SUPPLEMENTAL MATERIALS

Supplementary Table 1. Comparison of fit between a one-factor versus four-factor measurement model of physiological stress response: NSAHS, Black subsample (n = 627).

	χ^2	df	CFI	TLI	1-RMSEA	BIC
One-factor model	3285.196	78	.643	.529	.824	2782.802
Four-factor model	98.388	64	.989	.987	.971	-313.833

Notes: NSAHS = Nashville Stress and Health Study (2011-2014). Interpretations of fit statistics are provided below. The one-factor model allows the errors for systolic and diastolic blood pressure readings to correlate. Both models exclude control variables and latent variables for concentrated privilege, perceived discrimination, and goal-striving stress.

Supplementary Table 2. Distributional properties of transformed variables.

	Skewness	Kurtosis	Kolmogorov-Smirnov [a]	
Non-transformed				
Epinephrine	3.89	28.36	.188	***
Norepinephrine	2.48	14.65	.153	***
Cortisol	4.57	42.90	.201	***
Log-transformed				
Epinephrine	-.35	3.19	.041	
Norepinephrine	-.17	3.05	.032	
Cortisol	.01	2.62	.040	

Notes: Statistics are weighted and calculated with non-imputed data.
[a] Tests the null hypothesis of a normally distributed variable.
*** $p < .001$ (two-tailed).

Supplementary Table 3. Listwise deleted coefficients for the path model: NSAHS, Black subsample (n = 344).

	Endogenous Latent Variables																				
	Perceived discrimination			Goal-striving stress			Neuroendocrine stress response			Bodily pain			Systolic blood pressure			Diastolic blood pressure				
Exogenous Latent Variables																					
Concentrated privilege	.726	(.212)	**	.093	(.189)		-.360	(.165)	*	.041	(.058)		-.020	(.021)		.009	(.019)				
Perceived discrimination	–			.453	(.075)	***	.067	(.127)		.091	(.038)	*	-.019	(.020)		.002	(.013)				
Goal-striving stress	–			–			.139	(.054)	**	.022	(.020)		.012	(.008)		.016	(.005)	**			
Intercept	2.412	(.379)	***	1.368	(.690)	*	-4.772	(.443)	***	-.270	(.251)		1.234	(.058)	***	.739	(.036)	***			
R-squared	.094			.132			.283			.182			.145			.125					

Notes: Unstandardized regression coefficients are presented with robust standard errors in parentheses. Estimates adjust for control variables (not shown), post-stratification weights, and robust standard errors clustered by block group. NSAHS = Nashville Stress and Health Study (2011-2014).

* $p < .05$, ** $p < .01$, *** $p < .001$ (two-tailed).

Confirmatory Factor Analyses of the Measurement Model

Supplementary Table 4 provides coefficients for confirmatory factor analyses of the measurement model. Standardized and unstandardized factor loadings are presented, along with standard errors for the unstandardized loadings. The first indicator for each latent variable is the scaling variable, and has an imposed factor loading of one and intercept of zero. Although the choice of scaling variables is somewhat arbitrary, the indicator that comes closest to reflecting the latent variable is typically chosen (Bollen 1989:152). I assigned scaling variables based on which indicators had the highest R-squared values.

The unstandardized factor loadings can be interpreted like linear regression coefficients. For every one-unit increase in the latent variable, the indicator variables can be expected to increase in units corresponding with their unstandardized loadings. Because the first indicator for each latent variable serves as the scaling factor and only loads onto one latent variable, the unstandardized factor loadings can also be interpreted relative to this scaling indicator. The standardized factor loadings can be read as correlation coefficients between the latent variables and their indicators. For every standard-deviation increase in the latent variable, the indicator variables are expected to increase in standard deviation units corresponding with their standardized loadings. Thus, squaring the standardized loading is equivalent to an indicator's R-squared value, or the proportion of variance in an indicator explained by its corresponding latent variable.

