Supplemental Table S1.

Regression analyses explicating the type of variability reflected in each of the cell-type measures.

	Factor 1	Factor 2	Factor 3	Factor 4
	b (SE)	b (SE)	b (SE)	b (SE)
CD4+ T cells	1.080** (.356)	-.463 (.405)	-.468 (.351)	.155 (.247)
CD8+ T cells	.625 (.266)	.329 (.570)	.047 (.495)	.518 (.347)
CD14+ monocytes	-.599 (.394)	-1.028* (.448)	1.846** (.389)	-.743** (.273)
CD19+ B cells	1.102** (.390)	.887* (.443)	-1.357** (.385)	.820** (.270)
CD56+ Natural Killer cells	-2.472** (.422)	-.411 (.480)	-.097 (.417)	-.098 (.293)
Constant	.084 (.054)	.480** (.062)	.134* (.054)	-.226** (.038)
R^2	.876	.380	.247	.555

Note: OLS regression model with standard errors. $N = 399$.

*$p \leq .05$, two-tailed. **$p \leq .01$, two-tailed.

Supplemental Table S2.

Descriptive statistics for level of methylation at the eight CpG sites indexed by the Illumina array in the region of the first exon of TNF as well as the resulting index comprised of all eight.

CpGs: Illumina ID	Mean	*SD*	Range (Min., Max.)
cg04425624	.325	.047	.17, .46
cg08553327	.356	.052	.18, .49
cg10650821	.219	.045	.12, .41
cg10717214	.238	.042	.13, .40
cg12681001	.215	.041	.12, .40
cg21222743	.215	.044	.09, .40
cg21467614	.258	.048	.13, 41
cg26729380	.292	.063	.14, .47
TNF methylation index	.265	.045	.14, .43

Supplemental Table S3.

Model selection for count data using the 'counfit" procedure in STATA

Models	BIC	Difference	Prefer	Evidence
Negative binomial	685.983			
vs Poisson	772.799	86.816	Negative binomial	Very strong
vs a zero-inflated negative binomial	707.772	21.789	Negative binomial	Very strong
vs a zero-inflated Poisson	701.826	15.843	Negative binomial	Very strong

The cigarette consumption variable was count, positively skewed, and over-dispersed. We used the "countfit" procedure in Stata (Long & Freese, 2006) to compare the relative fit of Poisson, zero-inflated Poisson (ZIP), negative binomial, and zero-inflated negative binomial regression models. Among the four model types, the residuals for the negative binomial regressions were the smallest and therefore were preferred over the other three models.

Long, J. S., & Freese, J. (2006). *Regression models for categorical dependent variables using Stata*. Stata press.

Supplemental Table S4.

Negative binomial regression models depicting the effects of perceived stress (ages 17-19) and TNFm on cigarette consumption (N = 382).

	Cigarette consumption (age 20)			
	Model 1		Model 2	
	b	IRR	*b*	IRR
Perceived stress (ages 17-19)	.411**	1.508	.371**	1.450
	(.107)		(.107)	
*TNF*m			-.222	.801
			(.216)	
Perceived stress (ages 17-19) × *TNF*m			-.288**	.749
			(.099)	
Supportive parenting (ages 11-13)	-.078	.925	-.088	.916
	(.107)		(.104)	
Sex (1 = males)	1.682**	5.378	1.605**	4.980
	(.278)		(.276)	
SES-risk (ages 11-13)	.146	1.157	.146	1.157
	(.118)		(.110)	
Cigarette consumption (ages 11-14)	.107	1.112	.136	1.146
	(.171)		(.191)	
Factor 1 cell-type	.164	1.178	.337*	1.401
	(.108)		(.156)	
Factor 2 cell-type	-.019	.981	.160	1.174
	(.107)		(.159)	
Factor 3 cell-type	.063	1.065	.004	1.004
	(.094)		(.094)	
Factor 4 cell-type	.046	1.048	-.011	.989
	(.095)		(.109)	
Log of CRP	.173	1.189	.121	1.128
	(.106)		(.107)	
Constant	-1.907**		-1.939**	
	(.239)		(.237)	
-2LL	611.235		605.022	
Δ Chi-square (*df* = 1)			6.213*	

Notes: Unstandardized (*b*) shown with robust standard errors in parentheses; IRR = incident rate ratio; supportive parenting (ages 11-13), SES-risk (ages 11-13), cigarette consumption (ages 11-14), factors cell-type, and CRP are standardized by z-transformation (mean = 0 and SD = 1). Using KHB methods (Breen, Karlson, & Holm, 2013), the test of the indirect effect of supportive parenting (ages 11-13) on cigarette consumption (age 20) through perceived stress (age 19) is significant [indirect effect = -.078, 95%(-.138, -.018)].

