Midlife Self-Reported Social Support as a Buffer Against Premature Mortality Risks Associated with

Childhood Abuse

Jessica J. Chiang, Ph.D.[a*]

Edith Chen, Ph.D.[a,b]

Gregory E. Miller, Ph.D.[a,b]

[a]Institute for Policy Research, Northwestern University

[b]Department of Psychology, Northwestern University

Address correspondence to Jessica J. Chiang, Ph.D., Institute for Policy Research, Northwestern

University, Evanston, IL 60208. E-mail: jessica.chiang@northwestern.edu

Supplementary Results

Supplementary Table 1. *Results of models predicting mortality risk from childhood abuse, social support, and their interactions with positive affect included as a covariate.*

	Severe Physical Abuse		Moderate Physical Abuse		Emotional Abuse	
	HR (95% CI)	p	HR (95% CI)	p	HR (95% CI)	p
Age	2.49 (1.98, 3.14)	< 0.001	2.43 (1.94, 3.05)	< 0.001	2.42 (1.93, 3.03)	< 0.001
Age x Time	1.15 (1.04, 1.27)	0.006	1.16 (1.05, 1.28)	0.003	1.16 (1.05, 1.28)	0.003
Female	0.81 (0.71, 0.93)	0.003	0.80 (0.70, 0.92)	0.001	0.81 (0.71, 0.93)	0.002
African American	1.69 (1.29, 2.21)	< 0.001	1.67 (1.27, 2.18)	< 0.001	1.73 (1.33, 2.26)	< 0.001
Other	0.90 (0.61, 1.34)	0.600	0.94 (0.63, 1.39)	0.759	0.93 (0.62, 1.38)	0.705
Education	0.85 (0.80, 0.91)	< 0.001	0.85 (0.80, 0.90)	< 0.001	0.84 (0.79, 0.90)	< 0.001
Heart disease	1.88 (1.63, 2.16)	< 0.001	1.86 (1.62, 2.14)	< 0.001	1.87 (1.62, 2.15)	< 0.001
Cancer	2.87 (1.82, 4.53)	< 0.001	2.86 (1.82, 4.50)	< 0.001	2.87 (1.83, 4.51)	< 0.001
Cancer x Time	0.69 (0.56, 0.84)	< 0.001	0.69 (0.56, 0.84)	< 0.001	0.69 (0.56, 0.85)	< 0.001
Depression	1.14 (0.92, 1.40)	0.230	1.14 (0.92, 1.40)	0.230	1.14 (0.93, 1.41)	0.204
Smoking	1.74 (1.52, 2.00)	< 0.001	1.73 (1.51, 1.99)	< 0.001	1.73 (1.51, 1.99)	< 0.001

Alcohol use	1.04 (0.91, 1.19)	0.542	1.04 (0.91, 1.19)	0.543	1.04 (0.91, 1.19)	0.590
Positive affect	0.95 (0.89, 1.02)	0.160	0.95 (0.88, 1.02)	0.126	0.94 (0.88, 1.01)	0.104
Abuse	1.01 (0.83, 1.24)	0.908	0.95 (0.82, 1.10)	0.495	0.92 (0.80, 1.06)	0.240
Social support	0.94 (0.87, 1.0)	0.055	0.93 (0.87, 1.01)	0.081	0.93 (0.86, 1.01)	0.079
Abuse x Social support	0.81 (0.70, 0.94)	0.004	0.89 (0.78, 1.00)	0.050	0.89 (0.79, 1.00)	0.057

Note. Gender was coded as 0 = male and 1 = female. Race was dummy-coded with European-Americans as the reference group.

