

## **Appendix Material for “Testing the Mechanisms of Structural Models: The Case of the Mickey Mantle Effect”**

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This Appendix provides details omitted from the text due to space constraints.

Table A1 provides the summary statistics of the variables used on our analysis.

Table A2 reports the complete set of coefficient estimates from the OLS regressions (corresponding to Table 2 in the text).

Table A3 gives details of our factor analysis results. As noted in the main text, the HRS data contains 33 health indicators that we use in our analysis. In some specifications we simply include all 33 indicators separately as controls for health. But this makes it difficult to interpret any of the individual coefficients. We also conducted a factor analysis where we reduce the 33 indicators down to 4 principal factors. In this Appendix we report that factor loadings for each factor. Factor 1 is by far the most important. It is a poor health factor with large negative loadings on all the self-reported health measures and large positive loadings on all the physician diagnosed conditions. Factors 2 through 4 are all positive health factors whose interpretation is subtler. Factors 2 and 3 load positively on self-reported health but also load positively on stroke indicators. But while factor 2 loads negatively on the *change* in self-reported health, 3 loads positively. Factor 4 loads positively on self-reported health and negatively on hypertension and diabetes indicators. But it also loads positively on ADL limitations.

Table A4 reports the complete set of coefficient estimates from the IV regressions (corresponding to Table 3 in the text).

**Table A1: Summary Statistics**

Variable	Mean	Std. Dev.	Variable	Mean	Std. Dev.
<b><u>Dependent Variables</u></b>			<b><u>Health Indicators</u></b>		
Smoking	0.226	0.418	Self reported health excellent	0.182	0.386
Heavy Drinking	0.034	0.183	Self reported health very good or better	0.492	0.499
High BMI	0.269	0.443	Self reported health good or better	0.782	0.412
<b><u>Explanatory Variables</u></b>			Self reported health fair or better	0.932	0.25
Subjective probability of living to age 75+	65.182	29.063	Change in self reported health (1=better, 5=worse)	2.95	0.852
Female	0.579	0.493	Number of ADL limitations	0.151	0.581
Black	0.146	0.354	Change in number of ADL limitations	0.027	0.473
Hispanic	0.075	0.264	Hospital stay in last two years	0.171	0.376
Age	58.159	3.927	Hypertension diagnosis ever	0.396	0.489
Years of education	12.466	2.981	Diabetes diagnosis ever	0.115	0.32
Married	0.731	0.443	Cancer diagnosis ever	0.07	0.255
Household income (in 1,000 USD)	58.034	95.76	Lung disease diagnosis ever	0.069	0.255
Household wealth (in 1,000 USD)	295.961	882.01	Heart problems diagnosis ever	0.136	0.342
Risk tolerance	0.242	0.143	Stroke diagnosis ever	0.032	0.176
Father has high school degree	0.441	0.496	Mental diseases diagnosis ever	0.112	0.316
Mother has high school degree	0.458	0.498	Arthritis diagnosis ever	0.445	0.497
<b><u>Instrumental Variables</u></b>			Hypertension first diagnosis last 2 years	0.032	0.176
Age of mother <sup>+</sup>	74.37	13.43	Diabetes first diagnosis last 2 years	0.016	0.125
Age of father <sup>+</sup>	70.67	14.035	Cancer first diagnosis last 2 years	0.012	0.109
Mother age at death ≤ 65	0.2	0.4	Lung disease first diagnosis last 2 years	0.01	0.099
Mother age at death 66 to 70	0.07	0.256	Heart problem first diagnosis last 2 years	0.019	0.136
Mother age at death 71 to 75	0.096	0.295	Stroke first diagnosis last 2 years	0.006	0.077
Mother age at death 76 to 80	0.1	0.3	Mental disease first diagnosis last 2 years	0.015	0.122
Mother age at death 81 to 85	0.098	0.297	Arthritis first diagnosis last 2 years	0.044	0.206
Mother age at death > 85	0.079	0.271	Hypertension worse	0.009	0.098
Father age at death ≤ 65	0.312	0.463	Diabetes worse	0.007	0.085
Father age at death 66 to 70	0.112	0.315	Cancer worse	0.001	0.037
Father age at death 71 to 75	0.137	0.344	Lung disease worse	0.007	0.088
Father age at death 76 to 80	0.121	0.327	Heart problems worse	0.007	0.085
Father age at death 81 to 85	0.101	0.301	Mental disease worse	0.005	0.076
Father age at death > 85	0.082	0.274	Stroke remaining problems worse	0.009	0.097
			Health status variable missing	0.003	0.057
			Change in health variable missing	0.037	0.189
			<b><u>Health Factors<sup>§</sup></u></b>		
			Health factor 1	-0.05	0.861
			Health factor 2	-0.041	0.732
			Health factor 3	0.037	0.72
			Health factor 4	-0.005	0.699
Number of observations <sup>++</sup>	43,963			43,963	

<sup>§</sup> The health factors are constructed from the health indicators via factor analysis (see Appendix).

<sup>+</sup> Age is either current age or age at death. 36% of mothers and 13% of fathers are still alive.

