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**eTable 1 Questionnaire Items and Prevalence of Each ELA Indicator**

Types of ELA	Questionnaire Items	Prevalence (%)
Parental Illness	Did your female/male guardian have a long time be sick on bed when you were young? (yes <sup>a</sup> , no)	23.5%
	Did your female/male guardian have a serious deformity when you were young? (yes <sup>a</sup> , no)	
Parental Death	Did your female/male guardian have abnormality of mind when you were young? (yes <sup>a</sup> , no)	23.0%
	Is your biological mother/biological father alive? (yes <sup>a</sup> , no)	
Parental Quarrel/Divorce	Did your parents often quarrel? (often <sup>a</sup> , sometimes <sup>a</sup> , not very often <sup>a</sup> , never)	19.3%
	Were your biological parents divorced? (yes <sup>a</sup> , no)	
Relative Poverty	When you were a child before age 17, compared to the average family in the same community/village at that time, how was your family's financial situation? (a lot better off than them, somewhat better off than them, same as them, somewhat worse off than them <sup>a</sup> , a lot worse off than them <sup>a</sup> )	41.1%
Food Insufficiency	When you were a child before age 17 was there ever a time when your family did not have enough food to eat? (yes <sup>a</sup> , no)	77.9%
Domestic Violence	When you were growing up, did your female/male guardian ever hit you? Was that often, sometimes, rarely, or never? (often <sup>a</sup> , sometimes <sup>a</sup> , rarely <sup>a</sup> , never)	56.9%
Bullying	When you were a child, how often were you picked on or bullied by kids in your neighborhood? Is it often, sometimes, rarely or never? (often <sup>a</sup> , sometimes <sup>a</sup> , not very often <sup>a</sup> , never)	26.5%
	When you were a child, how often were you picked on or bullied by kids in your school? Is it often, sometimes, rarely or never? (often <sup>a</sup> , sometimes <sup>a</sup> , not very often <sup>a</sup> , never)	
Poor Physical Health	Before you were 15 years old (including 15 years old), would you say that compared to other children of the same age, you were (much healthier, somewhat healthier, about average, somewhat less healthy <sup>a</sup> , much less healthy <sup>a</sup> )	13.1%
Loneliness	When you were a child, how often did you feel lonely for not having friends? Is it often, sometimes, not very often or never? (often <sup>a</sup> , sometimes <sup>a</sup> , not very often <sup>a</sup> , never)	13.4%

Notes: ELA = early life adversity. <sup>a</sup> Answers indicate thresholds for ELA. Prevalence indicates the proportion of individuals who have experienced ELA. "Poor

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Physical Health” and “Loneliness” are two additional indicators of ELA added for sensitivity analysis.

**eTable 3 Tabulated BIC and 2ΔBIC (using 12 chronic conditions)**

Number of Groups	BIC	Entropy	2(ΔBIC)
1	-302678.31	.	.
2	-245853.85	0.972	113648.92
3	-219850.02	0.976	52007.66
4	-206847.93	0.980	26004.18
5	-194196.80	0.979	25302.26
6	-186460.39	0.945	15472.82

Notes: The GBTM analyses using 12 chronic conditions (excluding memory-related and emotional/psychiatric problems given their low prevalence in the study population). N=9,112. BIC = Bayesian Information Criterion. The closer the entropy is to 1, the better the model fits.

