | R2 = 0.04 | | | R2 = 0.06 | |
| Midlife stress severity | | -0.05 [-0.20, 0.10] | | | -0.008 [-0.16, 0.14] | | | 0.007 [-0.14, 0.16] | | | 0.04 [-0.11, 0.19] | | | 0.001 [-0.15, 0.15] |
| Sleep quality | | 0.009 [-0.12, 0.14] | | | -0.05 [-0.19, 0.08] | | | 0.10 [-0.03, 0.24] | | | 0.04 [-0.09, 0.18] | | | 0.04 [-0.10, 0.18] |
| Midlife stress severity × Sleep quality | | -0.06 [-0.19, 0.08] | | | -0.03 [-0.17, 0.11] | | | -0.04 [-0.18, 0.10] | | | -0.008 [-0.14, 0.13] | | | -0.07 [-0.20, 0.07] |
| Late life stress severity | R2 = 0.09 | | R2 = 0.08 | | | R2 = 0.02 | | | | R2 = 0.04 | | | R2 = 0.07 | |
| Late life stress severity | | -0.11 [-0.25, 0.02] | | | -0.10 [-0.24, 0.03] | | | 0.04 [-0.10, 0.18] | | | -0.04 [-0.17, 0.09] | | | -0.08 [-0.22, 0.06] |
| Sleep quality | | -0.002 [-0.13, 0.13] | | | -0.05 [-0.19, 0.08] | | | 0.10 [-0.03, 0.24] | | | 0.05 [-0.09, 0.18] | | | 0.04 [-0.10, 0.18] |
| Late life stress severity × Sleep quality | | 0.12 [-0.02, 0.25] | | | 0.08 [-0.06, 0.22] | | | -0.004 [-0.14, 0.13] | | | -0.03 [-0.16, 0.11] | | | 0.06 [-0.08, 0.20] |

*Notes.* All models controlled for age, sex, years of education, and perceived socioeconomic status. Data presented as β [95% confidence intervals]

Supplementary Table 7. *Associations between indices of stress across the lifespan, mindful relaxation, and cognitive performance.*

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | Immediate associative memory | | Delayed associative memory | | Inhibitory control | Working memory | | Global cognition |
| Cumulative stress severity | R2 = 0.08 | | R2 = 0.08 | | R2 = 0.01 | | R2 = 0.05 | R2 = 0.06 | |
| Cumulative stress | | 0.06 [-0.09, 0.20] | | 0.05 [-0.09, 0.20] | | 0.02 [-0.13, 0.16] | 0.03 [-0.11, 0.18] | | 0.06 [-0.09, 0.21] |
| Mindful relaxation | | -0.06 [-0.20, 0.07] | | -0.09 [-0.22, 0.04] | | 0.05 [-0.08, 0.19] | -0.10 [-0.24, 0.03] | | -0.06 [-0.20, 0.08] |
| Cumulative stress × Mindful relaxation | | -0.01 [-0.15, 0.12] | | -0.06 [-0.20, 0.07] | | 0.03 [-0.10, 0.17] | 0.02 [-0.11, 0.16] | | -0.004 [-0.14, 0.13] |
| Early life stress severity | R2 = 0.09 | | R2 = 0.14 | | R2 = 0.05 | | R2 = 0.10 | R2 = 0.05 | |
| Early life stress severity | | 0.009 [-0.13, 0.15] | | 0.01 [-0.13, 0.15] | | -0.03 [-0.17, 0.11] | -0.10 [-0.24, 0.04] | | -0.07 [-0.22, 0.08] |
| Mindful relaxation | | -0.06 [-0.19, 0.08] | | -0.08 [-0.21, 0.06] | | 0.05 [-0.09, 0.18] | -0.11 [-0.24, 0.02] | | -0.06 [-0.19, 0.08] |
| Early life stress severity × Mindful relaxation | | -0.07 [-0.19, 0.04] | | -0.10 [-0.22, 0.01] | | 0.05 [-0.06, 0.17] | 0.08 [-0.04, 0.20] | | -0.004 [-0.13, 0.12] |
| Midlife stress severity | R2 = 0.08 | | R2 = 0.08 | | R2 = 0.03 | | R2 = 0.05 | R2 = 0.06 | |
| Midlife stress severity | | -0.06 [-0.20, 0.09] | | -0.02 [-0.17, 0.13] | | 0.03 [-0.12, 0.18] | 0.02 [-0.13, 0.17] | | -0.006 [-0.16, 0.15] |
| Mindful relaxation | | -0.07 [-0.20, 0.06] | | -0.09 [-0.23, 0.04] | | 0.06 [-0.07, 0.20] | -0.10 [-0.24, 0.03] | | -0.06 [-0.20, 0.08] |
| Midlife stress severity × Mindful relaxation | | -0.01 [-0.15, 0.13] | | -0.03 [-0.17, 0.11] | | **0.16 [0.02, 0.30]** | -0.03 [-0.17, 0.11] | | 0.04 [-0.11, 0.18] |
| Late life stress severity | R2 = 0.09 | | R2 = 0.08 | | R2 =0.04 | | R2 =0.05 | R2 =0.07 | |
| Late life stress severity | | -0.06 [-0.20, 0.08] | | -0.09 [-0.23, 0.06] | | -0.004 [-0.15, 0.14] | -0.03 [-0.17, 0.11] | | -0.08 [-0.23, 0.07] |
| Mindful relaxation | | -0.06 [-0.19, 0.08] | | -0.07 [-0.21, 0.06] | | 0.06 [-0.08, 0.19] | -0.10 [-0.23, 0.04] | | -0.04 [-0.18, 0.09] |
| Late life stress severity × Mindful relaxation | | -0.07 [-0.20, 0.06] | | 0.01 [-0.12, 0.14] | | 0.16 [0.03, 0.29] | 0.01 [-0.12, 0.15] | | 0.05 [-0.09, 0.18] |

*Notes.* All models controlled for age, sex, years of education, and perceived socioeconomic status. Data presented as β [95% confidence intervals]