<sup>++</sup> Sample statistics refer to the sample used in the smoking regression.

**Table A2: Ordinary Least Squares Regression Results**

	Smoking		Heavy drinking		High BMI	
	(1)	(2) <sup>+</sup>	(3)	(4) <sup>+</sup>	(5)	(6) <sup>+</sup>
	Health factors	Health variables	Health factors	Health variables	Health factors	Health variables
Subj. Prob. of living to age 75+	-0.0010*** (0.0001)	-0.0009*** (0.0001)	-0.0001*** (0.00004)	-0.0001*** (0.00004)	-0.0001 (0.0001)	0.00006 (0.0001)
Female	-0.046*** (0.007)	-0.049*** (0.007)	-0.055*** (0.003)	-0.057*** (0.003)	0.017** (0.007)	0.012 (0.007)
Black	-0.030*** (0.011)	-0.013 (0.011)	-0.005* (0.003)	-0.005* (0.003)	0.107*** (0.012)	0.076** (0.012)
Hispanic	-0.98*** (0.016)	-0.091*** (0.015)	-0.012** (0.005)	-0.012** (0.005)	0.043*** (0.016)	0.035** (0.016)
Age	-0.008*** (0.0008)	-0.008*** (0.0008)	-0.0004 (0.0003)	-0.0005 (0.0003)	-0.007*** (0.0008)	-0.008*** (0.0008)
Years of education	-0.016*** (0.001)	-0.014*** (0.001)	-0.001*** (0.0005)	-0.001*** (0.0005)	-0.002 (0.001)	-0.002* (0.001)
Married	-0.110*** (0.008)	-0.107*** (0.008)	-0.017*** (0.003)	-0.016*** (0.003)	0.013 (0.008)	0.011 (0.008)
Health factor 1	0.015*** (0.004)		-0.002** (0.001)		0.082*** (0.004)	
Health factor 2	-0.011*** (0.003)		-0.002** (0.001)		-0.012*** (0.003)	
Health factor 3	-0.009** (0.003)		0.001 (0.001)		-0.040*** (0.004)	
Health factor 4	0.025*** (0.004)		0.003*** (0.001)		0.061** (0.004)	
Household income (in 1,000 USD)	-0.00009*** (0.00002)	-0.00008*** (0.00002)	<0.00001 (0.00001)	<0.00001 (0.00001)	-0.00004 (0.00003)	-0.00003 (0.00003)
Household wealth (in 1,000 USD)	-0.00001*** (<0.00001)	-0.00001*** (<0.00001)	<0.00001 (<0.00001)	<0.00001 (<0.00001)	<0.00001 (<0.00001)	<0.00001 (<0.00001)
Risk tolerance	0.068*** (0.024)	0.066*** (0.023)	0.019** (0.009)	0.020** (0.0009)	-0.042* (0.024)	-0.033 (0.023)
Father has high school degree	0.003 (0.008)	0.006 (0.008)	0.0009 (0.003)	0.001 (0.003)	-0.018** (0.008)	-0.019** (0.008)
Mother has high school degree	0.0002 (0.008)	-0.0002 (0.008)	0.003 (0.003)	0.003 (0.003)	-0.0006 (0.008)	0.001 (0.008)
R – squared	0.05	0.07	0.03	0.03	0.06	0.09
Observations	43,963	43,963	44,238	44,238	44,238	44,238

Note: \* denotes significant at the 10% level; \*\* denotes 5%; \*\*\* denotes 1%. Huber-White standard errors are in brackets, clustered at respondent level. Wave and birth region dummies are included but coefficients are not shown.

<sup>+</sup> All the health indicators listed in Table A1 are included, but their coefficients are not shown.

**Table A3: Factor Loadings for the Health Variables**

Variable	Health factor 1	Health factor 2	Health factor 3	Health factor 4
Self reported health excellent	-0.371	0.085	0.169	0.237
Self reported health very good or better	-0.576	0.089	0.221	0.224
Self reported health good or better	-0.680	0.044	0.170	0.012
Self reported health fair or better	-0.576	-0.010	0.084	-0.176
Change in self reported health (1 to 5)	0.384	-0.510	0.425	0.019
Number of ADL limitations (0 to 6)	0.557	0.112	0.050	0.406
Change in number of ADL limitations	0.256	0.064	0.098	0.392
Hospital stay in last two years	0.411	0.049	-0.055	-0.050
Hypertension diagnosis ever	0.325	-0.008	-0.057	-0.224
Diabetes diagnosis ever	0.348	-0.003	-0.065	-0.261
Cancer diagnosis ever	0.138	-0.050	-0.115	0.028
Lung disease diagnosis ever	0.341	-0.079	-0.119	0.187
Heart problems diagnosis ever	0.404	0.009	-0.096	-0.134
Stroke diagnosis ever	0.369	0.462	0.380	-0.143
Mental diseases diagnosis ever	0.373	-0.026	-0.103	0.107
Arthritis diagnosis ever	0.327	-0.106	-0.080	-0.042
Hypertension first diagnosis last 2 years	0.087	-0.043	0.015	-0.095
Diabetes first diagnosis last 2 years	0.139	-0.042	-0.022	-0.184
Cancer first diagnosis last 2 years	0.116	-0.063	-0.073	0.012
Lung disease first diagnosis last 2 years	0.169	-0.061	-0.051	0.112
Heart problem first diagnosis last 2 years	0.197	-0.032	-0.037	-0.113
Stroke first diagnosis last 2 years	0.244	0.326	0.330	-0.084
Mental disease first diagnosis last 2 years	0.182	-0.027	-0.020	0.067
Arthritis first diagnosis last 2 years	0.074	-0.071	0.017	-0.035
Hypertension worse	0.193	-0.022	0.036	0.021
Diabetes worse	0.195	-0.034	0.009	-0.023
Cancer worse	0.063	-0.025	-0.022	0.021
Lung disease worse	0.217	-0.052	-0.016	0.161
Heart problems worse	0.239	0.018	0.045	0.028
Mental disease worse	0.192	-0.015	0.010	0.113
Stroke remaining problems worse	0.315	0.431	0.379	-0.082
Health status variable missing	0.043	0.146	-0.162	0.038
Change in health variable missing	-0.078	0.556	-0.526	0.066
Eigenvalue	3.405	1.179	1.088	0.802

