

Supplemental Materials

Supplemental Table 1. Adolescent Outcome and Mediator Descriptive Statistics by Gender, Moving to Opportunity Data (2001-2002).

	BOYS									GIRLS								
	<u>Total Sample</u>			<u>Experimental Group</u>			<u>Control Group</u>			<u>Total Sample</u>			<u>Experimental Group</u>			<u>Control Group</u>		
	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD
OUTCOMES																		
Asthma Diagnosis	1393	0.23	0.42	959	0.25	0.43	434	0.20	0.40	1419	0.22	0.42	977	0.24	0.43	442	0.19	0.39
Asthma Attack	1392	0.06	0.24	958	0.07	0.25	434	0.04	0.20	1417	0.09	0.29	975	0.10	0.30	442	0.07	0.25
Wheezing/Whistling	1397	0.15	0.35	963	0.16	0.37	434	0.12	0.32	1414	0.20	0.40	974	0.20	0.40	440	0.19	0.39
MEDIATORS																		
<u>Mental Health</u>																		
Psychological Distress	1403	-0.13	0.91	967	-0.09	0.92	436	-0.22	0.89	1426	0.05	0.93	983	0.01	0.93	443	0.15	0.92
Behavior Problems	1403	0.03	0.90	967	0.08	0.90	436	-0.08	0.90	1426	-0.08	0.88	983	-0.10	0.88	443	-0.04	0.89
<u>Smoking</u>																		
Adult Smoker	1360	0.29	0.45	941	0.28	0.45	419	0.32	0.47	1365	0.31	0.46	942	0.31	0.46	423	0.32	0.47
Youth Ever Smoked	1390	0.25	0.43	958	0.28	0.45	432	0.19	0.39	1422	0.19	0.39	980	0.18	0.39	442	0.21	0.41
<u>Housing Disarray</u>																		
Rooms Cluttered	1299	2.44	0.71	889	2.44	0.71	410	2.44	0.70	1326	2.42	0.71	918	2.43	0.70	408	2.40	0.73
Pet Fur	1274	0.20	0.40	877	0.18	0.39	397	0.22	0.41	1297	0.18	0.39	898	0.18	0.38	399	0.20	0.40
Interior-of-Home Index	1301	0.19	0.23	896	0.18	0.23	405	0.21	0.24	1327	0.19	0.22	921	0.19	0.22	406	0.21	0.23
<u>Housing Quality-Observed</u>																		
No Wall-to-wall Carpet	1289	0.65	0.48	890	0.63	0.48	399	0.71	0.45	1314	0.70	0.46	910	0.68	0.47	404	0.76	0.43
Broken Plaster/Peeling Paint	1303	0.12	0.33	896	0.11	0.31	407	0.16	0.37	1330	0.14	0.34	921	0.13	0.34	409	0.16	0.36
Cracks/Holes in Windows/Walls	1304	0.14	0.35	895	0.14	0.35	409	0.15	0.36	1329	0.15	0.35	921	0.15	0.35	408	0.15	0.36
General Condition of Unit	1324	1.87	0.77	908	1.82	0.73	416	1.97	0.85	1349	1.87	0.77	932	1.82	0.74	417	1.97	0.82
Exterior-of-Home Index	1319	0.18	0.24	907	0.17	0.23	412	0.20	0.27	1342	0.18	0.23	927	0.17	0.22	415	0.22	0.25

Supplemental Table 1. (continued).

	BOYS									GIRLS								
	<u>Total Sample</u>			<u>Experimental Group</u>			<u>Control Group</u>			<u>Total Sample</u>			<u>Experimental Group</u>			<u>Control Group</u>		
	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD
<u>Housing Quality-Adult Report</u>																		
Broken Locks	1368	0.17	0.38	946	0.16	0.37	422	0.19	0.40	1377	0.17	0.37	951	0.17	0.37	426	0.17	0.37
Peeling Paint/Wallpaper	1368	0.44	0.50	946	0.43	0.49	422	0.48	0.50	1376	0.45	0.50	950	0.42	0.49	426	0.52	0.50
Vermin	1367	0.52	0.50	946	0.50	0.50	421	0.57	0.50	1376	0.54	0.50	950	0.53	0.50	426	0.56	0.50
Broken Windows	1368	0.24	0.43	946	0.24	0.42	422	0.26	0.44	1377	0.23	0.42	951	0.22	0.41	426	0.25	0.43
Count of Housing Problems	1368	2.04	1.96	946	1.94	1.95	422	2.25	1.97	1377	2.08	1.94	951	2.01	1.95	426	2.25	1.92
Housing Excellent or Good	1368	0.57	0.50	946	0.60	0.49	422	0.51	0.50	1376	0.54	0.50	950	0.56	0.50	426	0.51	0.50
<u>Housing Hardship</u>																		
Heating Problem	1361	0.17	0.38	942	0.17	0.38	419	0.18	0.38	1372	0.20	0.40	950	0.18	0.39	422	0.23	0.42
Plumbing Problem	1368	0.31	0.46	946	0.30	0.46	422	0.35	0.48	1376	0.33	0.47	950	0.34	0.47	426	0.33	0.47
Utilities Shut Off	1368	0.06	0.23	946	0.06	0.24	422	0.05	0.21	1377	0.06	0.24	951	0.07	0.25	426	0.05	0.21
Evicted	1367	0.03	0.16	945	0.03	0.17	422	0.02	0.13	1377	0.02	0.15	951	0.02	0.15	426	0.02	0.14
Homeless/Doubled Up	1367	0.05	0.22	945	0.05	0.21	422	0.07	0.25	1376	0.07	0.25	950	0.07	0.26	426	0.05	0.22
Problem Paying for Rent or Mortgage	1359	0.25	0.58	941	0.25	0.58	418	0.26	0.59	1367	0.26	0.56	945	0.24	0.54	422	0.32	0.62
Problem Paying for Utilities	1361	0.84	1.34	943	0.92	1.38	418	0.66	1.24	1369	0.75	1.31	947	0.81	1.35	422	0.60	1.21
<u>Housing Mobility</u>																		
One Move	1403	0.33	0.47	967	0.335	0.472	436	0.320	0.467	1426	0.34	0.48	983	0.338	0.473	443	0.360	0.481
Two + Moves	1403	0.43	0.49	967	0.455	0.498	436	0.365	0.482	1426	0.45	0.50	983	0.511	0.500	443	0.305	0.461

