

Supplemental File for Online Publication

Self-Efficacy Proxy Predicts Frailty Incidence Over Time
in Non-Institutionalized Older Adults

Supplemental Table S1. Comparison of Demographic and Health Characteristics for Included and Excluded Sample

Supplemental Table S2. Frailty Incidence for Low vs High Self-Efficacy with Prefrail as Covariate

Supplemental Table S3. Frailty Incidence for Low vs High Self-Efficacy with No Baseline Depressive Symptoms Sample

Supplemental Table S4. Frailty Incidence for Three Categories of Self-Efficacy

Supplemental Table S1. Comparison of Demographic and Health Characteristics for Included and Excluded Sample

Variable	Study Sample N=4825	Excluded Sample N=1006	P-Value	
Baseline Age			0.862	
	65-69	1011 (31%)	211 (29%)	
	70-74	1100 (26%)	248 (27%)	
	75-79	1016 (19%)	208 (20%)	
	80-84	926 (14%)	183 (14%)	
	85-89	479 (7%)	101 (7%)	
	90+	293 (3%)	55 (3%)	
Race/Ethnicity			0.005	
	White, non-Hispanic	3512 (84%)	691 (80%)	
	Black, non-Hispanic	960 (7%)	215 (8%)	
	Hispanic	236 (6%)	65 (8%)	
	Other	117 (3%)	35 (4%)	
Education			<0.001	
	<8th grade	446 (7%)	114 (10%)	
	9-12th No diploma	614 (10%)	139 (12%)	
	High school diploma	1319 (27%)	302 (30%)	
	> High school	2444 (56%)	449 (48%)	
Sex			0.386	
	Male	2085 (45%)	434 (43%)	
	Female	2740 (55%)	572 (57%)	
Baseline Income			<0.001	
	<15k	1180 (20%)	266 (22%)	
	15k-30k	1175 (22%)	268 (26%)	
	30k-60k	1292 (28%)	288 (31%)	
	>60k	1178 (30%)	184 (22%)	
Baseline Disability			0.480	
	Fully able	2082 (47%)	474 (49%)	
	Accommodate/reduced frequency	2186 (43%)	412 (40%)	
	Difficulty	198 (4%)	38 (4%)	
	Need assistance	359 (6%)	82 (7%)	
Disease Count	Mean (SD)	2.18 (1.40)	2.17 (1.40)	0.740
Baseline Self-Efficacy			0.073	
	High	4417 (92%)	901 (90%)	
	Low	408 (8%)	105 (10%)	

Notes: 1. N=4825 is number of complete non-frail cases with self-efficacy information at baseline. 2. N=1006 is number of excluded cases because of no following up info of frailty. 3. Chi-squared test for categorical variables and t-test for continuous variables are examined by self-efficacy. 4. Percentages, means, and SDs are weighted measures. SD: Standard Deviation

Supplemental Table S2. Frailty Incidence for Low vs High Self-Efficacy with Prefrail as Covariate