Supplementary Table 2. *Results of models predicting mortality risk from childhood abuse, social support, and their interactions with sense of control included as a covariate.*

	Severe Physical Abuse		Moderate Physical Abuse		Emotional Abuse	
	HR (95% CI)	p	HR (95% CI)	p	HR (95% CI)	p
Age	2.43 (1.93, 3.06)	< 0.001	2.37 (1.89, 2.97)	< 0.001	2.36 (1.88, 2.95)	< 0.001
Age x Time	1.16 (1.05, 1.27)	0.004	1.17 (1.06, 1.29)	0.002	1.17 (1.06, 1.28)	0.002
Female	0.81 (0.71, 0.92)	0.002	0.80 (0.70, 0.91)	0.001	0.81 (0.71, 0.92)	0.002
African American	1.65 (1.26, 2.15)	< 0.001	1.62 (1.24, 2.12)	< 0.001	1.68 (1.29, 2.20)	< 0.001
Other	0.89 (0.60, 1.32)	0.570	0.93 (0.63, 1.38)	0.727	0.91 (0.61, 1.36)	0.658
Education	0.86 (0.80, 0.91)	< 0.001	0.85 (0.80, 0.91)	< 0.001	0.85 (0.79, 0.90)	< 0.001
Heart disease	1.90 (1.65, 2.18)	< 0.001	1.89 (1.64, 2.17)	< 0.001	1.89 (1.65, 2.17)	< 0.001
Cancer	2.97 (1.88, 4.67)	< 0.001	2.95 (1.88, 4.64)	< 0.001	2.96 (1.89, 4.65)	< 0.001
Cancer x Time	0.68 (0.55, 0.83)	< 0.001	0.68 (0.55, 0.83)	< 0.001	0.68 (0.56, 0.83)	< 0.001
Depression	1.14 (0.93, 1.40)	0.200	1.14 (0.93, 1.40)	0.195	1.15 (0.94, 1.41)	0.168
Smoking	1.76 (1.53, 2.02)	< 0.001	1.75 (1.52, 2.01)	< 0.001	1.75 (1.52, 2.01)	< 0.001
Alcohol use	1.03 (0.98, 1.18)	0.633	1.03 (0.90, 1.18)	0.631	1.03 (0.90, 1.18)	0.688

Sense of control	0.93 (0.87, 0.99)	0.023	0.93 (0.87, 0.99)	0.023	0.93 (0.87, 0.99)	0.024
Abuse	1.02 (0.83, 1.25)	0.842	0.96 (0.83, 1.11)	0.565	0.94 (0.82, 1.08)	0.377
Social support	0.94 (0.88, 1.01)	0.087	0.94 (0.87, 1.01)	0.104	0.94 (0.87, 1.02)	0.115
Abuse x Social support	0.81 (0.70, 0.94)	0.006	0.89 (0.79, 1.01)	0.068	0.89 (0.79, 1.00)	0.057

Note. Gender was coded as $0 =$ male and $1 =$ female. Race was dummy-coded with European-Americans as the reference group.

Supplementary Table 3. *Results of models predicting mortality risk from childhood abuse, social support, and their interactions with purpose of life included as a covariate.*

	Severe Physical Abuse		Moderate Physical Abuse		Emotional Abuse	
	HR (95% CI)	p	HR (95% CI)	p	HR (95% CI)	p
Age	2.42 (1.92, 3.04)	< 0.001	2.39 (1.90, 3.00)	< 0.001	2.37 (1.89, 2.98)	< 0.001
Age x Time	1.15 (1.04, 1.27)	0.005	1.16 (1.05, 1.28)	0.003	1.16 (1.05, 1.27)	0.003
Female	0.81 (0.71, 0.93)	0.002	0.80 (0.70, 0.91)	0.001	0.81 (0.71, 0.93)	0.002
African American	1.65 (1.27, 2.15)	< 0.001	1.63 (1.24, 2.12)	< 0.001	1.69 (1.30, 2.20)	< 0.001
Other	0.88 (0.60, 1.30)	0.513	0.91 (0.62, 1.35)	0.649	0.89 (0.60, 1.33)	0.570
Education	0.87 (0.82, 0.93)	< 0.001	0.87 (0.81, 0.92)	< 0.001	0.86 (0.81, 0.92)	< 0.001
Heart disease	1.89 (1.64, 2.17)	< 0.001	1.88 (1.63, 2.16)	< 0.001	1.89 (1.63, 2.16)	< 0.001
Cancer	2.98 (1.89, 4.69)	< 0.001	3.04 (1.92, 4.79)	< 0.001	2.90 (1.93, 4.78)	< 0.001
Cancer x Time	0.68 (0.56, 0.83)	< 0.001	0.67 (0.55, 0.82)	< 0.001	0.67 (0.55, 0.83)	< 0.001
Depression	1.15 (0.94, 1.41)	0.170	1.15 (0.94, 1.41)	0.172	1.16 (0.95, 1.41)	0.152
Smoking	1.75 (1.52, 2.01)	< 0.001	1.75 (1.52, 2.00)	< 0.001	1.74 (1.52, 2.00)	< 0.001
Alcohol use	1.03 (0.90, 1.18)	0.693	1.03 (0.90, 1.18)	0.678	1.02 (0.89, 1.17)	0.735