Supplemental Table 2. IOW Mediation of the Adolescent MTO Treatment-Parent-Reported Asthma Diagnosis Association; Direct and Indirect Effects.

<u>MEDIATOR DOMAINS</u>	<u>DIRECT EFFECT</u>			<u>INDIRECT EFFECT</u>			<u>% CHANGE</u>			
	<u>b</u>	<u>SE</u>	<u>p</u>	<u>b</u>	<u>SE</u>	<u>p</u>	<u>% Change</u> ^b	<u>LCI</u>	<u>UCI</u>	<u>N</u>
Mental Health ^a	0.2221	0.149	0.135	0.0168	0.028	0.555	-7.0%	-158.5%	144.5%	2660
Smoking	0.2432	0.142	0.087	0.0014	0.026	0.956	-0.6%	-1656.8%	1655.6%	2627
Housing Disarray	0.2049	0.149	0.169	0.0185	0.027	0.497	-8.3%	-3646.1%	3629.5%	2600
Housing Quality Observed	0.1751	0.142	0.218	0.0040	0.033	0.902	-2.2%	-402.8%	398.4%	2648
Housing Quality Adult Report	0.3184	0.141	0.024	-0.0632	0.035	0.068	24.8%	-6375.0%	6424.5%	2832
Housing Hardship	0.2165	0.140	0.121	0.0276	0.036	0.450	-11.3%	-1606.8%	1584.2%	2788
Housing Mobility	0.2996	0.153	0.050	-0.0440	0.043	0.301	17.2%	-1166.2%	1200.7%	2834

^a We tested a model including generalized anxiety disorder as a mediator; results were similar, with a percent change of -9.2%.

^b % change indicates the % change from the total to the direct effect. Positive values indicate an increase, or a countervailing mediation effect, and negative values indicate a decrease, or mediation in the expected direction, in the direct effect compared to the total effect. The total effect of MTO treatment on asthma diagnosis was $b(SE)=.256(.134)$, $p=.056$.

Supplemental Table 3. IOW Mediation of the Adolescent MTO Treatment-Parent-Reported Asthma Attack Association; Direct and Indirect Effects.

<u>MEDIATOR DOMAINS</u>	<u>DIRECT EFFECT</u>			<u>INDIRECT EFFECT</u>			<u>% CHANGE</u>			
	<u>b</u>	<u>SE</u>	<u>p</u>	<u>b</u>	<u>SE</u>	<u>p</u>	<u>% Change</u> ^b	<u>LCI</u>	<u>UCI</u>	<u>N</u>
Mental Health ^a	0.4399	0.203	0.030	0.0122	0.034	0.721	-2.7%	-36.1%	30.7%	2659
Smoking	0.4735	0.202	0.019	0.0030	0.027	0.909	-0.6%	-51.2%	49.9%	2626
Housing Disarray	0.4277	0.207	0.039	-0.0144	0.032	0.655	3.5%	-34.2%	41.2%	2598
Housing Quality Observed	0.4293	0.188	0.023	-0.0222	0.038	0.554	5.5%	-48.4%	59.3%	2645
Housing Quality Adult Report	0.5248	0.191	0.006	-0.0762	0.043	0.074	17.0%	-94.1%	128.0%	2829
Housing Hardship	0.4457	0.203	0.028	-0.0068	0.048	0.886	1.6%	-1659.3%	1662.5%	2785
Housing Mobility	0.4867	0.200	0.015	-0.0385	0.047	0.411	8.6%	-176.6%	193.8%	2831

^a We tested a model including generalized anxiety disorder as a mediator; results were similar, with a percent change of -2.4%.

