

Stressful life events across the lifespan and inflammation: an integrative data analysis of the HRS and ELSA cohorts

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Accumulation of risks model: the total number of stressful life events has a cumulative effect on health.

Sensitive period model: stressful events during critical developmental stages may have more of an influence on health.

Methods

Health and Retirement Study (HRS) and English Longitudinal Study of Aging (ELSA) participants completed retrospective reports of stressful events. Events were categorized into life stages based on the year the event took place.

Aims

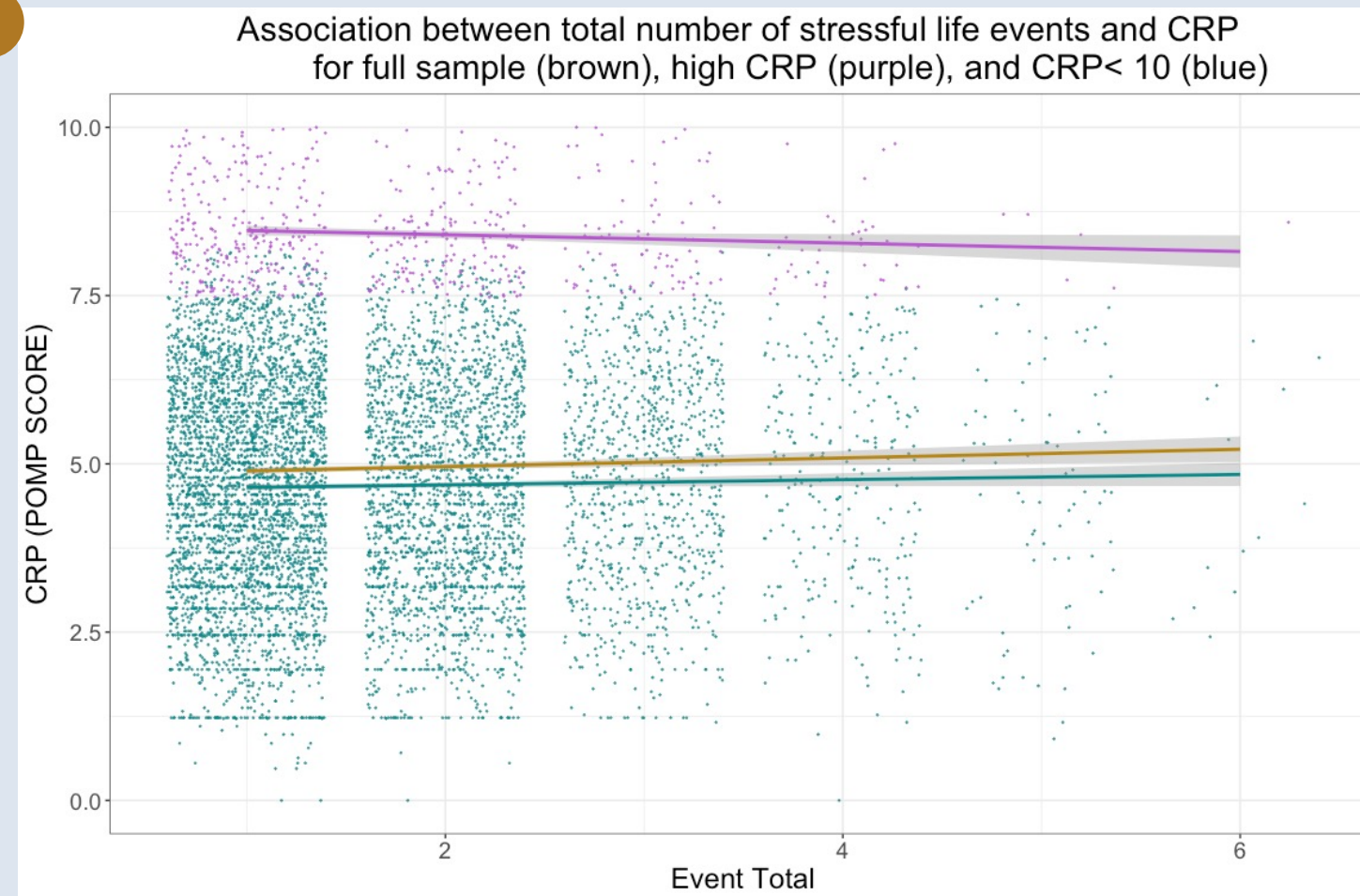
- To test the cumulative effect of stressful events on CRP
- To test the effect of the number of stressful events reported during different life stages on CRP