Purpose in life	0.89 (0.84, 0.95)	< 0.001	0.89 (0.83, 0.94)	< 0.001	0.89 (0.83, 0.94)	< 0.001
Abuse	0.99 (0.80, 1.21)	0.888	0.93 (0.81, 1.08)	0.346	0.93 (0.81, 1.07)	0.290
Social support	0.94 (0.88, 1.01)	0.085	0.94 (0.85, 1.01)	0.112	0.94 (0.87, 1.01)	0.106
Abuse x Social support	0.80 (0.69, 0.93)	0.003	0.89 (0.78, 1.00)	0.051	0.89 (0.79, 1.00)	0.054

Note. Gender was coded as 0 = male and 1 = female. Race was dummy-coded with European-Americans as the reference group.

Supplementary Table 4. *Results of models predicting mortality risk from childhood abuse, positive affect, and their interactions.*

	Severe Physical Abuse		Moderate Physical Abuse		Emotional Abuse	
	HR (95% CI)	p	HR (95% CI)	p	HR (95% CI)	p
Age	2.49 (1.98, 3.13)	< 0.001	2.43 (1.94, 3.05)	< 0.001	2.41 (1.92, 3.02)	< 0.001
Age x Time	1.15 (1.04, 1.27)	0.006	1.16 (1.05, 1.28)	0.003	1.16 (1.05, 1.28)	0.003
Female	0.80 (0.70, 0.92)	0.001	0.80 (0.70, 0.91)	0.001	0.80 (0.70, 0.91)	0.001
African American	1.69 (1.29, 2.21)	< 0.001	1.68 (1.28, 2.20)	< 0.001	1.73 (1.33, 2.26)	< 0.001
Other	0.93 (0.62, 1.38)	0.704	0.97 (0.66, 1.44)	0.883	0.95 (0.64, 1.42)	0.799
Education	0.85 (0.80, 0.91)	< 0.001	0.85 (0.80, 0.90)	< 0.001	0.84 (0.79, 0.90)	< 0.001
Heart disease	1.86 (1.62, 2.14)	< 0.001	1.85 (1.61, 2.13)	< 0.001	1.85 (1.61, 2.13)	< 0.001
Cancer	2.80 (1.78, 4.43)	< 0.001	2.80 (1.78, 4.41)	< 0.001	2.84 (1.81, 4.46)	< 0.001
Cancer x Time	0.69 (0.56, 0.85)	< 0.001	0.69 (0.56, 0.85)	< 0.001	0.69 (0.57, 0.85)	< 0.001
Depression	1.16 (0.94, 1.43)	0.161	1.15 (0.93, 1.42)	0.184	1.17 (0.97, 1.43)	0.147
Smoking	1.74 (1.51, 1.99)	< 0.001	1.73 (1.50, 1.98)	< 0.001	1.72 (1.50, 1.98)	< 0.001
Alcohol use	1.06 (0.93, 1.21)	0.373	1.06 (0.93, 1.21)	0.388	1.06 (0.92, 1.21)	0.430
Abuse	1.15 (0.95, 1.38)	0.154	0.98 (0.85, 1.13)	0.809	0.94 (0.82, 1.08)	0.387

Positive affect	0.92 (0.85, 0.99)	0.018	0.91 (0.84, 0.99)	0.021	0.92 (0.85, 1.00)	0.046
Abuse x Positive affect	1.02 (0.87, 1.20)	0.764	1.01 (0.88, 1.15)	0.915	0.97 (0.85, 1.10)	0.624

Note. Gender was coded as 0 = male and 1 = female. Race was dummy-coded with European-Americans as the reference group.