**eTable 4 Sample Characteristics by Multimorbidity Trajectories in CHARLS 2018 (N=9,112)**

Variables (%)	Multimorbidity Trajectories				P-value
	Group 1	Group 2	Group 3	Group 4	
Female	45.8	51.0	51.7	57.1	<0.001
Rural	65.1	63.6	63.0	64.3	0.464
Marital Status					<0.001
married	72.3	77.3	81.2	83.6	
other status	27.7	22.7	18.8	16.4	
Educational Attainment					0.116
below high school	90.4	90.9	89.8	88.5	
high school and above	9.6	9.1	10.2	11.5	
Receiving <i>Dibao</i> Assistance	92.0	90.6	90.1	86.8	<0.001
Types of Medical Insurance					0.656
none	3.3	3.2	2.8	2.3	
urban employee	12.2	12.5	13.2	14.1	
urban and rural resident	82.0	82.0	81.7	81.2	
others	2.6	2.3	2.3	2.4	
Smoking	52.2	55.3	55.6	56.9	0.038
Drinking	63.2	65.3	65.2	69.3	0.004
Physical Activity					0.020
none	13.6	12.6	12.1	13.7	
low intensity	35.7	33.0	31.9	32.8	
moderate intensity	23.8	27.6	28.7	26.9	
high intensity	26.9	26.7	27.4	26.6	

*Notes:* ELA = early life adversity. The information is from the China Health and Retirement Longitudinal Study 2018. Other status of marriage includes unmarried/divorced/separated/widowed. Urban and rural resident medical insurance integrated urban resident medical insurance and new rural cooperative medical insurance. The results of the chi-square test for variables.

**eTable 5 Multinomial Logistic Regression Models for nine types of ELA Experiences and Multimorbidity Trajectories**

Variables	Group 2	Group 3	Group 4
	Low onset-rapidly increasing	Middle onset-moderately increasing	Chronically-high
	RRR (95% CI)	RRR (95% CI)	RRR (95% CI)
<b>Model 1</b>			
Parental Illness	1.050 (0.883-1.250)	1.220 (1.044-1.425)*	1.816 (1.517-2.173)***
Parental Death	1.015 (0.860-1.197)	0.994 (0.856-1.154)	0.935 (0.777-1.125)
Parental Quarrel/Divorce	1.206 (1.003-1.449)*	1.166 (0.986-1.377)	1.230 (1.010-1.499)*
Relative Poverty	1.069 (0.922-1.238)	1.176 (1.030-1.344)*	1.229 (1.045-1.446)*
Food Insufficiency	1.413 (1.204-1.659)***	1.366 (1.183-1.576)***	1.768 (1.461-2.141)***
Domestic Violence	1.128 (0.978-1.302)	1.343 (1.180-1.528)***	1.586 (1.349-1.865)***
Bullying	1.046 (0.882-1.239)	1.188 (1.021-1.383)*	1.377 (1.149-1.650)**
Poor Physical Health	1.333 (1.050-1.692)*	1.613 (1.302-1.998)***	2.317 (1.827-2.939)***
Loneliness	0.973 (0.785-1.207)	1.028 (0.848-1.246)	1.160 (0.924-1.458)
<b>Model 2</b>			
ELA (ref: none)			
1-2	1.668 (1.248-2.229)**	1.483 (1.151-1.910)**	2.119 (1.430-3.138)***
3-4	2.088 (1.556-2.803)***	2.205 (1.706-2.851)***	4.088 (2.760-6.054)***
5-9	2.278 (1.632-3.180)***	3.016 (2.254-4.035)***	7.862 (5.173-11.947)***

Notes: Reference category was Group 1 ("maintaining-low"). RRR = relative risk ratios. CI = confidence interval. ELA = early life adversity. ref =reference. \*p < .05; \*\*p < .01; \*\*\*p < .001. Model adjusted for gender, residence area, marital status, educational attainment, types of medical insurance, and whether receive *Dibao* assistance, smoking, drinking, and physical activity.

