

The Influence of Personal, Family, and Others' Illness Experiences on Reporting No Health Problems on EQ-5D-5L

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Background

- Previous studies suggest past illness experiences may have limited impact on health state valuations (Kind 1995, Dolan 1996)
- However, no prior research has investigated how different types of illness exposure (one's own vs. family members vs. close others) influence likelihood of self-reporting "perfect health" with no problems on the EQ-5D-5L

Research Objectives

- Drawing from concept of "reference dependence" in behavioral economics (Kahneman & Tversky 1979) - individuals evaluate outcomes relative to a reference point rather than absolute terms - we wanted to investigate the effects of past personal, family, and others' illness experiences on the likelihood of present self-reporting no health problems on EQ-5D-5L.
- **We hypothesized that past exposure to serious illness (personal, family, or others') may shift one's internal reference point for health, causing current health status to seem more favorable by comparison**

Methods

Data Source:

- Secondary analysis of data from 2017 US valuation study for EQ-5D-5L (n=3,152 participants)
 - Data collected May-Sept 2017 via online surveys and face-to-face interviews in 6 US metro areas
 - Employed quota sampling to ensure national representativeness by age, sex, race/ethnicity

Eligibility:

- Non-institutionalized English and Spanish-speaking adults in the US

Categorized illness experience based on self-reported responses to the following questions:

- **Personal Illness:** "I have personally experienced serious illness"
- **Family Illness:** "Someone in my family has experienced serious illness"
- **Other's Illness:** "I have cared for someone with serious illness"

Primary Outcome:

- Reporting "no problems" on any EQ-5D-5L dimension (11111 health state, n=832)

Analysis:

- Constructed unadjusted and adjusted logistic regression models with illness exposures as predictors
- Adjusted model using stepwise selection with interaction terms between covariates from sociodemographic characteristics (gender, race, ethnicity, married, education level), health insurance status, financial difficulties, ability to afford prescription drugs, number of health conditions, medication use, and general health status.
- Calculated odds ratios, 95% CIs
- Assessed model fit using Nagelkerke's R-squared

Results

Table 1. Respondent Characteristics

		EQ-5D-5L = 11111	EQ-5D-5L NOT = 11111	
		N (%)	N (%)	Chi-sq
VAS (mean, SD)		87 (10.8)	73.01 (18.5)	
Age	< 35	318 (38.2%)	667 (28.8%)	<.0001
	35 - 55	264 (31.7%)	845 (36.4%)	
	55 +	250 (30.0%)	808 (34.8%)	
Gender	Male	446 (53.6%)	1091 (47.2%)	0.0016
	Female	386 (46.4%)	1220 (52.8%)	
Marital Status	Not Married	444 (53.4%)	1338 (57.7%)	0.0315
	Married	388 (46.6%)	982 (42.3%)	
Ethnicity	Hispanic	130 (15.6%)	386 (16.6%)	0.4981
	Not Hispanic	702 (84.4%)	1934 (83.4%)	
Level of Education	Up to High school school/GED	208 (25.0%)	768 (33.1%)	<.0001
	High school or above	624 (75.0%)	1551 (66.9%)	
How difficult is it for you to make your bill payments?	No difficulty	580 (69.7%)	1038 (44.8%)	<.0001
	Slight/Somewhat difficulty	227 (27.3%)	1034 (44.6%)	
	Very/Extremely difficulty	25 (3.0%)	247 (10.6%)	
	Excellent	257 (30.9%)	215 (9.3%)	
General Health Status	Very	389 (46.8%)	727 (31.4%)	<.0001
	Good	167 (20.1%)	895 (38.6%)	
	Fair	17 (2.0%)	397 (17.1%)	
	Poor	2 (0.2%)	85 (3.7%)	
Number of chronic conditions	0	516 (62.0%)	548 (23.6%)	<.0001
	1 - 2	281 (33.8%)	1151 (49.6%)	
	3 or more	35 (4.2%)	620 (26.7%)	
How many prescription medications do you take on a regular basis?	None	495 (59.5%)	785 (33.8%)	<.0001
	1	165 (19.8%)	438 (18.9%)	
	2 +	172 (20.7%)	1096 (47.3%)	
	no insurance	78 (9.4%)	231 (10.0%)	
Health Insurance	private insurance	527 (63.3%)	1101 (47.5%)	<.0001
	public insurance	227 (27.3%)	987 (42.6%)	
	Very/Somewhat Easy	687 (84.8%)	1634 (74.7%)	0.014
How easy or difficult is it for you to afford the cost of your medications?	Somewhat/Very Difficult	123 (15.2%)	553 (25.3%)	
	I have personally experienced serious illness	No	314 (37.7%)	0.014
I have personally experienced serious illness	Yes	518 (62.3%)	1331 (57.4%)	
Someone in my family has experienced serious illness	No	291 (35.0%)	1192 (51.4%)	<.0001
	Yes	541 (65.0%)	1128 (48.6%)	
I have cared for someone with serious illness	No	331 (39.8%)	1053 (45.4%)	0.0052
	Yes	501 (60.2%)	1267 (54.6%)	