Supplementary Table 5. *Results of models predicting mortality risk from childhood abuse, sense of control, and their interactions.*

	Severe Physical Abuse		Moderate Physical Abuse		Emotional Abuse	
	HR (95% CI)	p	HR (95% CI)	p	HR (95% CI)	p
Age	2.41 (1.91, 3.03)	< 0.001	2.35 (1.88, 2.94)	< 0.001	2.33 (1.86, 2.92)	< 0.001
Age x Time	1.15 (1.03, 1.27)	0.004	1.17 (1.06, 1.28)	0.002	1.16 (1.06, 1.28)	0.002
Female	0.80 (0.70, 0.91)	0.001	0.79 (0.69, 0.90)	0.001	0.79 (0.69, 0.91)	0.001
African American	1.63 (1.25, 2.13)	< 0.001	1.61 (1.23, 2.11)	< 0.001	1.67 (1.28, 2.18)	< 0.001
Other	0.91 (0.61, 1.35)	0.640	0.95 (0.64, 1.41)	0.793	0.93 (0.62, 1.39)	0.723
Education	0.86 (0.81, 0.92)	< 0.001	0.86 (0.80, 0.91)	< 0.001	0.85 (0.80, 0.91)	< 0.001
Heart disease	1.89 (1.64, 2.17)	< 0.001	1.88 (1.63, 2.16)	< 0.001	1.89 (1.64, 2.17)	< 0.001
Cancer	2.91 (1.85, 4.58)	< 0.001	2.91 (1.85, 4.57)	< 0.001	2.93 (1.87, 4.60)	< 0.001
Cancer x Time	0.69 (0.55, 0.83)	< 0.001	0.68 (0.56, 0.83)	< 0.001	0.68 (0.56, 0.84)	< 0.001
Depression	1.18 (0.96, 1.44)	0.117	1.17 (0.95, 1.43)	0.141	1.18 (0.97, 1.45)	0.100
Smoking	1.76 (1.53, 2.02)	< 0.001	1.75 (1.53, 2.01)	< 0.001	1.75 (1.52, 2.01)	< 0.001
Alcohol use	1.06 (0.92, 1.21)	0.430	1.05 (0.92, 1.20)	0.445	1.05 (0.92, 1.20)	0.494
Abuse	1.15 (0.94, 1.39)	0.168	0.98 (0.85, 1.14)	0.792	0.95 (0.83, 1.10)	0.521

Sense of control	0.90 (0.84, 0.96)	0.002	0.91 (0.84, 0.97)	0.007	0.91 (0.85, 0.98)	0.017
Abuse x Sense of control	0.99 (0.84, 1.18)	0.925	0.96 (0.84, 1.09)	0.539	0.94 (0.84, 1.07)	0.364

Note. Gender was coded as 0 = male and 1 = female. Race was dummy-coded with European-Americans as the reference group.

Supplementary Table 6. *Results of models predicting mortality risk from childhood abuse, purpose in life, and their interactions.*