†$p \leq .10$, *$p \leq .05$, **$p \leq .01$ (two-tailed tests).

Supplemental Table S5

Controlling for alcohol and marijuana use does not change the observed pattern of main or interactive effects in the negative binomial regression models depicting the effects of perceived stress (ages 17-19) and TNFm on cigarette consumption (N = 382).

	Cigarette consumption (age 20)			
	Model 1		Model 2	
	b	IRR	*b*	IRR
Perceived stress (ages 17-19)	.299*	1.348	.202†	1.224
	(.121)		(.114)	
*TNF*m			-.371	.690
			(.233)	
Perceived stress (ages 17-19) × *TNF*m			-.409**	.665
			(.096)	
Supportive parenting (ages 11-13)	-.085	.919	-.091	.913
	(.108)		(.101)	
Sex (1 = males)	1.523**	4.585	1.400**	4.056
	(.263)		(.256)	
SES-risk (ages 11-13)	.216	1.241	.245*	1.278
	(.126)		(.110)	
Cigarette consumption (ages 11-14)	.024	1.024	.053	1.054
	(.109)		(.121)	
Alcohol consumption (age 20)	.246†	1.280	.318*	1.374
	(.131)		(.133)	
Marijuana use (age 20)	.292**	1.339	.317**	1.373
	(.064)		(.062)	
Factor 1 cell-type	.163	1.176	.442**	1.556
	(.101)		(.157)	
Factor 2 cell-type	-.004	.996	.259†	1.296
	(.103)		(.157)	
Factor 3 cell-type	.053	1.055	-.043	.958
	(.095)		(.092)	
Factor 4 cell-type	.053	1.054	-.020	.981
	(.097)		(.110)	
Log of CRP	.207†	1.230	.133	1.142
	(.112)		(.113)	
Constant	-2.705**		-2.900**	
	(.297)		(.307)	
-2LL	587.985		573.685	
Δ Chi-square (*df* = 1)			14.3**	

Notes: Unstandardized (*b*) shown with robust standard errors in parentheses; IRR = incident rate ratio; perceived stress (ages 17-19), supportive parenting (ages 11-13), SES-risk (ages 11-13), cigarette consumption (ages 11-14), factors cell-type, and CRP are standardized by z-transformation (mean = 0 and SD = 1).

†$p \leq .10$, *$p \leq .05$, **$p \leq .01$ (two-tailed tests).

Supplemental Table S6.

The Top 10 most differentially regulated gene ontology pathways for loci annotated as being on the first exon and associated significantly (p < 10e-7) related to TNFm.

Pathway name

		Genes			
GO Category	Category Name	Total	Changed	$Log_{10}P$	FDR
GO:0006955	Immune response	936	25	-10.8323	.000
GO:0002376	Immune system process	1426	29	-9.75779	.000
GO:0006952	Defense response	816	20	-8.00567	.000
GO:0006968	Cellular defense response	62	6	-6.00786	.000
GO:0050776	Regulation of immune response	391	12	-5.92068	.000
GO:0045321	Leukocyte activation	414	11	-4.87063	.003
GO:0046649	Lymphocyte activation	354	10	-4.69478	.003
GO:0002682	Regulation of immune system process	623	13	-4.55656	.005
GO:0001775	Cell activation	633	13	-4.48486	.006
GO:0050896	Response to stimulus	4550	42	-4.14647	.010

Supplemental Figure S1

Stress is associated with increased smoking for African American young adults. Early supportive parenting has little effect among those with low levels of young adult stress, but more among those with higher stress, and particularly for those with low TNFm