^b % change indicates the % change from the total to the direct effect. Positive values indicate an increase, or a countervailing mediation effect, and negative values indicate a decrease, or mediation in the expected direction, in the direct effect compared to the total effect. The total effect of MTO treatment on asthma attack was $b(SE)=.448(.186)$, $p=.016$.

Supplemental Table 4. IOW Mediation of the Adolescent MTO Treatment-Parent-Reported Wheezing/Whistling Association; Direct and Indirect Effects.

<u>MEDIATOR DOMAINS</u>	<u>DIRECT EFFECT</u>			<u>INDIRECT EFFECT</u>			<u>% CHANGE</u>			
	<u>b</u>	<u>SE</u>	<u>p</u>	<u>b</u>	<u>SE</u>	<u>p</u>	<u>% Change</u> ^b	<u>LCI</u>	<u>UCI</u>	<u>N</u>
Mental Health ^a	0.2702	0.164	0.099	0.0200	0.029	0.490	-6.9%	-162.2%	148.5%	2653
Smoking	0.2886	0.159	0.069	0.0091	0.021	0.663	-3.1%	-121.6%	115.5%	2620
Housing Disarray	0.2322	0.161	0.150	-0.0088	0.024	0.717	4.0%	-328.3%	336.2%	2586
Housing Quality Observed	0.2479	0.170	0.144	-0.0120	0.030	0.688	5.1%	-986.0%	996.1%	2633
Housing Quality Adult Report	0.3897	0.158	0.014	-0.0840	0.038	0.028	27.5%	-9837.0%	9892.0%	2816
Housing Hardship	0.3029	0.159	0.056	-0.0120	0.041	0.772	4.1%	-528.0%	536.2%	2773
Housing Mobility	0.3701	0.174	0.033	-0.0646	0.043	0.128	21.2%	-590.5%	632.9%	2818

^a We tested a model including generalized anxiety disorder as a mediator; results were similar, with a percent change of -9.8%.

^b % change indicates the % change from the total to the direct effect. Positive values indicate an increase, or a countervailing mediation effect, and negative values indicate a decrease, or mediation in the expected direction, in the direct effect compared to the total effect. The total effect of MTO treatment on wheezing/whistling was $b(SE)=.305(.154)$, $p=.047$.

Supplemental Table 5. IOW Mediation of the MTO Treatment-Parent-Reported Asthma Diagnosis Association, Stratified by Adolescent Gender; Direct and Indirect Effects.

	<u>DIRECT EFFECT</u>			<u>INDIRECT EFFECT</u>			<u>% Change</u> ^b	<u>% CHANGE</u>		<u>N</u>
	<u>b</u>	<u>SE</u>	<u>p</u>	<u>b</u>	<u>SE</u>	<u>p</u>		<u>LCI</u>	<u>UCI</u>	
<u>Mental Health</u>^a										
Boys	0.1039	0.212	0.623	0.0831	0.059	0.157	-44.4%	-859.0%	770.1%	1330
Girls	0.3634	0.195	0.062	-0.0421	0.043	0.325	13.1%	-451.1%	477.3%	1330
<u>Smoking</u>										
Boys	0.1545	0.207	0.456	0.0191	0.046	0.678	-11.0%	-296.0%	274.0%	1312
Girls	0.3799	0.203	0.062	-0.0296	0.044	0.500	8.5%	-742.7%	759.6%	1315
<u>Housing Disarray</u>										
Boys	0.1056	0.211	0.616	0.0313	0.048	0.516	-22.9%	-967.4%	921.6%	1309
Girls	0.3315	0.201	0.100	0.0040	0.052	0.939	-1.2%	-482.2%	479.8%	1291
<u>Housing Quality Observed</u>										
Boys	0.0987	0.200	0.622	0.0139	0.058	0.810	-12.4%	-1230.2%	1205.5%	1337
Girls	0.2621	0.205	0.201	-0.0076	0.059	0.898	3.0%	-459.0%	465.0%	1311
<u>Housing Quality Adult Report</u>										
Boys	0.2541	0.191	0.184	-0.0486	0.057	0.391	23.7%	-4821.5%	4868.8%	1436
Girls	0.4155	0.197	0.035	-0.0937	0.057	0.100	29.1%	-248.0%	306.2%	1396
<u>Housing Hardship</u>										
Boys	0.1378	0.207	0.506	0.0540	0.065	0.407	-28.2%	-1332.7%	1276.4%	1412
Girls	0.3013	0.196	0.124	0.0048	0.061	0.937	-1.6%	-228.8%	225.6%	1376
<u>Housing Mobility</u>										
Boys	0.2359	0.217	0.276	-0.0276	0.069	0.688	13.3%	-3517.2%	3543.8%	1437
Girls	0.4061	0.212	0.056	-0.0863	0.086	0.317	27.0%	-3758.8%	3812.7%	1397

^a We tested a model including generalized anxiety disorder as a mediator; results were similar, with a percent change of -70.0% for boys and 11.5% for girls.

^b % change indicates the % change from the total to the direct effect. Positive values indicate an increase, or a countervailing mediation effect, and negative values indicate a decrease, or mediation in the expected direction, in the direct effect compared to the total effect. The total effect of MTO treatment on asthma diagnosis for boys was $b(SE)=.208(.186)$, $p=.264$, and for girls was $b(SE)=.320(.190)$, $p=.094$.

