What Variables affect Mental and Physical Health?

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ABSTRACT

Introduction: The purpose of our research was to determine the significance and effect of several variables regarding both mental and physical health in Americans. The causes of health issues are extremely broad and interconnected, and more research is always going to be needed in this field as social and technological changes occur throughout society. Our data comes from the General Social Survey (GSS) from 2022 and therefore includes a broad set of potential variables and a diverse population of respondents from the United States.

Methods: We used principal component analysis with varimax rotation to create factors comprising multiple dimensions. Structural equation modeling was then used to find an equation that could adequately describe our original data using our chosen dimensions and factors.

Results: Our response variable was a factor we called "poor health days" which comprised the dimensions "mental health", meaning the number of poor mental health days in the last 30, and "physical health", meaning the number of poor physical health days in the last 30. Within our chosen dimensions and factors, we found that all but one had a significant effect on poor health days, that being "physical characteristics", a factor comprising height and weight. Among our significant dimensions and variables, "health", a respondent's opinion about their personal health from poor, to fair, to good, to excellent, was the strongest **negative** predictor of poor health days. The strongest **positive** predictor of poor health days was "work vs family", meaning how often work interferes with family life.

	lhs <chr>	op <chr>	rhs <chr>	est <dbl>	se <dbl>	z <dbl>	pvalue <dbl>
1	PhysicalCharacteristics	=~	weight	1.000	0.000	*NA*	*NA*
2	PhysicalCharacteristics	=~	height	-0.035	0.017	-2.005	0.045
3	FinancialIndex	=~	sei10	1.000	0.000	*NA*	*NA*
4	FinancialIndex	=~	satfin	0.113	0.032	3.562	0.000
5	PoorHealthDays	=~	physhlth	1.000	0.000	*NA*	*NA*
6	PoorHealthDays	=~	mntlhlth	1.764	0.114	15.408	0.000
7	PoorHealthDays	~	PhysicalCharacteristics	0.000	0.001	0.332	0.740
8	PoorHealthDays	~	health	-1.360	0.107	-12.746	0.000
9	PoorHealthDays	~	FinancialIndex	-0.103	0.014	-7.164	0.000
10	PoorHealthDays	~	satjob	-0.445	0.086	-5.148	0.000
11	PoorHealthDays	~	wkvsfam	0.444	0.073	6.062	0.000
12	PoorHealthDays	~	hrs1	-0.017	0.005	-3.570	0.000
13	PoorHealthDays	~	polviews	0.160	0.042	3.766	0.000
14	PoorHealthDays	~	life	-0.645	0.121	-5.334	0.000
15	PoorHealthDays	~	hapmar	-0.303	0.113	-2.673	0.008

Figure 1 Results of SEM

Conclusion: We found that many of the strongest predictors of poor health days were largely social related dimensions, such as marital happiness, work vs life balance, and job satisfaction. Financially related dimensions like socioeconomic index and financial satisfaction were comparatively weak predictors, though still significant. Interestingly, political views was also a significant predictor in our model, and seems to suggest that as a respondent became more

politically conservative they tended to have more poor health days. This effect was weak as well though, with a magnitude roughly on par with financial dimensions. These results point to the major impact that social interactions have on people's health. A poor social life is a fairly strong predictor of both mental and physical health issues. While this is already a well-known phenomenon, it is important to reassert this conclusion and potentially create policies that help to prevent social isolation or lac of work-life balance

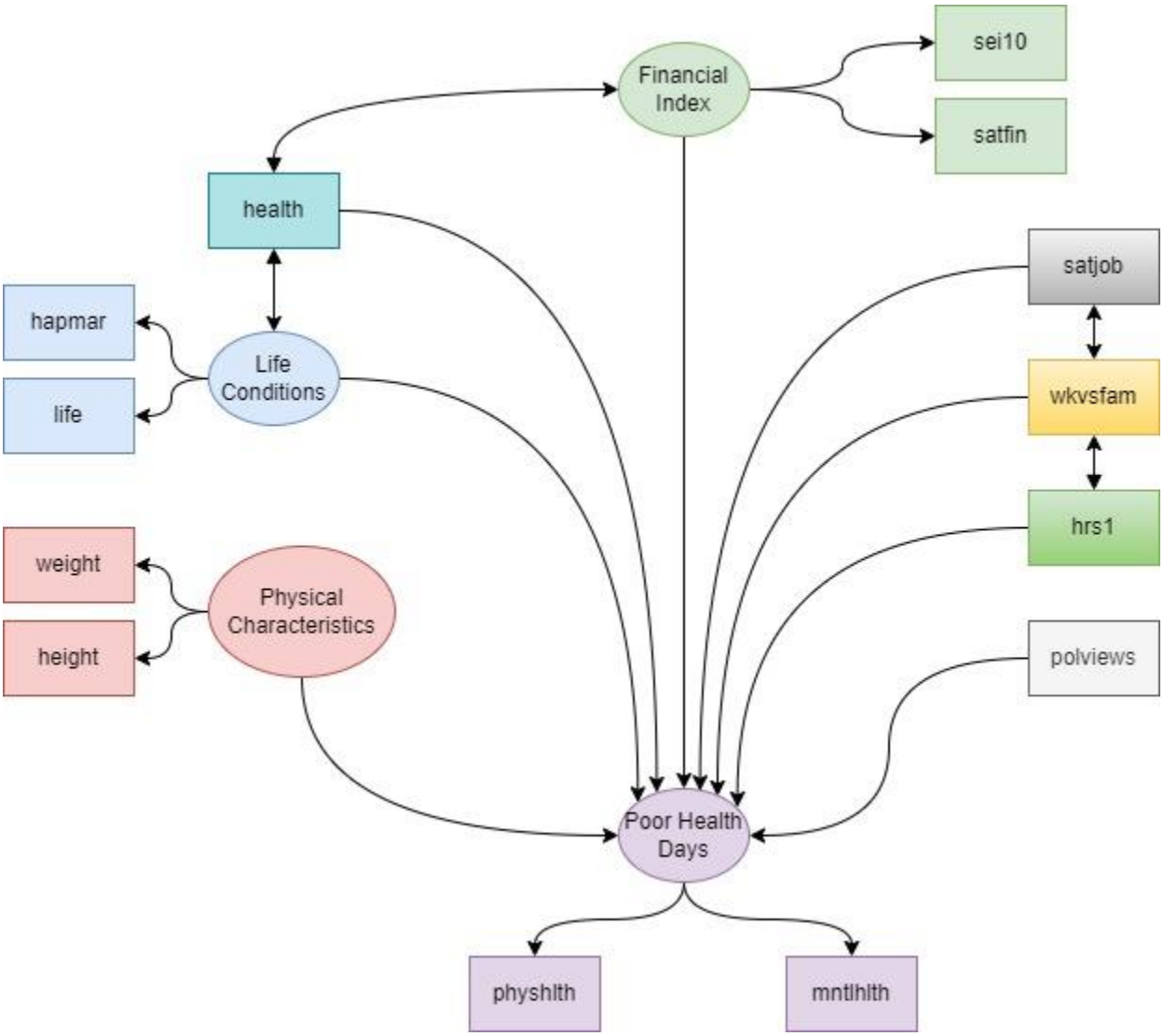

Figure 2 Path Diagram used for final structural model