**eTable 6 Multinomial Logistic Regressions for ELA Experiences (Male, N=4,440)**

Variables	Group 2	Group 3	Group 4
	Low onset-rapidly increasing	Middle onset-moderately increasing	Chronically-high
	RRR (95% CI)	RRR (95% CI)	RRR (95% CI)
<b>Model 1</b>			
Parental Illness	0.884 (0.693-1.128)	1.140 (0.923-1.407)	1.756 (1.363-2.261)***
Parental Death	1.028 (0.820-1.288)	1.052 (0.860-1.286)	1.045 (0.808-1.351)
Parental Quarrel/Divorce	1.111 (0.862-1.433)	1.172 (0.935-1.469)	1.134 (0.855-1.505)
Relative Poverty	1.053 (0.861-1.288)	1.216 (1.016-1.454)*	1.343 (1.069-1.687)*
Food Insufficiency	1.444 (1.151-1.812)**	1.548 (1.263-1.897)***	1.873 (1.404-2.499)***
Domestic Violence	1.056 (0.864-1.290)	1.196 (0.998-1.434)	1.440 (1.130-1.835)**
Bullying	0.957 (0.769-1.190)	1.124 (0.928-1.362)	1.324 (1.042-1.683)*
<b>Model 2</b>			
ELA (ref: none)			
1-2	2.145 (1.365-3.370)**	1.621 (1.108-2.372)*	1.919 (1.072-3.435)*
3-4	2.241 (1.425-3.524)***	2.249 (1.539-3.287)***	3.018 (1.695-5.374)***
5-7	2.284 (1.341-3.891)**	3.214 (2.058-5.020)***	6.224 (3.316-11.683)***

Notes: Reference category was Group 1 ("maintaining-low"). RRR = relative risk ratios. CI = confidence interval. ELA = early life adversity. ref =reference. \*p < .05; \*\*p < .01; \*\*\*p < .001. Model adjusted for residence area, marital status, educational attainment, types of medical insurance, and whether receive *Dibao* assistance, smoking, drinking, and physical activity.

**eTable 7 Multinomial Logistic Regressions for ELA Experiences ( Female, N=4,672)**

Variables	Group 2	Group 3	Group 4
	Low onset-rapidly increasing	Middle onset-moderately increasing	Chronically-high
	RRR (95% CI)	RRR (95% CI)	RRR (95% CI)
<b>Model 1</b>			
Parental Illness	1.273 (0.993-1.633)	1.351 (1.076-1.696)*	2.061 (1.599-2.656)***
Parental Death	1.030 (0.810-1.308)	0.965 (0.775-1.201)	0.905 (0.697-1.176)
Parental Quarrel/Divorce	1.321 (1.012-1.724)*	1.194 (0.934-1.527)	1.374 (1.041-1.815)*
Relative Poverty	1.128 (0.912-1.395)	1.217 (1.003-1.477)*	1.332 (1.061-1.670)*
Food Insufficiency	1.350 (1.078-1.690)**	1.234 (1.009-1.509)*	1.699 (1.315-2.195)***
Domestic Violence	1.219 (0.993-1.497)	1.521 (1.263-1.831)***	1.777 (1.426-2.215)***
Bullying	1.254 (0.959-1.640)	1.401 (1.098-1.789)**	1.692 (1.286-2.227)***
<b>Model 2</b>			
ELA (ref: none)			
1-2	1.412 (0.991-2.013)	1.445 (1.057-1.975)*	1.949 (1.241-3.060)**
3-4	2.013 (1.390-2.916)***	2.147 (1.546-2.983)***	4.408 (2.784-6.979)***
5-7	3.588 (2.120-6.074)***	4.212 (2.601-6.819)***	9.444 (5.237-17.030)***

Notes: Reference category was Group 1 ("maintaining-low"). RRR = relative risk ratios. CI = confidence interval. ELA = early life adversity. ref =reference. \*p < .05; \*\*p < .01; \*\*\*p < .001. Model adjusted for residence area, marital status, educational attainment, types of medical insurance, and whether receive *Dibao* assistance, smoking, drinking, and physical activity.