Supplemental Table 6. IOW Mediation of the MTO Treatment-Parent-Reported Asthma Attack Association, Stratified by Adolescent Gender; Direct and Indirect Effects.

	<u>DIRECT EFFECT</u>			<u>INDIRECT EFFECT</u>			<u>% CHANGE</u>			
	<u>b</u>	<u>SE</u>	<u>p</u>	<u>b</u>	<u>SE</u>	<u>p</u>	<u>% Change</u> ^b	<u>LCI</u>	<u>UCI</u>	<u>N</u>
<u>Mental Health</u>^a										
Boys	0.5095	0.303	0.093	0.0790	0.063	0.213	-13.4%	-117.8%	91.0%	1330
Girls	0.3579	0.285	0.209	-0.0459	0.050	0.358	14.7%	-226.0%	255.4%	1329
<u>Smoking</u>										
Boys	0.5680	0.299	0.057	0.0022	0.057	0.969	-0.4%	-141.9%	141.1%	1312
Girls	0.4188	0.286	0.143	-0.0396	0.044	0.364	10.4%	-610.5%	631.4%	1314
<u>Housing Disarray</u>										
Boys	0.5539	0.301	0.066	0.0046	0.058	0.937	-0.8%	-100.1%	98.5%	1309
Girls	0.2554	0.276	0.354	0.0001	0.054	0.998	-0.1%	-1299.8%	1299.7%	1289
<u>Housing Quality Observed</u>										
Boys	0.5277	0.289	0.068	-0.0091	0.077	0.906	1.8%	-284.0%	287.5%	1336
Girls	0.3403	0.262	0.194	-0.0499	0.054	0.359	17.2%	-624.9%	659.2%	1309
<u>Housing Quality Adult Report</u>										
Boys	0.6025	0.295	0.041	-0.0521	0.070	0.455	9.5%	-110.7%	129.6%	1435
Girls	0.4439	0.278	0.110	-0.1075	0.069	0.121	32.0%	-853.0%	916.9%	1394
<u>Housing Hardship</u>										
Boys	0.4931	0.306	0.107	0.0379	0.077	0.621	-7.1%	-204.7%	190.4%	1411
Girls	0.3477	0.274	0.205	-0.0185	0.072	0.798	5.6%	-348.1%	359.3%	1374
<u>Housing Mobility</u>										
Boys	0.5426	0.303	0.073	0.0093	0.064	0.885	-1.7%	-809.1%	805.7%	1436
Girls	0.4473	0.288	0.121	-0.1129	0.084	0.181	33.8%	-5645.0%	5712.5%	1395

^a We tested a model including generalized anxiety disorder as a mediator; results were similar, with a percent change of -14.8% for boys and 17.3% for girls.

^b % change indicates the % change from the total to the direct effect. Positive values indicate an increase, or a countervailing mediation effect, and negative values indicate a decrease, or mediation in the expected direction, in the direct effect compared to the total effect. The total effect of MTO treatment on asthma attack for boys was $b(SE)=.552(.266)$, $p=.038$, and for girls was $b(SE)=.334(.255)$, $p=.190$.

Supplemental Table 7. IOW Mediation of the MTO Treatment-Parent-Reported Wheezing/Whistling Association, Stratified by Adolescent Gender; Direct and Indirect Effects.

	<u>DIRECT EFFECT</u>			<u>INDIRECT EFFECT</u>			<u>% CHANGE</u>			<u>N</u>
	<u>b</u>	<u>SE</u>	<u>p</u>	<u>b</u>	<u>SE</u>	<u>p</u>	<u>% Change</u> ^b	<u>LCI</u>	<u>UCI</u>	
<u>Mental Health</u>^a										
Boys	0.4141	0.237	0.080	0.0727	0.051	0.156	-14.9%	-1.449	1.151	1329
Girls	0.1640	0.238	0.491	-0.0279	0.044	0.524	20.5%	-4.256	4.666	1324
<u>Smoking</u>										
Boys	0.4578	0.242	0.058	0.0055	0.043	0.898	-1.2%	-2.081	2.058	1311
Girls	0.1718	0.230	0.456	-0.0018	0.037	0.962	1.1%	-16.243	16.264	1309
<u>Housing Disarray</u>										
Boys	0.4132	0.235	0.079	0.0109	0.044	0.803	-2.6%	-1.539	1.487	1302
Girls	0.0641	0.229	0.779	0.0028	0.041	0.945	-4.2%	-40.599	40.514	1284
<u>Housing Quality Observed</u>										
Boys	0.4143	0.234	0.077	0.0050	0.055	0.928	-1.2%	-47.372	47.348	1329
Girls	0.1206	0.230	0.600	-0.0311	0.053	0.556	34.7%	-2.924	3.619	1304
<u>Housing Quality Adult Report</u>										
Boys	0.5829	0.242	0.016	-0.0630	0.058	0.278	12.1%	-4.090	4.333	1427
Girls	0.2390	0.223	0.283	-0.1045	0.064	0.103	77.7%	-14.137	15.690	1389
<u>Housing Hardship</u>										
Boys	0.5076	0.247	0.040	-0.0078	0.064	0.903	1.6%	-0.967	0.999	1404
Girls	0.1793	0.227	0.430	-0.0544	0.074	0.462	43.5%	-51.196	52.067	1369
<u>Housing Mobility</u>										
Boys	0.5898	0.251	0.019	-0.0685	0.057	0.229	13.1%	-0.928	1.191	1428
Girls	0.2095	0.227	0.357	-0.0774	0.074	0.296	58.6%	-10.044	11.216	1390