	Severe Physical Abuse		Moderate Physical Abuse		Emotional Abuse	
	HR (95% CI)	p	HR (95% CI)	p	HR (95% CI)	p
Age	2.39 (1.90, 3.01)	< 0.001	2.35 (1.87, 2.96)	< 0.001	2.34 (1.86, 2.95)	< 0.001
Age x Time	1.15 (1.05, 1.27)	0.004	1.16 (1.05, 1.28)	0.003	1.16 (1.05, 1.27)	0.004
Female	0.80 (0.70, 0.91)	0.001	0.79 (0.69, 0.90)	< 0.001	0.80 (0.70, 0.91)	0.001
African American	1.64 (1.26, 2.14)	< 0.001	1.63 (1.25, 2.13)	< 0.001	1.68 (1.29, 2.18)	< 0.001
Other	0.90 (0.61, 1.34)	0.614	0.96 (0.65, 1.43)	0.85	0.91 (0.61, 1.36)	0.645
Education	0.87 (0.82, 0.93)	< 0.001	0.87 (0.81, 0.92)	< 0.001	0.87 (0.81, 0.92)	< 0.001
Heart disease	1.87 (1.63, 2.15)	< 0.001	1.88 (1.63, 2.16)	< 0.001	1.87 (1.63, 2.15)	< 0.001
Cancer	2.92 (1.86, 4.61)	< 0.001	2.98 (1.89, 4.69)	< 0.001	3.01 (1.91, 4.74)	< 0.001
Cancer x Time	0.68 (0.55, 0.83)	< 0.001	0.67 (0.54, 0.83)	< 0.001	0.68 (0.55, 0.83)	< 0.001
Depression	1.19 (0.98, 1.46)	0.080	1.20 (0.99, 0.47)	0.070	1.21 (0.99, 1.48)	0.059
Smoking	1.75 (1.53, 2.01)	< 0.001	1.75 (1.53, 2.01)	< .001	1.74 (1.51, 2.00)	< 0.001
Alcohol use	1.04 (0.91, 1.19)	0.521	1.04 (0.91, 1.19)	0.550	1.04 (0.91, 1.19)	0.571
Abuse	1.21 (0.99, 1.47)	0.059	1.02 (0.88, 1.19)	0.775	0.97 (0.84, 1.12)	0.686

Purpose in life	0.86 (0.80, 0.91)	< 0.001	0.83 (0.78, 0.89)	< 0.001	0.86 (0.80, 0.92)	< 0.001
Abuse x Purpose in life	1.18 (1.00, 1.40)	0.047	1.17 (1.03, 1.32)	0.018	1.04 (0.92, 1.17)	0.580

Note. Gender was coded as 0 = male and 1 = female. Race was dummy-coded with European-Americans as the reference group.

Supplementary Table 7. *Results of models predicting mortality risk from interactions between physical abuse and purpose in life and between physical abuse and social support.*

	Severe Physical Abuse		Moderate Physical Abuse	
	HR (95% CI)	p	HR (95% CI)	p
Age	2.42 (1.92, 3.04)	< 0.001	2.38 (1.89, 2.99)	< 0.001
Age x Time	1.15 (1.05, 1.27)	0.004	1.16 (1.05, 1.28)	0.003
Female	0.81 (0.70, 0.92)	0.002	0.79 (0.69, 0.90)	0.001
African American	1.66 (0.27, 0.16)	< 0.001	1.64 (1.26, 2.14)	< 0.001
Other	0.88 (0.59, 1.31)	0.525	0.94 (0.63, 1.39)	0.761
Education	0.87 (0.81, 0.92)	< 0.001	0.86 (0.81, 0.92)	< 0.001
Heart disease	1.89 (1.64, 2.17)	< 0.001	1.89 (1.64, 2.17)	< 0.001
Cancer	2.99 (1.90, 4.70)	< 0.001	3.03 (1.92, 4.78)	< 0.001
Cancer x Time	0.68 (0.55, 0.83)	< 0.001	0.67 (0.55, 0.83)	< 0.001
Depression	1.15 (0.94, 1.40)	0.182	1.17 (0.95, 1.43)	0.134
Smoking	1.75 (1.53, 2.01)	< 0.001	1.75 (1.53, 2.01)	< 0.001
Alcohol use	1.02 (0.90, 1.17)	0.722	1.02 (0.89, 1.17)	0.731
Abuse	1.08 (0.87, 1.34)	0.476	1.00 (0.86, 1.16)	0.967
Purpose in life	0.87 (0.81, 0.92)	< 0.001	0.84 (0.78, 0.90)	< 0.001
Abuse x Purpose in life	1.23 (1.04, 1.46)	0.019	1.21 (1.06, 1.38)	0.004
Social support	0.95 (0.88, 1.01)	0.123	0.95 (0.88, 1.03)	0.204
Abuse x Social support	0.78 (0.67, 0.90)	0.001	0.85 (0.75, 0.97)	0.012

Note. Gender was coded as 0 = male and 1 = female. Race was dummy-coded with European-Americans as the reference group.