Consider the unstandardized loadings for concentrated privilege. As the proportion of White residents in a block group increases from 0 to 1, or as the percentage increases from 0 to 100, there is an expected increase in (a) the percentage of college educated residents by 38%, (b) the median household income by $53,904 (= .475 X 113,482), and (c) the percentage of residents living above the poverty line by 16%. Recall that median household incomes are divided by the maximum

income (=113,482) to facilitate model convergence. The R-squared values show that the latent variable accounts for anywhere between 67% and 89% of variance in the indicators.

Other important components of Supplementary Table 4 are the rho coefficients, seen in parentheses next to the latent variable names. Rho represents factor reliability coefficients and can be interpreted as the squared correlation between the latent variable and the unweighted sum of its indicators. Unlike Cronbach's alpha, the rho formula accounts for the unique factor loadings, error variances, and correlations among indicators (see Bollen 1980:378). The reliability coefficients are worth noting if only to demonstrate the need to account for imprecise measurement in the path model. Treating these latent variables as observed scales would assume perfect reliability, which is typically an unrealistic and misleading assumption (Bollen 1989).

Global Fit of the Full Structural Equation Model

Supplementary Table 5 reports global fit indices for the full model. The first column shows a significant chi-square, which tests the null hypothesis that the observed and model-implied means and covariance matrices are identical. Because this null hypothesis is often rejected with larger sample sizes, researchers also report relative fit indices that test the specified model against a baseline model, where only the variances of the observed variables are calculated. The CLI and TLI represent such indices. A general consensus is that a good-fitting model will score at least .90 on either index. Similar criteria apply to the 1-RMSEA index (Weston and Gore 2006). The model depicted in Figure 2 scores .948 on the CFI, .935 on the TLI, and .964 on the 1-RMSEA indices.

Finally, the BIC tests the specified model against its fully saturated counterpart. A negative value means the predicted model is preferred over the saturated model, while a positive value reflects the opposite (see eq. 21 in Raftery 1995). The model depicted in Figure 2 scores -1856.478, indicating that this model is superior to its saturated counterpart.

Supplementary Table 4. Confirmatory factor analyses of the measurement model: NSAHS Black subsample (n = 627).

	Unstandardized Factor Loading	S.E.	Standardized Factor Loading	R-Squared
Concentrated Privilege (**ρ** = .94)				
Proportion of White residents in block group (w_1)	1.000		.941	.885
Proportion of college educated residents in block group (w_2)	.379	(.074)	.818	.669
Median household income of block group (w_3)	.475	(.036)	.918	.843
Proportion of residents living above the poverty line (w_4)	.160	(.018)	.843	.711
Perceived Discrimination (**ρ** = .79)				
"You are treated with less respect than you deserve" (x_1)	1.000		.787	.619
"You are treated with less courtesy than other people" (x_2)	.814	(.043)	.673	.453
"People act as if they think you are not smart" (x_3)	.972	(.143)	.740	.548
"People act as if they think you are dishonest" (x_4)	.559	(.098)	.518	.268
"People act as if they are better than you are" (x_5)	.843	(.138)	.628	.394
Goal-Striving Stress (**ρ** = .62)				
Subjective distance from aspirations (y_1)	1.000		.827	.684
Subjective low likelihood of reaching aspirations (y_2)	.317	(.046)	.475	.226
Emotional attachment to aspirations (y_3)	.498	(.072)	.474	.225
Neuroendocrine Stress Response (**ρ** = .72)				
Logged epinephrine (z_1)	1.000		.953	.908
Logged norepinephrine (z_2)	.504	(.060)	.669	.448
Logged cortisol (z_3)	.402	(.087)	.423	.179
Bodily Pain (**ρ** = .91)				
"How bad has bodily pain been in past 4 weeks?" (z_4)	1.000		.911	.830
"How often have you had pain in past 4 weeks?" (z_5)	1.080	(.045)	.911	.830
"How many days did pain interfere in past 4 weeks?" (z_6)	.762	(.062)	.847	.717
"How much bodily pain do you feel right now?" (z_7)	.515	(.041)	.666	.444
Systolic Blood Pressure (**ρ** = .97)				
Reading #2 (z_8)	1.000		.979	.958
Reading #1 (z_9)	.960	(.025)	.941	.885
Reading #3 (z_{10})	1.022	(.023)	.970	.941
Diastolic Blood Pressure (**ρ** = .95)				
Reading #2 (z_{11})	1.000		.970	.941
Reading #1 (z_{12})	1.014	(.026)	.927	.859
Reading #3 (z_{13})	.967	(.027)	.953	.908