^a We tested a model including generalized anxiety disorder as a mediator; results were similar, with a percent change of -17.3% for boys and 11.4% for girls.

^b % change indicates the % change from the total to the direct effect. Positive values indicate an increase, or a countervailing mediation effect, and negative values indicate a decrease, or mediation in the expected direction, in the direct effect compared to the total effect. The total effect of MTO treatment on wheezing/whistling for boys was $b(SE)=.521(.228)$, $p=.022$, and for girls was $b(SE)=.132(.209)$, $p=.528$.

Supplemental Table 8. Moving to Opportunity Youth, Baseline Variables (Measured 1994-97), Overall and by Treatment Group.

Construct	Variable	Overall	Treatment Group		p ^a
			Treatment Group	Controls	
Total Youth in 2002	N	2829	1950	879	
Baseline mean poverty rate	Percent poverty rate in the 1990 census tract	49.8%	49.5%	50.5%	
<u>Family Characteristics</u>					
Victimization	Household member victimized by crime during past 6 months	43.0%	43.8%	41.3%	
Disability	Household member had a disability	17.2%	17.8%	15.8%	
Site	Baltimore	15.5%	16.0%	14.2%	
	Boston	18.9%	18.1%	20.7%	
	Chicago	22.4%	23.3%	20.4%	
	Los Angeles	18.6%	17.5%	21.2%	
	New York	24.6%	25.1%	23.5%	
Household size	2 people	7.3%	6.9%	8.3%	
	3 people	22.3%	22.1%	22.9%	
	4 people	25.4%	26.2%	23.4%	
	5 or more people	45.0%	44.8%	45.4%	
Presence of Older Children	No teenagers (age 13-17) in core household	50.1%	49.5%	51.3%	
<u>Youth Characteristics</u>					
Age (in years)		9.94	9.96	9.88	
Gender	Male	49.9%	49.5%	51.0%	
	Female	50.1%	50.5%	49.0%	
Race/ethnicity	African American	62.8%	63.2%	62.1%	
	Hispanic ethnicity, any race	30.0%	30.3%	29.5%	
	White	1.1%	1.0%	1.2%	
	Other race	2.2%	2.4%	1.9%	
	Missing race	3.8%	3.2%	5.3%	
Gifted	Special class for gifted students or did advanced work	15.4%	14.7%	16.8%	
Developmental Problems	Special school, class, or help for learning problem in past 2 years	16.6%	16.7%	16.3%	
	Special school, class, or help for behavioral or emotional problems in past 2 years	7.7%	8.7%	5.3%	*
	Problems that made it difficult to get to school and/or to play active games	6.5%	7.1%	5.0%	
	Problems that required special medicine and/or equipment	9.1%	10.0%	7.0%	*
	School called about problems child having with schoolwork or behavior in past 2 years	26.3%	26.7%	25.4%	

Supplemental Table 8. (continued).

Construct	Variable	Overall	Treatment Group		P ^a
			Treatment Group	Controls	
<u>Household Head Characteristics</u>					
Family Structure	Never married	55.9%	55.2%	57.5%	
	Teen parent	25.9%	26.4%	25.0%	
Socioeconomic Status	Employed	25.8%	26.1%	25.3%	
	On AFDC (welfare)	76.0%	75.5%	76.9%	
Transportation	Had a car	19.0%	18.7%	19.6%	
Education	Less than high school	47.1%	47.2%	46.7%	
	High school diploma	36.2%	36.6%	35.3%	
	GED	16.7%	16.1%	17.9%	
	In School	13.9%	14.4%	12.6%	
Neighborhood/Mobility Variables	Lived in neighborhood 5 or more years	65.7%	65.8%	65.5%	
	Moved more than 3 times in 5 years	8.0%	7.5%	9.1%	
	No family living in neigh	64.1%	63.1%	66.3%	
	No friends living in neigh	37.3%	36.8%	38.5%	
	Had applied for section 8 voucher before	44.3%	43.6%	45.8%	
	Very dissatisfied with neighborhood	44.5%	45.4%	42.3%	
Neighbor Relationships	Chats with neighbors at least once a week	51.9%	51.3%	53.2%	
	Respondent very likely to tell neighbor if saw neighbor's child getting into trouble	56.7%	56.8%	56.4%	

* p<.05

^a P-value from test of treatment group differences calculated from Wald chi-square tests output from logistic regression for dichotomous baseline characteristics and multinomial logistic regression for categorical characteristics. F-tests were used with linear regression for continuous variables. The null hypothesis is that the treatment and control group proportions or means did not differ.

