

eAppendix

The principle components factor analysis with oblique (promax) rotation yielded a two-factor solution representing the domains of physical and sexual abuse (see Table 1A). The number of factors retained was based on scree plots and factors with an eigenvalue >1 per the Kaiser criteria. Items with factor loadings > 0.45 were assigned to the factor for which they had the greatest loading. For the childhood exposures and teen exposures the total percent variances explained by the two-factor solutions were 56% and 58%, respectively.

eTable 1. Factor Analysis Results

Childhood Exposures		
	Factor 1	Factor 2
Factor Loadings (promax rotation)		
Push, Grab, or Shove	.71*	-.04
Kick, Bite, or Punch	.74*	-.04
Hit With Something that Hurt	.65*	-.04
Choke or Burn	.51*	.10
Physically Attack in Other Way	.66*	.14
Childhood rape	.02	.84*
Childhood sexual touching	-.03	.85*
Eigenvalue	2.61	1.30
Variance Explained by each factor eliminating other Factors (promax rotation)	2.18	1.45
Proportion of Variance explained	37%	19%
Total Variance explained		56%
Teen/Adolescent Exposures		
	Factor 1	Factor 2
Factor Loadings (promax rotation)		
Push, Grab, or Shove	.76*	-.01
Kick, Bite, or Punch	.78*	-.05
Hit With Something that Hurt	.74*	0
Choke or Burn	.53*	-.04
Physically Attack in Other Way	.68*	.14
Childhood rape	.02	.87*
Childhood sexual touching	-.03	.88*
Eigenvalue	2.73	1.33
Variance Explained by each factor eliminating other Factors (promax rotation)	2.32	1.45
Proportion of Variance explained	39%	19%
Total Variance explained		58%

Categories that classify violence exposure by severity and chronicity were based on the factor analysis and frequency trends within each factor (see Table 2A). Physical abuse was classified by severity categories which incorporated both type of violence exposure and frequency of abuse. Sexual abuse was classified based on type of abuse and number of developmental periods that abuse was experienced (chronicity). Our cumulative violence measure merged both physical and sexual abuse.

eTable 2. Violence Exposure Categorization

Severity Categories for Physical Abuse		Categories for Sexual Abuse	Cumulative Violence Measure	
Physical Abuse		Sexual abuse		
Mild	Kicking, biting, or hitting once Any frequency of pushing	Sexual touching	Mild/Moderate Single Type	During one developmental period: *Mild/moderate physical abuse only or *Sexual touching only
Moderate	Physically attacked once Hit a few times or more	Forced sexual activity during one developmental period	Mild-Multiple or Severe-Single Type(s)	During one developmental period: *Mild/moderate physical abuse and sexual touching or *Forced sexual activity during one period only or *Severe Physical abuse only
Severe	Choked or burned ever Physically attacked more than once Kicked, pushed, or bitten more than once	Forced sexual activity during multiple developmental periods	Moderate-Chronic or -Multiple Types	During one developmental period: *Severe physical abuse and sexual touching or *Mild/moderate physical and Forced sexual activity during one period During both developmental periods: *Severe physical abuse only or * Forced sexual activity during multiple periods
			Severe-Chronic or -Multiple Types	During one developmental period: *Severe physical and Forced sexual activity during one period During both developmental periods: *Severe physical abuse and sexual touching * Forced sexual activity during multiple periods and mild/moderate physical abuse
			Severe Chronic and Multiple Types	Both severe physical and forced sexual activity during one or multiple period(s) with one or both exposures occurring during both developmental periods

eTable 3. Multivariate Cox proportional hazard models for the incident rate ratio of ultrasound- or hysterectomy-confirmed uterine leiomyomata among premenopausal women according to exposure to sexual or physical abuse in childhood and/or adolescence by emotional neglect in childhood: Nurse's Health Study II (1989-2005)*

	Very Often, or Always Special in Childhood			Never, Rarely, Sometimes Special in Childhood		
Cumulative Abuse History	Person-years	Cases	IRR (95% CI)	Person-years	Cases	IRR (95% CI)
No exposure to violence	246,904	3036	1.00 (<i>referent</i>)	14,895	174	1.00 (<i>referent</i>)
Mild/Moderate Single Type	241,474	3209	1.07 (1.02 – 1.12)	31,055	439	1.23 (1.03 – 1.48)
Mild Multiple or Severe Single Type(s)	90,243	1356	1.16 (1.09 – 1.24)	18,409	291	1.35 (1.11 – 1.64)
Moderate: Chronic or Multiple Types	39,823	642	1.23 (1.13 – 1.34)	13,458	213	1.35 (1.09 – 1.65)
Severe: Chronic or Multiple Types	13,747	222	1.19 (1.04 – 1.37)	5949	111	1.52 (1.19 – 1.95)
Severe Chronic and Multiple Types	6697	119	1.24 (1.03 – 1.50)	5387	110	1.70 (1.32 – 2.18)
Abuse Severity						
Severity of Physical Abuse						
None	325,155	4121	1.00	22,277	281	1.00
Mild	121,575	1638	1.07 (1.01 – 1.13)	15,381	231	1.22 (1.02 – 1.46)
Moderate	154,511	2220	1.09 (1.03 – 1.15)	32,122	485	1.16 (1.00 – 1.36)
Severe	37,647	605	1.14 (1.04 – 1.25)	19,373	335	1.28 (1.08 – 1.51)
Severity of Sexual Abuse						
None	445,976	5696	1.00	48,953	658	1.00
Sexual Touching as Child or Teen	135,138	1980	1.08 (1.02 – 1.14)	22,599	363	1.14 (1.00 – 1.31)
Forced Sexual Activity as Child or Teen	45,932	709	1.11 (1.03 – 1.20)	12,083	207	1.19 (1.01 – 1.41)
Forced Sexual Activity as Child & Teen	11,842	199	1.12 (0.97 – 1.29)	5516	110	1.31 (1.05 – 1.63)
Type of Abuse						
None	246,904	3036	1.00	14,895	174	1.00
Physical abuse only	199,072	2660	1.08 (1.03 – 1.14)	34,059	484	1.24 (1.04 – 1.49)
Sexual Abuse only	78,251	1085	1.08 (1.00 – 1.15)	7383	107	1.25 (0.97 – 1.60)
Physical and sexual abuse	114,661	1803	1.20 (1.13 – 1.27)	32,816	573	1.46 (1.22 – 1.74)