Note: All estimates adjust for probability weighting and clustering at the block group level. NSAHS = Nashville Stress and Health Study (2011-2014). S.E. = robust standard errors for the unstandardized factor loadings. Estimates are derived with full information maximum likelihood procedures. Rho (**ρ**) = reliability coefficients (Bollen 1980).

Supplementary Table 5. Global fit indices for the full structural equation model (n = 627).

χ^2	df	CFI	TLI	1-RMSEA	BIC
732.783	402	.948	.935	.964	-1856.478

Note: Based on the model depicted in Figure 2. Chi-square is significant at $p < .001$.

Supplementary Table 6. Coefficients for the path model: NSAHS White subsample (n = 625).

	Endogenous Latent Variables																	
	Perceived discrimination			Goal-striving stress			Neuroendocrine stress response			Bodily pain			Systolic blood pressure			Diastolic blood pressure		
Exogenous Latent Variables																		
Concentrated privilege	-.634	(.219)	**	.958	(.622)		.053	(.441)		-.027	(.104)		-.073	(.070)		.044	(.046)	
Perceived discrimination				.523	(.172)	**	.115	(.127)		.067	(.030)	*	.016	(.015)		.019	(.011)	
Goal-striving stress							.035	(.037)		.053	(.011)	***	-.004	(.005)		-.001	(.004)	
Intercept	3.457	(.168)	***	1.976	(.667)	***	-6.330	(.508)	***	-.030	(.151)		1.175	(.064)	***	.748	(.043)	***
R-squared	.198			.264			.057			.185			.183			.128		

Notes: Unstandardized regression coefficients are presented with robust standard errors in parentheses. Estimates adjust for control variables (not shown). Estimates are derived using full information maximum likelihood procedures, with post-stratification weights and robust standard errors clustered by block group. NSAHS = Nashville Stress and Health Study (2011-2014).

* $p < .05$, ** $p < .01$, *** $p < .001$ (two-tailed).

Supplementary Table 7. Decomposition of associations between concentrated privilege (CP) and stress response latent variables: NSAHS White subsample (n = 625).

	Neuroendocrine stress response		Bodily pain			Systolic blood pressure		Diastolic blood pressure	
Direct	.053	(.441)	-.027	(.104)		-.073	(.070)	.044	(.046)
Specific Indirect:									
CP → PD →	-.073	(.085)	-.043	(.025)		-.010	(.010)	-.012	(.008)
CP → GSS →	.033	(.035)	.050	(.035)		-.004	(.005)	-.001	(.003)
CP → PD → GSS →	-.012	(.014)	-.017	(.009)	*	.001	(.002)	.000	(.001)
Total Indirect	-.051	(.095)	-.010	(.043)		-.013	(.011)	-.013	(.009)
Total	.002	(.434)	-.037	(.108)		-.085	(.067)	.032	(.046)

Notes: Unstandardized coefficients are reported with robust standard errors in parentheses. NSAHS = Nashville Stress and Health Study (2011-2014). PD = Perceived discrimination. GSS = Goal-striving stress.

* $p < .05$, ** $p < .01$ (two-tailed).

REFERENCES FOR SUPPLEMENTAL MATERIALS

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