NOTES: All variables range between 0 & 1 except baseline age (5-16) and mean poverty rate, so means represent proportions. Analysis weighted for varying treatment random assignment ratios across time, and for attrition. All tests were adjusted for clustering at the family level. Missing baseline characteristic data were imputed to site specific means (<5% missing)⁸ or modeled with missing indicators (7% missing for youth giftedness and household head education).

Supplemental Table 9. First-Leg Mediation Results, Logistic Regression of MTO Treatment on Each Mediator Individually for Adolescents.

	Total Sample					Boys					Girls				
	+/- ^a	b	SE	p	N	+/- ^a	b	SE	p	N	+/- ^a	b	SE	p	N
<u>Mental Health</u>															
Psychological Distress		0.007	0.046	0.871	2829	-	0.136	0.065	0.035	1403	+	-0.114	0.060	0.058	1426
Behavior Problems	-	0.076	0.045	0.089	2829	-	0.189	0.061	0.002	1403		-0.043	0.059	0.464	1426
<u>Smoking</u>															
Adult Smoker		-0.192	0.138	0.163	2725		-0.298	0.193	0.122	1360		-0.117	0.172	0.498	1365
Youth Ever Smoked		0.148	0.137	0.280	2812	-	0.483	0.202	0.016	1390		-0.215	0.173	0.214	1422
<u>Housing Disarray</u>															
Rooms Cluttered					2625					1299					1326
	Very vs. Not at all	-0.091	0.199	0.647			-0.012	0.282	0.966			-0.197	0.237	0.405	
	Somewhat vs. Not at all	0.028	0.134	0.835			-0.026	0.176	0.884			0.066	0.171	0.698	
Pet Fur		-0.237	0.163	0.147	2571		-0.323	0.220	0.142	1274		-0.110	0.209	0.600	1297
Interior-of-Home Index	+	-0.029	0.014	0.033	2628		-0.028	0.018	0.115	1301		-0.026	0.016	0.113	1327
<u>Housing Quality-Observed</u>															
No Wall-to-wall Carpet	-	-0.524	0.140	0.000	2603	-	-0.481	0.184	0.009	1289	-	-0.567	0.185	0.002	1314
Broken Plaster/Peeling Paint	+	-0.364	0.188	0.053	2633	+	-0.451	0.248	0.070	1303		-0.278	0.228	0.223	1330
Cracks/Holes in Windows/Walls		-0.081	0.178	0.650	2633		-0.034	0.237	0.885	1304		-0.133	0.216	0.537	1329
General Condition of Unit					2673					1324					1349
	Fair vs. Well-kept	+	-0.298	0.136	0.028			-0.177	0.179	0.322		+	-0.418	0.179	0.019
	Poor vs. Well-kept		0.023	0.222	0.916			-0.161	0.287	0.574			0.232	0.277	0.403
	Badly Deteriorated vs. Well-kept	+	-1.778	0.347	0.000		+	-1.856	0.417	0.000		+	-1.774	0.423	0.000
Exterior-of-Home Index	+	-0.049	0.016	0.002	2661	+	-0.047	0.021	0.022	1319	+	-0.048	0.018	0.009	1342
<u>Housing Quality-Adult Report</u>															
Broken Locks		-0.156	0.165	0.342	2745		-0.313	0.214	0.143	1368		0.030	0.230	0.895	1377
Peeling Paint/Wallpaper	+	-0.351	0.122	0.004	2744		-0.233	0.161	0.148	1368	+	-0.460	0.155	0.003	1376
Vermin	+	-0.262	0.121	0.030	2743	+	-0.359	0.163	0.028	1367		-0.133	0.156	0.395	1376
Broken Windows	+	-0.256	0.144	0.076	2745		-0.247	0.192	0.199	1368		-0.267	0.181	0.141	1377
Count of Housing Problems	+	-0.310	0.111	0.005	2745	+	-0.351	0.147	0.017	1368	+	-0.238	0.135	0.078	1377
Housing Excellent or Good	+	0.321	0.122	0.008	2744	+	0.436	0.163	0.007	1368		0.194	0.154	0.208	1376

Supplemental Table 9. (continued).

	Total Sample					Boys				Girls					
<u>Housing Hardship</u>															
Heating Problem	-0.166	0.146	0.256	2733		-0.103	0.199	0.606	1361		-0.247	0.183	0.178	1372	
Plumbing Problem	-0.131	0.126	0.298	2744	+	-0.301	0.164	0.066	1368		0.058	0.158	0.716	1376	
Utilities Shut Off	-	0.442	0.255	0.083	2745		0.379	0.342	0.268	1262		0.425	0.308	0.167	1377
Evicted		0.262	0.418	0.531	2744		0.574	0.704	0.415	1367		0.091	0.536	0.865	1256
Homeless/Doubled Up		0.102	0.247	0.680	2562		-0.237	0.343	0.490	1261		0.334	0.317	0.291	1301
Problem Paying for Rent or Mortgage					2726					1359					1367
Some vs. No Problems	-0.253	0.184	0.169			-0.140	0.273	0.609		+	-0.352	0.207	0.090		
A Lot vs. No Problems	-0.337	0.215	0.117			-0.140	0.279	0.617		+	-0.535	0.283	0.059		
Problem Paying for Utilities	-	0.252	0.069	0.000	2730	-	0.256	0.093	0.006	1361	-	0.233	0.084	0.006	1369
<u>Housing Mobility</u>															
Number of Moves					2829					1403					1426
One Move	-	0.735	0.160	0.000		-	0.565	0.203	0.005		-	0.988	0.213	0.000	
Two + Moves	-	1.179	0.160	0.000		-	0.794	0.208	0.000		-	1.616	0.210	0.000	

