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Striving While Black: Race and the Psychophysiology of Goal Pursuit

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Table S1. Robust linear regression estimates of self-esteem (n=1,252).

	(1)			(2)			(3)			(4)		
Focal Variables												
Black	.138	(.033)	***	.180	(.036)	***	.035	(.053)		.100	(.056)	
GSS (scale)	-.020	(.003)	***	-.014	(.003)	***						
Low (reference)												
Middle							-.165	(.056)	**	-.132	(.053)	*
High							-.496	(.062)	***	-.323	(.070)	***
Interactions [Black ×...]												
GSS (scale)	.012	(.004)	**	.011	(.004)	**						
Low (reference)												
Middle							.059	(.078)		.051	(.076)	
High							.246	(.087)	**	.179	(.083)	*
Covariates												
Age				.000	(.002)					-.001	(.002)	
Female				.030	(.037)					.025	(.036)	
Childhood financial hardship				-.029	(.023)					-.029	(.023)	
Parental education				.000	(.010)					-.001	(.010)	
Major life events				.008	(.005)					.008	(.005)	
Lifetime psychiatric disorders				-.093	(.028)	**				-.100	(.028)	***
Married				-.021	(.039)					-.022	(.038)	
Education				.004	(.008)					.005	(.008)	
Financial resources				.078	(.027)	**				.075	(.028)	**
Employed full-time				.189	(.073)	*				.214	(.075)	**
Employed part-time				.043	(.100)					.062	(.099)	
Retired				.175	(.089)					.183	(.088)	*
Other employment status				.031	(.100)					.051	(.102)	
Major discrimination				-.005	(.016)					-.006	(.016)	
Daily discrimination				-.135	(.038)	**				-.134	(.038)	**
Obese				-.020	(.040)					-.009	(.041)	
Smoker				.085	(.054)					.062	(.052)	
Heavy drinker				-.094	(.055)					-.119	(.055)	*
Intercept	4.522	(.026)	***	4.659	(.202)	***	4.760	(.029)	***	4.841	(.211)	***
Adjusted R-squared	.122			.198			.099			.187		

Notes: Unstandardized coefficients are reported with robust standard errors in parentheses. All estimates adjust for post-stratification weighting and clustering at the census block group level. GSS=goal-striving stress. Scaled GSS scores are mean-centered.

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

Table S2. Robust linear regression estimates of John Henryism (n=1,252).

	(1)			(2)			(3)			(4)		
Focal Variables												
Black	1.782	(.315)	***	1.209	(.397)	**	.928	(.672)		.170	(.821)	
GSS (scale)	-.117	(.027)	***	-.097	(.030)	**						
Low (reference)												
Middle							-.597	(.510)		-.658	(.566)	
High							-3.036	(.639)	***	-2.654	(.753)	**
Interactions [Black ×...]												
GSS (scale)	.091	(.042)	*	.093	(.043)	*						
Low (reference)												
Middle							.965	(1.052)		1.276	(1.104)	
High							1.507	(.985)		1.517	(1.080)	
Covariates												
Age				-.013	(.021)					-.015	(.021)	
Female				.740	(.462)					.686	(.457)	
Childhood financial hardship				-.583	(.231)	*				-.579	(.235)	*
Parental education				-.083	(.091)					-.090	(.090)	
Major life events				.146	(.046)	**				.136	(.045)	**
Lifetime psychiatric disorders				-.902	(.312)	**				-.898	(.308)	**
Married				.103	(.544)					.135	(.527)	
Education				-.070	(.087)					-.066	(.085)	
Financial resources				.034	(.348)					-.049	(.352)	
Employed full-time				1.291	(.596)	*				1.416	(.603)	*
Employed part-time				.411	(.878)					.572	(.863)	
Retired				1.232	(1.154)					1.259	(1.175)	
Other employment status				-.195	(1.247)					-.071	(1.178)	
Major discrimination				.210	(.224)					.248	(.227)	
Daily discrimination				-.668	(.373)					-.608	(.372)	
Obese				-.001	(.390)					.080	(.389)	
Smoker				.958	(.505)					.829	(.503)	
Heavy drinker				-1.878	(.835)	*				-2.158	(.824)	**
Intercept	47.480	(.215)	***	50.330	(2.041)	***	48.770	(.384)	***	51.438	(2.172)	***
Adjusted R-squared	.051			.094			.054			.098		

Notes: Unstandardized coefficients are reported with robust standard errors in parentheses. All estimates adjust for post-stratification weighting and clustering at the census block group level. GSS=goal-striving stress. Scaled GSS scores are mean-centered.

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

Table S3. Robust linear regression estimates of depressive symptoms (n=1,252).