*Models control for all covariates in the fully adjusted multivariate model (Table 3, Model #3)

eTable 4. Prospective analysis of Incidence rate ratios of ultrasound- or hysterectomy-confirmed uterine leiomyomata among premenopausal women according to severity, chronicity, and type of violence exposure in childhood or adolescence following completion of the 2001 violence questionnaire: Nurse's Health Study II (2001-2005) based on 123,699 woman-years

Characteristics	No. Woman-Years	No. Cases	Model 1 ^a	Model 2 ^b	Model 3 ^c
Cumulative Abuse History					
No exposure to violence ^d	45,626	1661	1.00	1.00	1.00
Mild/Moderate Single Type	46,348	752	0.95 (0.87 –1.07)	0.96 (0.87 –1.06)	0.95 (0.86 –1.05)
Mild-Multiple or Severe-Single Type(s)	18,191	346	1.12 (0.98 –1.27)	1.09 (0.95 –1.24)	1.07 (0.94 –1.22)
Moderate-Chronic or -Multiple Types	8677	185	1.25 (1.06 –1.47)	1.19 (1.02 –1.41)	1.18 (1.00 –1.39)
Severe-Chronic or -Multiple Types	3049	65	1.25 (0.97 –1.62)	1.16 (0.90 –1.50)	1.15 (0.89 –1.49)
Severe Chronic and Multiple Types	1808	35	1.09 (0.77 –1.54)	1.00 (0.71 –1.41)	0.96 (0.68 –1.35)
Childhood Trauma Scale Score					
0-5 ^d	14,165	226	1.00	1.00	1.00
6-10	68,606	1146	1.05 (0.91 –1.21)	1.05 (0.91 –1.21)	1.04 (0.90 –1.20)
11-15	27,649	477	1.08 (0.92 –1.27)	1.06 (0.90 –1.24)	1.04 (0.89 –1.22)
16-20	9879	220	1.38 (1.14 –1.66)	1.38 (1.10 –1.61)	1.31 (1.08 –1.59)
21-25	3400	72	1.29 (0.99 –1.68)	1.29 (0.92 –1.57)	1.17 (0.89 –1.52)
Abuse Severity^e					
Severity of Physical Abuse					
None ^d	56,798	1006	1.00	1.00	1.00
Mild	23,491	402	1.00 (0.89 –1.12)	1.00 (0.89 –1.13)	1.00 (0.89 –1.12)
Moderate	31,338	572	1.04 (0.93 –1.15)	1.03 (0.92 –1.14)	1.02 (0.92 –1.13)
Severe	9072	161	0.95 (0.80 –1.13)	0.92 (0.77 –1.09)	0.91 (0.76 –1.08)
Frequency of Sexual Abuse					
None ^d	85,415	1395	1.00	1.00	1.00
Sexual Touching as Child or Teen	26,153	494	1.14 (1.02 –1.26)	1.11 (1.00 –1.23)	1.10 (1.00 –1.22)
Forced Sexual Activity as Child or Teen	9492	191	1.22 (1.05 –1.42)	1.17 (1.00 –1.36)	1.16 (1.00 –1.35)
Forced Sexual Activity as Child & Teen	2639	61	1.37 (1.05 –1.78)	1.29 (0.99 –1.68)	1.27 (0.97 –1.65)
Type of Abuse^e					
None ^d	45,626	758	1.00	1.00	1.00
Physical abuse only	39,789	637	0.95 (0.86 –1.06)	0.95 (0.85 –1.05)	0.94 (0.85 –1.05)
Sexual Abuse only	14,172	248	1.04 (0.90 –1.20)	1.02 (0.87 –1.17)	1.00 (0.87 –1.16)
Physical and sexual abuse	24,112	498	1.21 (1.08 –1.35)	1.16 (1.03 –1.30)	1.14 (1.02 –1.28)

^aModel 1 controls for age, parental education, and race/ethnicity

^bModel 2 controls for all variables in Model 1 and parity (1, 2, ≥3 pregnancies >6 months); age of menarche (≤10, 11, 12, 13, 14,15,16, ≥17 years of age); age of first oral contraceptive use (never, 13-16, 17-20, 21-24 years); age of first birth (≤22, 23-25, ≥25 years of age); time since last birth (1-7, 8-15, ≥16 years); history of infertility (yes, no); menstrual irregularity (regular, somewhat irregular or 21-30 day cycle, very irregular >40 day cycle).

^cModel 3 controls for all variables in Model 2 and BMI (continuous); diastolic blood pressure (continuous).

^dReference category; ^eModels mutually adjust for physical and sexual abuse.