**eTable 8 Multinomial Logistic Regressions for ELA Experiences (Urban , N=3,305)**

Variables	Group 2	Group 3	Group 4
	Low onset-rapidly increasing	Middle onset-moderately increasing	Chronically-high
	RRR (95% CI)	RRR (95% CI)	RRR (95% CI)
<b>Model 1</b>			
Parental Illness	1.086 (0.794-1.484)	1.198 (0.905-1.585)	1.673 (1.210-2.313)**
Parental Death	1.060 (0.793-1.416)	1.021 (0.786-1.327)	1.031 (0.746-1.425)
Parental Quarrel/Divorce	1.207 (0.889-1.639)	1.110 (0.841-1.465)	1.195 (0.860-1.662)
Relative Poverty	1.111 (0.858-1.438)	1.324 (1.049-1.670)*	1.419 (1.072-1.879)*
Food Insufficiency	1.518 (1.170-1.970)**	1.415 (1.123-1.784)**	1.837 (1.355-2.490)***
Domestic Violence	1.166 (0.917-1.484)	1.385 (1.115-1.722)**	1.640 (1.249-2.154)***
Bullying	1.069 (0.800-1.429)	1.250 (0.965-1.619)	1.689 (1.246-2.291)**
<b>Model 2</b>			
ELA (ref: none)			
1-2	1.709 (1.118-2.614)*	1.821 (1.245-2.663)**	2.378 (1.365-4.143)**
3-4	2.113 (1.359-3.285)**	2.652 (1.788-3.933)***	4.394 (2.497-7.732)***
5-7	3.195 (1.718-5.944)***	4.463 (2.546-7.824)***	9.875 (4.867-20.032)***

Notes: Reference category was Group 1 ("maintaining-low"). RRR = relative risk ratios. CI = confidence interval. ELA = early life adversity. ref =reference. \*p < .05; \*\*p < .01; \*\*\*p < .001. Model adjusted for gender, marital status, educational attainment, types of medical insurance, and whether receive *Dibao* assistance, smoking, drinking, and physical activity.



**eTable 9 Multinomial Logistic Regressions for ELA Experiences (Rural, N=5,807)**

Variables	Group 2	Group 3	Group 4
	Low onset-rapidly increasing	Middle onset-moderately increasing	Chronically-high
	RRR (95% CI)	RRR (95% CI)	RRR (95% CI)
<b>Model 1</b>			
Parental Illness	1.049 (0.852-1.290)	1.244 (1.034-1.496)*	2.009 (1.623-2.486)***
Parental Death	1.022 (0.837-1.246)	1.011 (0.845-1.209)	0.963 (0.772-1.202)
Parental Quarrel/Divorce	1.214 (0.965-1.526)	1.218 (0.990-1.498)	1.294 (1.013-1.653)*
Relative Poverty	1.086 (0.910-1.296)	1.160 (0.989-1.360)	1.304 (1.072-1.584)**
Food Insufficiency	1.337 (1.093-1.636)**	1.339 (1.117-1.605)**	1.761 (1.379-2.250)***
Domestic Violence	1.118 (0.937-1.334)	1.321 (1.126-1.549)**	1.586 (1.298-1.936)***
Bullying	1.040 (0.846-1.279)	1.203 (1.001-1.446)*	1.337 (1.073-1.666)*
<b>Model 2</b>			
ELA (ref: none)			
1-2	1.693 (1.173-2.442)**	1.325 (0.971-1.810)	1.762 (1.107-2.803)*
3-4	2.037 (1.405-2.954)***	1.856 (1.354-2.545)***	3.429 (2.156-5.453)***
5-7	2.426 (1.547-3.804)***	2.917 (1.983-4.291)***	6.606 (3.920-11.132)***

Notes: Reference category was Group 1 ("maintaining-low"). RRR = relative risk ratios. CI = confidence interval. ELA = early life adversity. ref =reference. \*p < .05; \*\*p < .01; \*\*\*p < .001. Model adjusted for gender, marital status, educational attainment, types of medical insurance, and whether receive *Dibao* assistance, smoking, drinking, and physical activity.