Note: For ease of interpretation, the more important negative loadings on good health indicators (or positive loadings on poor health measures) are highlighted in red. Similarly, the more important positive loadings on good health indicators (or negative loadings on bad health indicators) are highlighted in blue.

Table A4: IV Regression Results: 2<sup>nd</sup> Stage

	Smoking		Heavy drinking		High BMI	
	(1)	(2) <sup>+</sup>	(3)	(4) <sup>+</sup>	(5)	(6) <sup>+</sup>
	Health factors	Health variables	Health factors	Health variables	Health factors	Health variables
Subj. Prob. of living to age 75+	-0.0023** (0.0009)	-0.0027*** (0.0008)	0.0004 (0.0003)	0.0003 (0.0003)	-0.0018** (0.0009)	-0.0012 (0.0009)
Female	-0.041*** (0.008)	-0.043*** (0.008)	-0.058*** (0.003)	-0.059*** (0.003)	0.025*** (0.008)	0.016** (0.008)
Black	-0.022* (0.013)	-0.001 (0.013)	-0.009*** (0.003)	-0.009** (0.003)	0.120*** (0.013)	0.085*** (0.013)
Hispanic	-0.102*** (0.016)	-0.097*** (0.016)	-0.010* (0.005)	-0.010* (0.005)	0.035** (0.017)	0.031* (0.016)
Age	-0.008*** (0.0009)	-0.007*** (0.0009)	-0.0007** (0.0003)	-0.0007** (0.0003)	-0.006*** (0.0009)	-0.007*** (0.0009)
Years of education	-0.015*** (0.001)	-0.013*** (0.001)	-0.002*** (0.0005)	-0.002*** (0.0005)	-0.0061 (0.001)	-0.001 (0.001)
Married	-0.109*** (0.008)	-0.106*** (0.008)	-0.017*** (0.003)	-0.017*** (0.003)	0.014* (0.008)	0.012 (0.008)
Health factor 1	-0.001 (0.011)		0.004 (0.004)		0.059*** (0.011)	
Health factor 2	-0.010*** (0.003)		-0.003** (0.001)		-0.010*** (0.004)	
Health factor 3	-0.005 (0.004)		0.0003 (0.001)		-0.035*** (0.004)	
Health factor 4	-0.026*** (0.004)		0.003** (0.001)		-0.060*** (0.004)	
Household income (in 1,000 USD)	-0.00008*** (0.00002)	-0.00008*** (0.00002)	<0.00001 (<0.00001)	<0.00001 (0.00001)	-0.00003 (0.00003)	-0.00003 (0.00003)
Household wealth (in 1,000 USD)	-0.00001*** (<0.00001)	-0.00001*** (<0.00001)	<0.00001 (<0.00001)	<0.00001 (<0.00001)	<0.00001 (<0.00001)	<0.00001 (<0.00001)
Risk tolerance	0.068*** (0.024)	0.065*** (0.024)	0.019** (0.009)	0.020** (0.009)	-0.042* (0.024)	-0.033 (0.023)
Father has high school degree	0.004 (0.008)	0.007 (0.008)	0.0005 (0.003)	0.0007 (0.003)	-0.017* (0.008)	-0.018** (0.008)
Mother has high school degree	0.001 (0.008)	0.001 (0.008)	0.002 (0.003)	0.002 (0.003)	0.002 (0.008)	0.002 (0.008)
R-squared	0.05	0.06	0.02	0.02	0.05	0.08
Hansen J – Statistic (P – value)	13.542 (0.699)	14.300 (0.645)	24.135 (0.115)	23.690 (0.128)	20.038 (0.272)	20.328 (0.257)

Note: \* denotes significant at the 10% level; \*\* denotes 5%; \*\*\* denotes 1%. Huber-White standard errors are in brackets, clustered at respondent level. Wave and birth region dummies are included but coefficients are not shown.

<sup>+</sup> All the health indicators listed in Table A1 are included, but their coefficients are not shown.