	(1)			(2)			(3)			(4)		
Focal Variables												
Black	.035	(.037)		-.007	(.034)		.115	(.054)	*	.066	(.048)	
GSS (scale)	.025	(.002)	***	.016	(.002)	***						
Low (reference)												
Middle							.190	(.037)	***	.143	(.040)	***
High							.582	(.048)	***	.362	(.053)	***
Interactions [Black ×...]												
GSS (scale)	-.011	(.003)	***	-.010	(.002)	***						
Low (reference)												
Middle							-.070	(.071)		-.074	(.062)	
High							-.176	(.081)	*	-.135	(.065)	*
Covariates												
Age				.001	(.001)					.001	(.001)	
Female				.074	(.033)	*				.079	(.033)	*
Childhood financial hardship				.008	(.016)					.008	(.017)	
Parental education				.014	(.006)	*				.015	(.007)	*
Major life events				.005	(.003)					.006	(.003)	
Lifetime psychiatric disorders				.123	(.017)	***				.132	(.017)	***
Married				.006	(.031)					.007	(.032)	
Education				.000	(.007)					-.001	(.007)	
Financial resources				-.057	(.026)	*				-.055	(.027)	*
Employed full-time				-.133	(.039)	**				-.165	(.042)	***
Employed part-time				-.061	(.055)					-.087	(.057)	
Retired				-.157	(.063)	*				-.167	(.069)	*
Other employment status				.083	(.062)					.055	(.066)	
Major discrimination				.011	(.014)					.012	(.014)	
Daily discrimination				.226	(.032)	***				.225	(.032)	***
Obese				-.013	(.028)					-.027	(.029)	
Smoker				.015	(.038)					.039	(.037)	
Heavy drinker				.034	(.046)					.066	(.046)	
Intercept	1.671	(.019)	***	1.012	(.143)	***	1.393	(.024)	***	.816	(.150)	***
Adjusted R-squared	.245			.448			.187			.428		

Notes: Unstandardized coefficients are reported with robust standard errors in parentheses. All estimates adjust for post-stratification weighting and clustering at the census block group level. GSS=goal-striving stress. Scaled GSS scores are mean-centered.

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

Table S4. Robust linear regression estimates of anxiety (n=1,252).

	(1)			(2)			(3)			(4)		
Focal Variables												
Black	-.109	(.050)	*	-.103	(.050)	*	.046	(.076)		.075	(.075)	
GSS (scale)	.028	(.003)	***	.019	(.003)	***						
Low (reference)												
Middle							.348	(.058)	***	.255	(.055)	***
High							.717	(.070)	***	.460	(.069)	***
Interactions [Black ×...]												
GSS (scale)	-.014	(.004)	***	-.013	(.003)	***						
Low (reference)												
Middle							-.161	(.112)		-.195	(.100)	
High							-.296	(.139)	*	-.288	(.107)	**
Covariates												
Age				-.006	(.002)	*				-.005	(.002)	*
Female				.089	(.049)					.097	(.048)	*
Childhood financial hardship				.003	(.025)					.003	(.026)	
Parental education				.016	(.009)					.017	(.009)	*
Major life events				.014	(.005)	**				.015	(.005)	**
Lifetime psychiatric disorders				.163	(.022)	***				.174	(.023)	***
Married				.055	(.042)					.059	(.043)	
Education				.023	(.009)	**				.022	(.008)	**
Financial resources				-.077	(.035)	*				-.069	(.034)	*
Employed full-time				-.066	(.058)					-.108	(.061)	
Employed part-time				-.094	(.089)					-.119	(.086)	
Retired				-.158	(.096)					-.170	(.097)	
Other employment status				.190	(.107)					.164	(.112)	
Major discrimination				-.020	(.016)					-.018	(.017)	
Daily discrimination				.263	(.041)	***				.263	(.041)	***
Obese				-.030	(.047)					-.044	(.046)	
Smoker				-.040	(.058)					-.010	(.059)	
Heavy drinker				.064	(.073)					.101	(.081)	
Intercept	1.933	(.025)	***	.997	(.217)	***	1.548	(.040)	***	.702	(.220)	**
Adjusted R-squared	.156			.334			.130			.322		

Notes: Unstandardized coefficients are reported with robust standard errors in parentheses. All estimates adjust for post-stratification weighting and clustering at the census block group level. GSS=goal-striving stress. Scaled GSS scores are mean-centered.

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

Table S5. Robust linear regression estimates of 12-hour urinary cortisol (n=1,252).