^a Among significant ($p < .10$) associations, indicates whether treatment was beneficial (+) or harmful (-).

NOTE: Logit coefficients presented from models predicting treatment from each mediator separately.

Supplemental Table 10. IOW Mediation of the MTO Treatment-Asthma Diagnosis Association, Stratified by Adolescent Gender; Direct and Indirect Effects.

	<u>DIRECT EFFECT</u>			<u>INDIRECT EFFECT</u>			<u>% CHANGE</u>			<u>N</u>
	<u>b</u>	<u>SE</u>	<u>p</u>	<u>b</u>	<u>SE</u>	<u>p</u>	<u>% Change</u> ^b	<u>LCI</u>	<u>UCI</u>	
<u>Mental Health</u>^a										
Boys	0.1409	0.208	0.499	0.0522	0.058	0.368	-27.0%	-754.6%	700.6%	1393
Girls	0.3332	0.170	0.051	-0.0635	0.043	0.138	23.6%	-1626.5%	1673.7%	1419
<u>Smoking</u>										
Boys	0.1641	0.212	0.439	0.0184	0.050	0.712	-10.1%	-575.9%	555.8%	1338
Girls	0.2918	0.175	0.095	-0.0755	0.039	0.053	34.9%	-900.8%	970.7%	1355
<u>Housing Disarray</u>										
Boys	0.2219	0.222	0.318	-0.0191	0.053	0.718	9.4%	-553.2%	572.0%	1252
Girls	0.3394	0.197	0.085	-0.0465	0.043	0.278	15.9%	-326.0%	357.8%	1282
<u>Housing Quality Observed</u>										
Boys	0.2263	0.222	0.308	-0.0252	0.059	0.671	12.5%	-1243.6%	1268.6%	1275
Girls	0.2234	0.184	0.224	0.0005	0.057	0.992	-0.2%	-1607.1%	1606.6%	1300
<u>Housing Quality Adult Report</u>										
Boys	0.2315	0.216	0.283	-0.0355	0.057	0.531	18.1%	-782.9%	819.2%	1357
Girls	0.3218	0.178	0.071	-0.0952	0.051	0.063	42.0%	-1399.0%	1483.0%	1370
<u>Housing Hardship</u>										
Boys	0.2087	0.219	0.340	-0.0048	0.063	0.940	2.3%	-554.7%	559.4%	1334
Girls	0.2289	0.180	0.204	0.0003	0.054	0.995	-0.1%	-276.7%	276.4%	1350
<u>Housing Mobility</u>										
Boys	0.2024	0.209	0.334	-0.0093	0.059	0.874	4.8%	-426.4%	436.1%	1393
Girls	0.3797	0.188	0.043	-0.1100	0.072	0.126	40.8%	-3341.6%	3423.2%	1419

^a We tested a model including generalized anxiety disorder as a mediator; results were similar, with a percent change of -53.5% for boys and 18.8% for girls.

^b % change indicates the % change from the total to the direct effect. Positive values indicate an increase, or a countervailing mediation effect, and negative values indicate a decrease, or mediation in the expected direction, in the direct effect compared to the total effect. The total effect of MTO treatment on asthma diagnosis for boys was $b(SE)=.193(.195)$ $p=.321$, and for girls was $b(SE)=.270(.172)$ $p=.116$.

Supplemental Table 11. IOW Mediation of the MTO Treatment-Asthma Attack Association, Stratified by Adolescent Gender; Direct and Indirect Effects.