Data Analysis

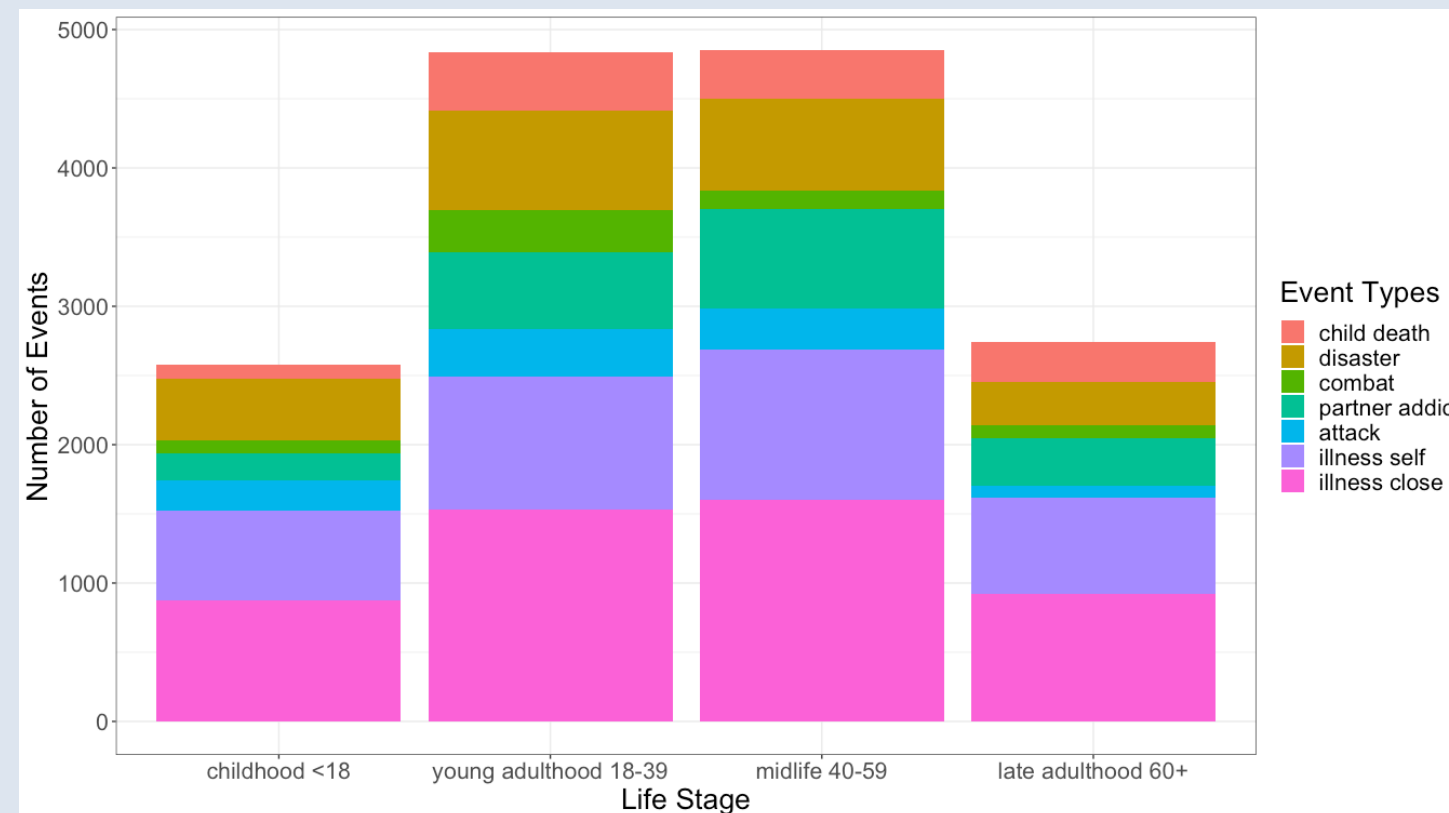
Multilevel models accounted for individuals nested within households. Integrative data analysis harmonized and pooled HRS and ELSA datasets.

Total number of stressful events across the lifespan and stressful events during midlife correspond with higher CRP.

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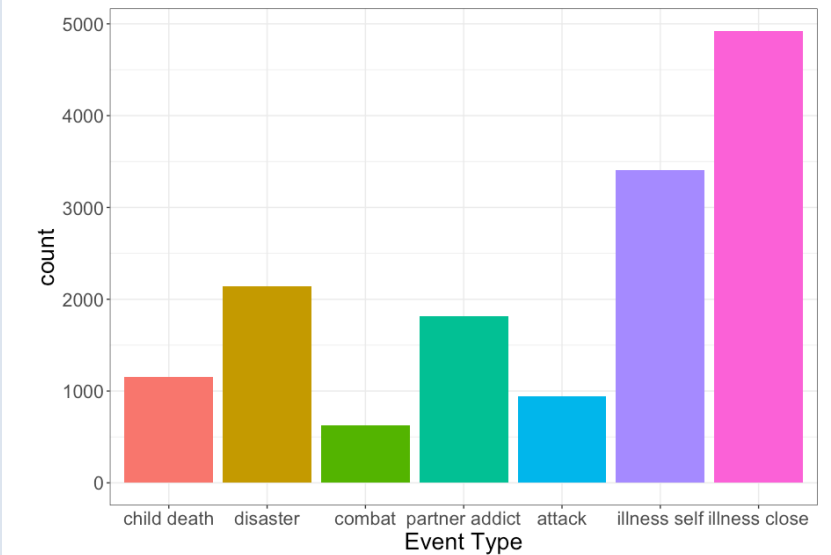
Graph above displays the positive association between the total number of stressors and CRP in the full sample ($\gamma=.05$, $SE=.02$, $p=.012^*$; $N=7952$).



Histogram demonstrates the substantial variability in event types reported in each life stage.

Sample Descriptives

	HRS	ELSA
N participants	5136	2816
Age (mean)	70.6	66.1
Sex (% male)	40.3%	45.8%
BMI (mean)	28.9	28.0
Smoking (% yes)	10.1%	11.9%
Time elapsed	5.69	2.52
Event total	1.82	1.52
Log CRP (mg/L)	.87	.59



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Lifespan stages entered into the same model (N=4972; age 65+)

Predictors	Estimates	P-value
Childhood	0.01	0.807
Young Adulthood	0.06	0.086
Midlife	0.08	0.038*
Late Adulthood	0.01	0.829

*indicates result survived sensitivity analyses (1) controlling for race and education, (2) removing the self-illness stressor, (3) adding childhood specific stressors.

Conclusion

Individuals in midlife may be at higher risk of experiencing some of the most stressful events. Stressors in midlife may have greater implications for health because individuals in these life stages serve as support providers.