	(1)			(2)			(3)			(4)		
Focal Variables												
Black	.110	(.054)	*	.159	(.076)	*	-.136	(.096)		-.085	(.141)	
GSS (scale)	-.003	(.003)		-.002	(.004)							
Low (reference)												
Middle							.011	(.087)		-.014	(.085)	
High							-.004	(.079)		.027	(.093)	
Interactions [Black ×...]												
GSS (scale)	.016	(.004)	***	.013	(.004)	**						
Low (reference)												
Middle							.231	(.151)		.256	(.164)	
High							.406	(.117)	**	.379	(.129)	**
Covariates												
Age				-.006	(.003)					-.006	(.004)	
Female				-.207	(.056)	***				-.213	(.057)	***
Childhood financial hardship				-.047	(.034)					-.044	(.034)	
Parental education				-.017	(.015)					-.017	(.015)	
Major life events				.001	(.007)					.001	(.007)	
Lifetime psychiatric disorders				-.068	(.034)	*				-.074	(.034)	*
Married				.008	(.069)					.008	(.069)	
Education				-.010	(.011)					-.011	(.011)	
Financial resources				.026	(.046)					.033	(.048)	
Employed full-time				.141	(.089)					.135	(.089)	
Employed part-time				.206	(.120)					.199	(.121)	
Retired				.215	(.178)					.211	(.171)	
Other employment status				.086	(.159)					.085	(.159)	
Major discrimination				.006	(.026)					.008	(.025)	
Daily discrimination				.070	(.053)					.070	(.054)	
Obese				-.038	(.060)					-.046	(.060)	
Smoker				-.059	(.081)					-.061	(.080)	
Heavy drinker				-.112	(.113)					-.120	(.114)	
12-hour urine collection end time				.000	(.000)	***				.000	(.000)	***
Takes blood pressure medications				-.308	(.074)	***				-.313	(.074)	***
Did not fast before collection				-.174	(.182)					-.114	(.191)	
Intercept	1.993	(.034)	***	1.916	(.307)	***	1.992	(.057)	***	1.924	(.304)	***
Adjusted R-squared	.011			.096			.009			.097		

Notes: Unstandardized coefficients are reported with robust standard errors in parentheses. All estimates adjust for post-stratification weighting and clustering at the census block group level. GSS=goal-striving stress. Scaled GSS scores are mean-centered. Cortisol is in logged ug/L.

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

Table S6. Robust linear regression estimates of DHEAS (n=1,252).

	(1)			(2)			(3)			(4)		
Focal Variables												
Black	-.162	(.052)	**	-.170	(.044)	***	.008	(.090)		-.021	(.069)	
GSS (scale)	.001	(.003)		.000	(.002)							
Low (reference)												
Middle							.225	(.084)	**	.028	(.066)	
High							.113	(.092)		-.024	(.076)	
Interactions [Black ×...]												
GSS (scale)	.000	(.004)		-.002	(.003)							
Low (reference)												
Middle							-.254	(.130)		-.197	(.097)	*
High							-.197	(.150)		-.179	(.089)	*
Covariates												
Age				-.027	(.002)	***				-.027	(.002)	***
Female				-.530	(.044)	***				-.526	(.044)	***
Childhood financial hardship				-.021	(.027)					-.022	(.027)	
Parental education				.002	(.010)					.002	(.010)	
Major life events				-.004	(.004)					-.004	(.004)	
Lifetime psychiatric disorders				.007	(.023)					.010	(.023)	
Married				-.015	(.047)					-.015	(.046)	
Education				-.008	(.011)					-.008	(.011)	
Financial resources				.000	(.034)					-.003	(.034)	
Employed full-time				.164	(.072)	*				.162	(.071)	*
Employed part-time				.189	(.092)	*				.192	(.092)	*
Retired				-.140	(.128)					-.145	(.128)	
Other employment status				.041	(.124)					.042	(.125)	
Major discrimination				-.019	(.017)					-.019	(.017)	
Daily discrimination				.011	(.040)					.014	(.040)	
Obese				.099	(.043)	*				.102	(.043)	*
Smoker				.089	(.053)					.088	(.053)	
Heavy drinker				.176	(.073)	*				.181	(.072)	*
Collection time				.000	(.000)					.000	(.000)	*
Takes blood pressure medications				-.048	(.049)					-.047	(.049)	
Did not fast before collection				.073	(.138)					.052	(.136)	
Intercept	4.788	(.033)	***	6.083	(.270)	***	4.663	(.064)	***	6.064	(.292)	***
Adjusted R-squared	.007			.403			.018			.405		

Notes: Unstandardized coefficients are reported with robust standard errors in parentheses. All estimates adjust for post-stratification weighting and clustering at the census block group level. GSS=goal-striving stress. Scaled GSS scores are mean-centered. DHEAS = dehydroepiandrosterone sulfate. DHEAS is in logged ug/dL.

