

Applying novel methods for assessing individual- and neighborhood-level social and psychosocial environment interactions with genetic factors in the prediction of depressive symptoms in the Multi-Ethnic Study of Atherosclerosis. *Behavior Genetics*. Erin B. Ware, Jennifer A. Smith, Bhramar Mukherjee, Seunggeun Lee, Sharon L. R. Kardia, Ana V. Diez-Roux

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Online Resource 3

Sequence Kernel Association Testing and Meta-analysis results for the 47 regions identified from the individual-SNP based GWAS of averaged depressive symptom score in the Multi-Ethnic Study of Atherosclerosis(Ware et al., 2015)

Region	Chr	SKAT(AA)		SKAT(EA)		SKAT(CA)		SKAT(HA)		MetaSKAT	Genes within ± 100 kb of index SNP ^a
		p-value	n _{SNP}	p-value	n _{SNP}	p-value	n _{SNP}	p-value	n _{SNP}	p-value	
1	1	8.80E-01	18	1.60E-04	19	6.55E-01	20	1.56E-01	22	7.71E-03	-
2	1	1.98E-01	47	1.93E-01	43	9.86E-02	41	7.43E-01	46	1.96E-01	-
3	2	2.28E-01	53	7.66E-03	41	1.34E-01	40	6.61E-02	53	4.27E-02	(ACTR3)
4	2	3.62E-01	43	8.31E-02	35	1.69E-01	33	9.29E-02	43	6.16E-03	ACTR3
5	2	4.47E-01	38	2.37E-02	32	1.33E-01	32	1.50E-01	38	4.14E-02	ACTR3
6	2	3.11E-01	50	1.66E-02	44	7.50E-02	41	1.90E-01	50	1.58E-02	ACTR3
7	2	1.15E-01	76	1.33E-01	63	5.60E-01	56	5.95E-05	75	4.07E-03	(ABCB11)
8	2	2.22E-01	56	2.70E-01	52	8.09E-01	45	2.93E-04	55	1.35E-02	G6PC2, (ABCB11)
9	2	1.16E-01	55	7.59E-03	59	1.77E-02	49	3.44E-01	56	3.41E-03	(BBS5)
10	2	9.34E-01	72	5.36E-02	63	1.70E-01	57	2.13E-02	71	3.36E-02	(PPP1R1C, PDE1A)
11	2	8.09E-03	58	1.66E-02	57	9.38E-01	49	1.08E-01	55	2.08E-03	-
12	2	6.09E-01	45	8.56E-01	38	3.51E-01	35	3.40E-03	42	2.11E-01	STAT1, (STAT4)
13	2	4.04E-01	20	9.69E-02	20	1.24E-01	18	4.84E-01	25	1.72E-01	TMEFF2
14	3	1.73E-01	93	1.07E-01	89	5.73E-01	89	3.44E-02	94	4.42E-02	-
15	3	7.40E-01	34	7.65E-03	33	6.92E-01	30	7.25E-02	36	5.16E-01	TACR3
16	4	6.60E-01	42	1.21E-01	30	6.57E-01	30	1.89E-01	42	1.89E-01	TACR3
17	4	7.47E-01	57	2.31E-04	54	6.79E-01	45	2.70E-01	57	1.40E-03	PPA2, (EEF1A1P9)
18	4	4.66E-02	73	2.44E-01	67	1.07E-02	60	2.15E-01	77	3.40E-01	ASB5, (SPATA4)
19	4	2.50E-02	84	2.88E-04	77	1.34E-01	79	9.36E-01	85	1.71E-04	GPLD1, (MRS2, ALDH5A1)
20	6	5.03E-02	9	4.43E-01	12	1.41E-01	8	3.01E-02	11	8.19E-02	TNRC18
21	7	3.07E-01	58	3.00E-02	70	5.11E-01	54	2.24E-02	73	8.12E-03	(BZW2, TSPAN13)
22	7	1.42E-02	75	1.48E-01	77	5.84E-01	54	7.67E-01	74	6.61E-02	-
23	7	2.90E-02	48	1.12E-01	49	7.75E-01	42	2.03E-01	47	2.76E-02	KIA13242

24	7	8.76E-03	129	1.52E-01	120	4.21E-01	97	8.59E-01	127	6.95E-02	-
25	8	4.09E-01	34	5.92E-01	23	3.25E-01	21	4.88E-02	34	3.25E-01	FAM110B
26	8	5.31E-02	35	1.62E-04	18	9.04E-02	28	1.15E-01	36	1.17E-04	-
27	8	3.71E-01	41	1.26E-04	25	1.31E-01	30	1.62E-01	42	9.69E-05	-
28	8	5.98E-01	54	5.96E-04	45	3.03E-01	45	4.76E-01	54	7.47E-04	-
29	8	4.54E-02	65	9.25E-02	60	1.87E-01	56	2.84E-01	65	4.31E-02	-
30	8	1.17E-02	79	6.54E-01	74	9.12E-01	68	4.25E-01	80	1.39E-01	-
31	10	8.64E-01	70	4.27E-01	59	4.83E-01	31	8.55E-01	72	6.60E-01	-
32	10	2.56E-01	69	3.07E-01	71	5.51E-01	65	4.97E-02	69	1.63E-01	-
33	10	1.04E-01	47	2.07E-02	57	8.17E-01	43	4.29E-01	56	3.25E-02	PTPRE
34	10	4.40E-03	52	3.02E-02	45	2.55E-01	44	1.11E-01	52	3.23E-03	-
35	11	5.38E-02	51	2.72E-01	47	5.44E-01	41	3.26E-01	50	1.44E-01	P2P
36	12	3.36E-01	65	5.20E-01	44	6.21E-01	60	2.34E-01	64	5.28E-01	CNTN1
37	12	6.30E-01	23	8.44E-02	23	6.80E-01	18	4.79E-01	24	2.77E-01	ITGB7, RARG, (CSAD, ZNF740, MFSD5)
38	12	4.81E-01	94	3.37E-02	85	2.78E-01	78	2.52E-01	94	4.35E-02	-
39	13	3.67E-01	51	2.38E-01	49	9.42E-01	37	4.38E-01	50	3.63E-01	-
40	13	3.86E-01	31	5.08E-02	31	5.32E-03	27	1.57E-01	32	1.02E-02	-
41	14	8.43E-01	54	4.46E-02	56	4.47E-03	47	2.23E-01	53	3.07E-02	-
42	14	8.85E-03	33	4.27E-02	32	7.42E-01	29	5.01E-01	34	1.72E-02	TRPM1, MTMR10, (MIR211)
43	15	1.70E-04	65	3.40E-01	68.00	3.59E-04	63	5.08E-01	68	1.18E-03	MEGF11
44	15	3.63E-02	35	6.88E-02	32	3.48E-01	30	7.49E-01	37	3.00E-02	RASGRF1
45	16	1.52E-01	48	3.43E-01	42	2.23E-01	31	2.66E-01	46	2.23E-01	-
46	18	7.47E-02	52	1.95E-01	44	7.33E-01	44	2.06E-02	53	3.74E-02	-
47	22	7.34E-01	28	1.10E-01	26	1.08E-02	24	1.09E-02	31	2.31E-02	TMEM211, (SGSM1)

Models adjusted for age, sex, site, and adult socioeconomic position

SKAT: Sequence Kernel Association Test, Chr: chromosome, n: number of SNPs in analysis, AA: African American, EA: European American, CA: Chinese American, HA: Hispanic American. ^aParentheses indicate the region is not within the gene listed