Conclusion

- Our findings suggest that illness experiences within one's social network, particularly among family members, have a significant impact on self-reported no problems on EQ-5D-5L.
- These findings suggest that an individual's current personal health state does not serve as the sole or primary reference point for evaluating and perceiving their own health status. Instead, our results indicate that exposure to serious illness among close loved ones - family members, friends, etc. - can shape and recalibrate the internal reference point used when making self-assessments of personal health status.
- There may be several reasons to consider. Firstly, witnessing difficult health experiences within one's immediate social circles may shift the frame of reference, potentially leading individuals to contextualize and rate their own health more favorably in comparison to the illness burdens observed in others closest to them. Secondly, providing care and support to ill family members or others may foster a sense of resilience and adaptability, which could translate into more positive self-perceived health.
- Future research should explore the mechanisms underlying these associations and investigate their generalizability to other cultural contexts.

Figure 1. Forest plot of unadjusted Odds Ratios

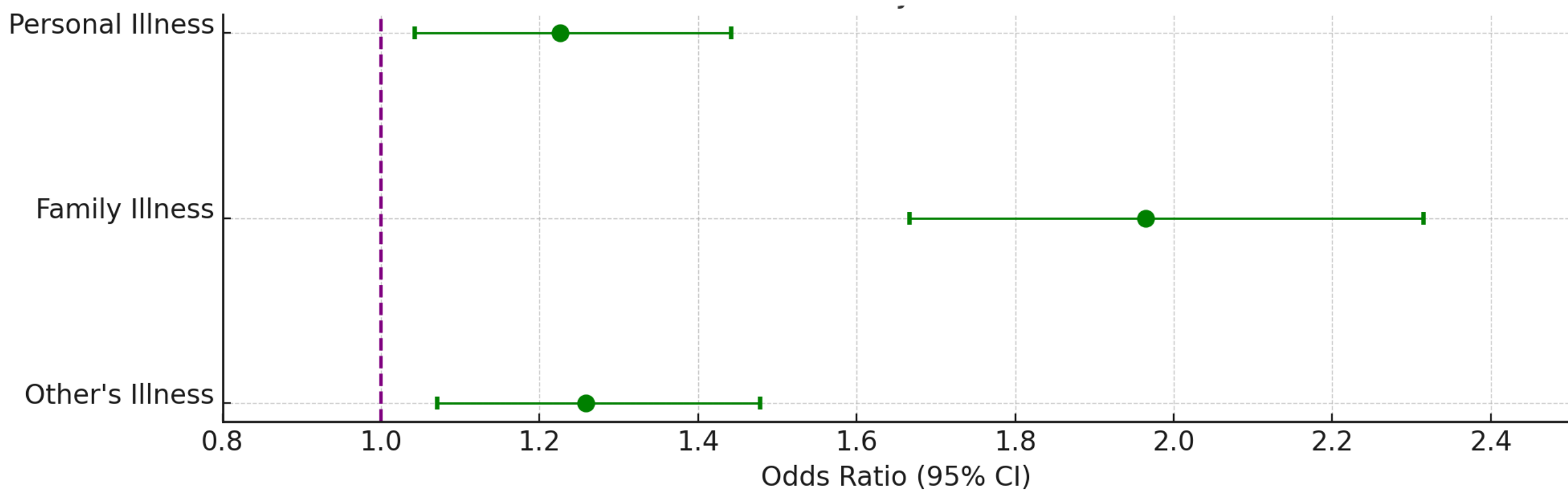
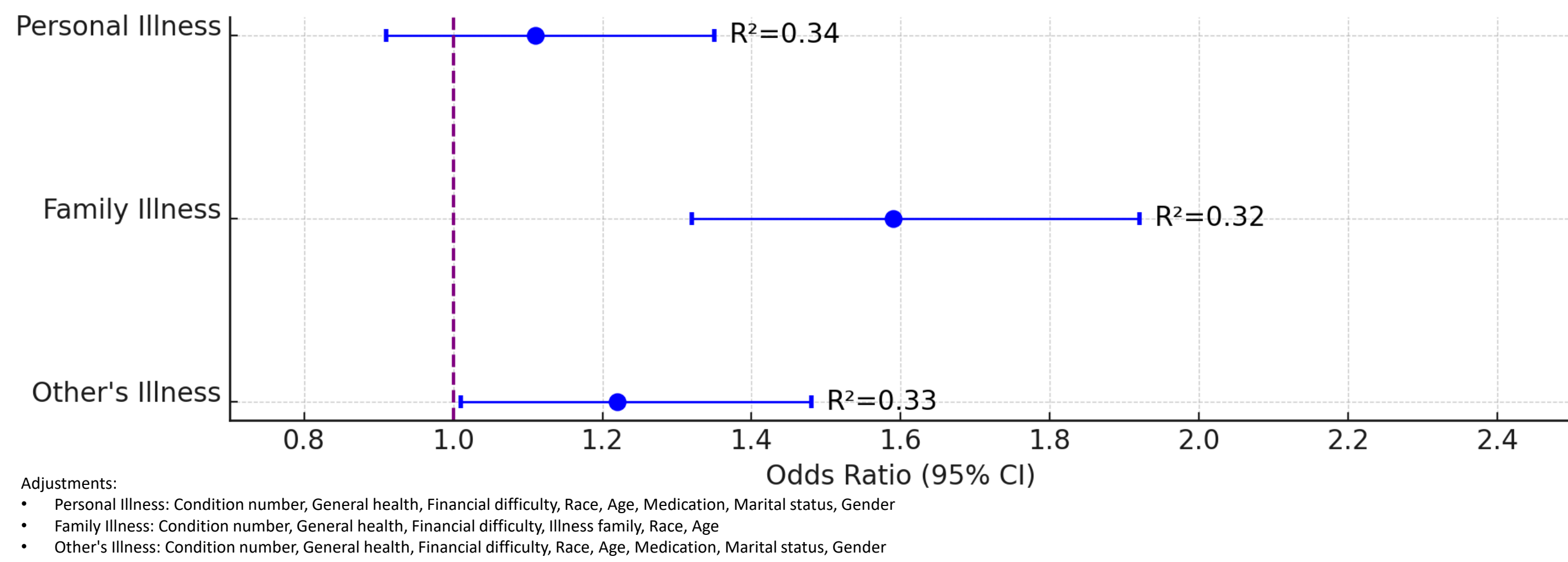


Figure 2. Forest plot of adjusted Odds Ratios



- Table 1 shows those reporting no problems on EQ-5D-5L were younger, with better general health status. Interestingly, despite being healthier overall, they reported more personal experience with serious illness (62.3%), as well as having seriously ill family members (65.0%) and caring for other seriously ill individuals outside the family (60.2%).

- The odds ratios indicate that having a family member with serious illness (OR=1.59) or personally caring for someone seriously ill outside the family (OR=1.22) significantly increased the likelihood of reporting "no problems" on the EQ-5D-5L.

- However, personally experiencing a serious illness (OR=1.11) did not remain a statistically significant predictor after adjusting for sociodemographic and health-related covariates.