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

Table S7. Robust linear regression estimates of cortisol:DHEAS ratio (n=1,252).

	(1)			(2)			(3)			(4)		
Focal Variables												
Black	.271	(.065)	***	.332	(.077)	***	-.140	(.146)		-.051	(.150)	
GSS (scale)	-.004	(.005)		-.001	(.004)							
Low (reference)												
Middle							-.214	(.125)		-.036	(.112)	
High							-.117	(.125)		.052	(.123)	
Interactions [Black ×...]												
GSS (scale)	.016	(.005)	**	.015	(.005)	**						
Low (reference)												
Middle							.478	(.171)	**	.434	(.167)	*
High							.596	(.205)	**	.552	(.171)	**
Covariates												
Age				.021	(.004)	***				.022	(.004)	***
Female				.321	(.070)	***				.311	(.071)	***
Childhood financial hardship				-.028	(.039)					-.025	(.040)	
Parental education				-.018	(.017)					-.019	(.017)	
Major life events				.005	(.008)					.004	(.008)	
Lifetime psychiatric disorders				-.076	(.041)					-.086	(.041)	*
Married				.019	(.079)					.018	(.079)	
Education				-.004	(.014)					-.004	(.014)	
Financial resources				.030	(.055)					.039	(.058)	
Employed full-time				-.012	(.113)					-.017	(.112)	
Employed part-time				.023	(.155)					.012	(.154)	
Retired				.362	(.244)					.362	(.236)	
Other employment status				.034	(.157)					.032	(.156)	
Major discrimination				.023	(.032)					.025	(.031)	
Daily discrimination				.062	(.064)					.058	(.064)	
Obese				-.142	(.072)					-.152	(.072)	*
Smoker				-.151	(.095)					-.151	(.093)	
Heavy drinker				-.290	(.128)	*				-.302	(.129)	*
12-hour urine collection end time				.000	(.000)	***				.000	(.000)	***
Takes blood pressure medications				-.265	(.085)	**				-.271	(.085)	**
Did not fast before collection				-.293	(.183)					-.215	(.192)	
Intercept	-2.795	(.043)	***	-4.254	(.376)	***	-2.671	(.087)	***	-4.232	(.395)	***
Adjusted R-squared	.018			.154			.024			.160		

Notes: Unstandardized coefficients are reported with robust standard errors in parentheses. All estimates adjust for post-stratification weighting and clustering at the census block group level. GSS=goal-striving stress. Scaled GSS scores are mean-centered. DHEAS = dehydroepiandrosterone sulfate. Cortisol:DHEAS ratio is in natural logarithmic form.

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

Table S8. Robust linear regression estimates of systolic blood pressure (n=1,252).

	(1)		(2)			(3)			(4)	
Focal Variables										
Black	5.960	(1.301)	3.234	(1.098)	**	4.605	(2.319)	*	.138	(2.029)
GSS (scale)	.081	(.053)	.041	(.056)						
Low (reference)										
Middle						-3.082	(1.595)		-1.854	(1.398)
High						.142	(1.681)		-.509	(1.587)
Interactions [Black ×...]										
GSS (scale)	-.125	(.075)	-.024	(.073)						
Low (reference)										
Middle						2.393	(2.279)		3.540	(2.233)
High						1.121	(2.431)		4.254	(2.428) †
Covariates										
Age			.232	(.046)	***				.230	(.046) ***
Female			-4.206	(1.014)	***				-4.298	(1.027) ***
Childhood financial hardship			-.695	(.553)					-.719	(.554)
Parental education			-.255	(.184)					-.271	(.184)
Major life events			.030	(.102)					.037	(.102)
Lifetime psychiatric disorders			-.620	(.495)					-.585	(.484)
Married			1.304	(1.086)					1.257	(1.078)
Education			-.345	(.166)	*				-.349	(.172) *
Financial resources			-.975	(.811)					-1.143	(.842)
Employed full-time			-.148	(1.646)					-.082	(1.655)
Employed part-time			.476	(1.974)					.325	(1.964)
Retired			1.955	(2.736)					2.068	(2.699)
Other employment status			-2.808	(2.546)					-3.041	(2.528)
Major discrimination			-.085	(.370)					-.129	(.362)
Daily discrimination			.416	(.981)					.332	(.997)
Obese			5.517	(1.038)	***				5.433	(1.048) ***
Smoker			.726	(1.211)					.746	(1.216)
Heavy drinker			3.056	(1.891)					3.146	(1.850)
Takes blood pressure medications			4.950	(1.251)	***				4.929	(1.244) ***
Did not fast before collection			-4.047	(3.527)					-3.761	(3.390)
Intercept	119.865	(.660)	115.534	(4.635)	***	120.965	(1.265)	***	116.950	(4.774) ***
Adjusted R-squared	.038		.234			.044			.237	

Notes: Unstandardized coefficients are reported with robust standard errors in parentheses. All estimates adjust for post-stratification weighting and clustering at the census block group level. GSS=goal-striving stress. Scaled GSS scores are mean-centered.