	<u>DIRECT EFFECT</u>			<u>INDIRECT EFFECT</u>			<u>% CHANGE</u>			<u>N</u>
	<u>b</u>	<u>SE</u>	<u>p</u>	<u>b</u>	<u>SE</u>	<u>p</u>	<u>% Change</u> ^b	<u>LCI</u>	<u>UCI</u>	
<u>Mental Health</u>^a										
Boys	0.5775	0.301	0.055	0.0175	0.080	0.827	-2.9%	-116.2%	110.3%	1392
Girls	0.4855	0.258	0.060	-0.0601	0.054	0.266	14.1%	-203.8%	232.0%	1417
<u>Smoking</u>										
Boys	0.7512	0.304	0.014	-0.0141	0.076	0.853	1.9%	-93.2%	97.0%	1337
Girls	0.3732	0.278	0.180	-0.0040	0.043	0.927	1.1%	-145.2%	147.4%	1353
<u>Housing Disarray</u>										
Boys	0.7883	0.311	0.011	-0.0391	0.068	0.567	5.2%	-90.0%	100.4%	1251
Girls	0.3380	0.276	0.221	-0.0069	0.050	0.892	2.1%	-467.8%	472.0%	1280
<u>Housing Quality Observed</u>										
Boys	0.7532	0.319	0.018	-0.0266	0.086	0.757	3.7%	-60.3%	67.6%	1274
Girls	0.3298	0.285	0.247	0.0076	0.059	0.897	-2.2%	-1636.2%	1631.7%	1298
<u>Housing Quality Adult Report</u>										
Boys	0.8385	0.305	0.006	-0.0871	0.079	0.271	11.6%	-43.5%	66.7%	1356
Girls	0.4244	0.274	0.122	-0.0347	0.064	0.588	8.9%	-380.8%	398.6%	1368
<u>Housing Hardship</u>										
Boys	0.8218	0.302	0.007	-0.0606	0.090	0.500	8.0%	-35.7%	51.7%	1333
Girls	0.3573	0.269	0.185	0.0297	0.062	0.630	-7.7%	-390.6%	375.3%	1348
<u>Housing Mobility</u>										
Boys	0.6568	0.296	0.027	-0.0618	0.072	0.393	10.4%	-136.4%	157.2%	1392
Girls	0.5057	0.270	0.061	-0.0803	0.090	0.371	18.9%	-373.1%	410.9%	1417

^a We tested a model including generalized anxiety disorder as a mediator; results were similar, with a percent change of -3.6% for boys and 10.4% for girls.

^b % change indicates the % change from the total to the direct effect. Positive values indicate an increase, or a countervailing mediation effect, and negative values indicate a decrease, or mediation in the expected direction, in the direct effect compared to the total effect. The total effect of MTO treatment on asthma attack for boys was $b(SE)=.595(.294)$, $p=.043$, and for girls was $b(SE)=.425(.257)$, $p=.098$.

Supplemental Table 12. IOW Mediation of the MTO Treatment-Wheezing/Whistling Association, Stratified by Adolescent Gender; Direct and Indirect Effects.

	<u>DIRECT EFFECT</u>			<u>INDIRECT EFFECT</u>			<u>% Change^b</u>	<u>% CHANGE</u>		<u>N</u>
	<u>b</u>	<u>SE</u>	<u>p</u>	<u>b</u>	<u>SE</u>	<u>p</u>		<u>LCI</u>	<u>UCI</u>	
<u>Mental Health^a</u>										
Boys	0.2361	0.183	0.197	0.0694	0.051	0.171	-22.7%	-501.5%	456.1%	1397
Girls	0.1314	0.181	0.468	-0.0696	0.043	0.109	112.6%	-2283.7%	2509.0%	1414
<u>Smoking</u>										
Boys	0.3268	0.199	0.101	-0.0004	0.034	0.990	0.1%	-176.7%	177.0%	1343
Girls	0.1166	0.185	0.529	-0.0263	0.031	0.389	29.2%	-147011.9%	147070.3%	1350
<u>Housing Disarray</u>										
Boys	0.2768	0.195	0.156	0.0212	0.044	0.629	-7.1%	-734.2%	719.9%	1256
Girls	0.1208	0.189	0.522	-0.0205	0.032	0.518	20.4%	-4699.5%	4740.3%	1277
<u>Housing Quality Observed</u>										
Boys	0.2845	0.199	0.153	0.0207	0.056	0.710	-6.8%	-445.4%	431.9%	1279
Girls	0.0586	0.186	0.753	-0.0310	0.039	0.423	112.6%	-1722.7%	1947.9%	1294
<u>Housing Quality Adult Report</u>										
Boys	0.3444	0.210	0.102	0.0002	0.046	0.996	-0.1%	-326.3%	326.2%	1361
Girls	0.1321	0.187	0.479	-0.0539	0.044	0.222	69.0%	-3128.7%	3266.8%	1364
<u>Housing Hardship</u>										
Boys	0.3860	0.214	0.071	-0.0095	0.056	0.865	2.5%	-393.5%	398.5%	1338
Girls	0.0740	0.180	0.681	0.0125	0.049	0.800	-14.5%	-2810.4%	2781.4%	1345
<u>Housing Mobility</u>										
Boys	0.3052	0.189	0.106	0.0002	0.047	0.996	-0.1%	-643.0%	642.8%	1397
Girls	0.1827	0.188	0.331	-0.1209	0.059	0.041	195.5%	-2812.8%	3203.8%	1414

^a We tested a model including generalized anxiety disorder as a mediator; results were similar, with a percent change of -19.8% for boys and 146.5% for girls.

^b % change indicates the % change from the total to the direct effect. Positive values indicate an increase, or a countervailing mediation effect, and negative values indicate a decrease, or mediation in the expected direction, in the direct effect compared to the total effect. The total effect of MTO treatment on wheezing/whistling for boys was $b(SE)=.305(.190)$ $p=.108$, and for girls was $b(SE)=.062(.172)$ $p=.719$.