Variable		Model 1		Model 2	
		Hazard Ratios (CI)	P values	Hazard Ratios (CI)	P values
Time intervals					
	1	ref	ref	ref	ref
	2	0.89 (0.74-1.07)	0.218	0.91 (0.75-1.10)	0.319
	3	0.91 (0.74-1.13)	0.384	0.94 (0.76-1.17)	0.569
	4	1.04 (0.86-1.26)	0.695	1.09 (0.90-1.32)	0.358
	5	0.74 (0.58-0.95)	0.021	0.80 (0.62-1.03)	0.085
	6	0.93 (0.76-1.15)	0.503	1.01 (0.82-1.26)	0.891
	7	0.94 (0.72-1.23)	0.657	1.04 (0.79-1.37)	0.794
Self-Efficacy	Low	1.26 (1.02-1.57)	0.031	1.18 (0.94-1.48)	0.151
Pre-frail at Baseline	Yes	3.25 (2.79-3.78)	<0.001	2.66 (2.29-3.09)	<0.001
Baseline Age	65-69	ref	ref	ref	ref
	70-74	1.54 (1.24-1.90)	<0.001	1.46 (1.17-1.81)	0.001
	75-79	2.08 (1.71-2.54)	<0.001	1.90 (1.57-2.31)	<0.001
	80-84	2.62 (2.14-3.22)	<0.001	2.38 (1.92-2.95)	<0.001
	85-89	3.54 (2.84-4.41)	<0.001	3.13 (2.47-3.96)	<0.001
	90+	4.45 (3.50-5.67)	<0.001	3.73 (2.94-4.73)	<0.001
Race	White, non-Hispanic	ref	ref	ref	ref
	Black, non-Hispanic	1.23 (1.06-1.43)	0.008	1.25 (1.06-1.46)	0.007
	Hispanic	1.10 (0.86-1.39)	0.449	1.21 (0.95-1.53)	0.119
	Other	1.11 (0.71-1.73)	0.656	1.16 (0.75-1.82)	0.496
Education	<8th grade	ref	ref	ref	ref
	9-12th No diploma	0.83 (0.64-1.08)	0.164	0.84 (0.64-1.10)	0.203
	High school diploma	0.71 (0.59-0.87)	0.001	0.78 (0.64-0.95)	0.015
	> High school	0.63 (0.53-0.76)	<0.001	0.67 (0.54-0.82)	<0.001
Sex	Male	ref	ref	ref	ref
	Female	1.02 (0.90-1.15)	0.804	0.90 (0.79-1.02)	0.094
Baseline Income	<15k	ref	ref	ref	ref
	15k-30k	0.93 (0.79-1.10)	0.415	0.92 (0.77-1.10)	0.350
	30k-60k	0.76 (0.63-0.93)	0.009	0.79 (0.64-0.97)	0.024
	>60k	0.66 (0.54-0.80)	<0.001	0.68 (0.56-0.83)	<0.001
Baseline Disability	Fully able			ref	ref
	Accommodate/reduced frequency			1.31 (1.14-1.50)	<0.001
	Difficulty			1.86 (1.42-2.43)	<0.001
	Need assistance			2.31 (1.84-2.89)	<0.001
Disease Count				1.23 (1.19-1.28)	<0.001

Notes: CI: Confidence Intervals. Numbers reported are calculated based on weighted counts.

Supplemental Table S3. Frailty Incidence for Low vs High Self-Efficacy with No Baseline Depressive Symptoms Sample

Variable		Model 1 (Primary)* N=4294		Model 2* N=4294	
		Hazard Ratios	P values	Hazard Ratios	P values
Time intervals	1	ref	ref	ref	ref
	2	0.88 (0.70-1.11)	0.279	0.91 (0.73-1.14)	0.415
	3	0.90 (0.73-1.11)	0.319	0.94 (0.76-1.17)	0.595
	4	0.98 (0.79-1.21)	0.829	1.05 (0.85-1.29)	0.653
	5	0.66 (0.49-0.87)	0.004	0.72 (0.54-0.95)	0.021
	6	0.90 (0.71-1.15)	0.398	1.00 (0.78-1.28)	0.979
	7	0.89 (0.66-1.20)	0.437	1.00 (0.74-1.36)	0.976
Self-Efficacy	Low	1.32 (1.03-1.69)	0.028	1.21 (0.94-1.56)	0.141
Demographics					
Baseline Age	65-69	ref	ref	ref	ref
	70-74	1.63 (1.29-2.06)	<0.001	1.50 (1.16-1.94)	0.003
	75-79	2.31 (1.87-2.86)	<0.001	2.02 (1.63-2.51)	<0.001
	80-84	3.19 (2.53-4.03)	<0.001	2.73 (2.12-3.50)	<0.001
	85-89	4.19 (3.33-5.27)	<0.001	3.39 (2.61-4.40)	<0.001
	90+	5.79 (4.41-7.60)	<0.001	4.42 (3.38-5.77)	<0.001
Race	White, non-Hispanic	ref	ref	ref	ref
	Black, non-Hispanic	1.33 (1.12-1.57)	0.001	1.31 (1.11-1.54)	0.002
	Hispanic	1.03 (0.78-1.38)	0.815	1.16 (0.89-1.51)	0.272
	Other	1.10 (0.66-1.85)	0.699	1.19 (0.71-1.99)	0.506
Education	< 8th grade	ref	ref	ref	ref
	9-12th No diploma	0.86 (0.64-1.15)	0.292	0.88 (0.65-1.19)	0.406
	High school diploma	0.75 (0.61-0.94)	0.011	0.82 (0.65-1.03)	0.089
	> High school	0.63 (0.51-0.77)	<0.001	0.66 (0.52-0.85)	0.001
Sex	Male	ref	ref	ref	ref
	Female	1.01 (0.88-1.17)	0.833	0.87 (0.75-1.00)	0.049
Baseline Income	<15k	ref	ref	ref	ref
	15k-30k	0.88 (0.74-1.05)	0.157	0.88 (0.73-1.06)	0.179
	30k-60k	0.67 (0.55-0.81)	<0.001	0.70 (0.56-0.86)	0.001
	>60k	0.56 (0.45-0.70)	<0.001	0.61 (0.48-0.77)	<0.001
Baseline Disability	Fully able			ref	ref
	Accommodate/reduced frequency			1.42 (1.23-1.64)	<0.001
	Difficulty			2.40 (1.77-3.25)	<0.001
	Need assistance			2.80 (2.22-3.54)	<0.001
Disease				1.29 (1.24-1.35)	<0.001