† $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$ (two-tailed).

Table S9. Robust linear regression estimates of diastolic blood pressure (n=1,252).

	(1)			(2)			(3)			(4)		
Focal Variables												
Black	3.686	(.746)	***	2.020	(.835)	*	2.440	(1.076)	*	.024	(1.194)	
GSS (scale)	.055	(.038)		.018	(.039)							
Low (reference)												
Middle							.262	(1.030)		.213	(.993)	
High							1.181	(.960)		.069	(1.022)	
Interactions [Black ×...]												
GSS (scale)	-.002	(.059)		.035	(.054)							
Low (reference)												
Middle							1.260	(1.583)		1.953	(1.601)	
High							1.838	(1.477)		3.145	(1.521) *	
Covariates												
Age				.005	(.030)					.009	(.031)	
Female				-4.215	(.612)	***				-4.283	(.616) ***	
Childhood financial hardship				-.380	(.350)					-.388	(.351)	
Parental education				-.131	(.115)					-.136	(.115)	
Major life events				-.056	(.071)					-.056	(.071)	
Lifetime psychiatric disorders				-.055	(.366)					-.022	(.362)	
Married				.623	(.701)					.649	(.697)	
Education				-.116	(.112)					-.126	(.111)	
Financial resources				-.423	(.541)					-.459	(.571)	
Employed full-time				-.238	(.879)					-.325	(.870)	
Employed part-time				-.278	(1.162)					-.329	(1.159)	
Retired				-.898	(1.710)					-.814	(1.706)	
Other employment status				-1.597	(1.609)					-1.689	(1.581)	
Major discrimination				.771	(.314)	*				.784	(.304) *	
Daily discrimination				.590	(.676)					.571	(.670)	
Obese				3.829	(.633)	***				3.780	(.628) ***	
Smoker				-.438	(.807)					-.420	(.799)	
Heavy drinker				3.820	(1.250)	**				3.808	(1.229) **	
Takes blood pressure medications				2.910	(.848)	**				2.895	(.842) **	
Did not fast before collection				-4.211	(2.514)					-3.999	(2.329)	
Intercept	76.522	(.426)	***	78.411	(3.078)	***	76.002	(.738)	***	78.408	(3.184) ***	
Adjusted R-squared	.036			.194			.036			.196		

Notes: Unstandardized coefficients are reported with robust standard errors in parentheses. All estimates adjust for post-stratification weighting and clustering at the census block group level. GSS=goal-striving stress. Scaled GSS scores are mean-centered.

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

Table S10. Distributional properties of stress hormone variables.

	Mean	SD	Min.	Max.	Skewness	Kurtosis	Kolmogorov-Smirnov		N
Non-transformed									
Cortisol (ug/L)	10.91	11.41	1.00	194.00	4.22	36.91	.17	***	1,159
DHEAS (ug/dL)	149.18	105.47	15.00	868.00	1.71	8.01	.13	***	1,140
Cortisol:DHEAS ratio	.12	.18	.00	2.56	6.26	63.42	.26	***	1,090
Log-transformed									
Cortisol (ug/L)	2.03	.84	.00	5.27	.10	2.80	.03		1,159
DHEAS (ug/dL)	4.76	.74	2.71	6.77	-.37	2.76	.04	*	1,140
Cortisol:DHEAS ratio	-2.71	1.04	-5.85	.94	.12	3.04	.03		1,090

Note: Statistics were derived from non-imputed data.

* $p < .05$, *** $p < .001$.

Table S11. Average marginal predictions of hormone levels by race and GSS grouping (n=1,252).

	Cortisol (ug/L)	DHEAS (ug/dL)	Cortisol:DHEAS ratio
White, low GSS	7.22	120.09	.06
White, middle GSS	7.12	123.51	.06
White, high GSS	7.42	117.88	.06
Black, low GSS	6.63	116.58	.06
Black, middle GSS	8.45	99.03	.09
Black, high GSS	9.96	95.47	.10

Notes: Estimates adjust for post-stratification weighting and clustering at the census block group level.

Covariates and biomarker controls are held at their respective means.