*Weighted Counts

Notes: Model 1 is adjusted for age, race/ethnicity, sex, education and income. Model 2 is further adjusted for chronic disease count and disability.

Supplemental Table S4. Frailty Incidence for Three Categories of Self-Efficacy

Variable		Model 1		Model 2	
		Hazard Ratios (CI)	P values	Hazard Ratios (CI)	P values
Time intervals	1	ref	ref	ref	ref
	2	0.86 (0.71-1.03)	0.103	0.89 (0.74-1.07)	0.207
	3	0.86 (0.69-1.06)	0.148	0.90 (0.72-1.12)	0.335
	4	0.95 (0.79-1.16)	0.634	1.03 (0.85-1.25)	0.757
	5	0.67 (0.52-0.86)	0.002	0.74 (0.58-0.96)	0.024
	6	0.83 (0.68-1.02)	0.081	0.94 (0.76-1.16)	0.547
	7	0.83 (0.63-1.08)	0.161	0.95 (0.72-1.25)	0.703
Self-Efficacy	Agree A Lot	ref	ref	ref	ref
	Agree A Little	1.38 (1.10-1.73)	0.006	1.25 (0.99-1.57)	0.059
	Agree Not At All	1.75 (0.96-3.19)	0.065	1.56 (0.80-3.02)	0.187
Baseline Age	65-69	ref	ref	ref	ref
	70-74	1.65 (1.35-2.01)	<0.001	1.52 (1.23-1.88)	<0.001
	75-79	2.21 (1.83-2.66)	<0.001	1.93 (1.60-2.33)	<0.001
	80-84	2.94 (2.42-3.58)	<0.001	2.50 (2.03-3.09)	<0.001
	85-89	4.07 (3.30-5.04)	<0.001	3.32 (2.64-4.17)	<0.001
	90+	5.28 (4.14-6.74)	<0.001	4.03 (3.18-5.10)	<0.001
Race	White, non-Hispanic	ref	ref	ref	ref
	Black, non-Hispanic	1.28 (1.10-1.49)	0.002	1.27 (1.09-1.49)	0.003
	Hispanic	1.11 (0.87-1.41)	0.388	1.21 (0.95-1.54)	0.122
	Other	1.06 (0.65-1.73)	0.796	1.13 (0.71-1.80)	0.605
Education	< 8th grade	ref	ref	ref	ref
	9-12th No diploma	0.84 (0.65-1.09)	0.190	0.85 (0.66-1.11)	0.233
	High school diploma	0.69 (0.57-0.83)	<0.001	0.77 (0.63-0.93)	0.008
	> High school	0.60 (0.50-0.72)	<0.001	0.64 (0.52-0.78)	<0.001
Sex	Male	ref	ref	ref	ref
	Female	1.05 (0.92-1.19)	0.465	0.90 (0.78-1.03)	0.113
Baseline Income	<15k	ref	ref	ref	ref
	15k-30k	0.89 (0.76-1.04)	0.142	0.87 (0.73-1.03)	0.108
	30k-60k	0.70 (0.58-0.84)	<0.001	0.73 (0.59-0.89)	0.003
	>60k	0.56 (0.46-0.69)	<0.001	0.61 (0.50-0.76)	<0.001
Baseline Disability	Fully able			ref	ref
	Accommodate/reduced frequency			1.40 (1.22-1.60)	<0.001
	Difficulty			2.41 (1.86-3.11)	<0.001
	Need assistance			2.74 (2.22-3.38)	<0.001
Disease			1.30 (1.25-1.35)	<0.001	

Notes: CI: Confidence Intervals. All analyses use weighted counts.