

Supplementary Materials

This appendix has been provided by the authors to give readers additional information about their work.

Supplement to: Saito T., Van der Does FHS, Nagamine M, Van der Wee NJ, Shigemura J, Yamamoto T, Takahashi Y, Koga M, Toda H, Yoshino A, Vermetten HGJM, and Giltay EJ. Risk and resilience in trajectories of post-traumatic stress symptoms among first responders after the 2011 Great East Japan Earthquake: 7-year prospective cohort study. *The British Journal of Psychiatry* 2022;0;1–8. DOI: [10.1192/bjp.2022.2](https://doi.org/10.1192/bjp.2022.2)

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Table 1. Cox regression analysis for attrition.

Variables	hazard ratio 95% CI	z-score	p-value
Sex (reference: male)	1.66 (1.55-1.79)	13.923	< 0.001
Age (reference: ≤25 years)			
25–30 years	0.81 (0.77-0.86)	-7.525	< 0.001
30–35 years	0.80 (0.75-0.85)	-6.680	< 0.001
35–40 years	0.79 (0.74-0.84)	-6.833	< 0.001
40–45 years	0.86 (0.81-0.92)	-4.268	< 0.001
45–100 years	5.06 (4.78-5.36)	55.395	< 0.001
Rank (reference: officer)			
sergeant	0.90 (0.86-0.94)	-5.157	< 0.001
private	2.46 (2.30-2.63)	26.943	< 0.001
Personal experience of the disaster	1.08 (1.03-1.13)	3.019	0.003
Body recovery duties	0.93 (0.90-0.96)	-4.444	< 0.001
Duties with radiation exposure risk	1.00 (0.97-1.04)	0.096	0.92
Deployment length (reference: <1 month)			
1–3 months	0.93 (0.91-0.96)	-4.458	< 0.001
≥3 months	0.93 (0.89-0.98)	-3.084	0.002
Timing of post-deployment leave (reference: early)			
Late	1.05 (1.02-1.09)	3.624	< 0.001
None	1.13 (1.07-1.20)	4.425	< 0.001
Post-deployment overtime (reference: little to none)			
<3 months	0.98 (0.95-1.01)	-1.133	0.26
>3 months	0.91 (0.86-0.95)	-3.829	< 0.001

Table 2. Logistic regression analysis for prediction of each trajectory group (reference: Resilient)

Variables	Recovery				Incomplete recovery				Late-onset				Chronic			
	OR	95% CI low	95% CI high	<i>p</i> value	OR	95% CI low	95% CI high	<i>p</i> value	OR	95% CI low	95% CI high	<i>p</i> value	OR	95% CI low	95% CI high	<i>p</i> value
Sex																
male	1.00				1.00				1.00				1.00			
female	1.60	1.41	1.8	<0.001	2.14	1.82	2.52	<0.001	0.99	0.75	1.29	0.93	2.58	2.05	3.24	<0.001
Age (year)																
<=25	1.00				1.00				1.00				1.00			
26-30	0.91	0.84	0.98	0.01	1.10	0.97	1.24	0.13	1.17	1	1.38	0.06	1.16	0.94	1.44	0.16
31-35	0.93	0.86	1.02	0.13	1.46	1.27	1.67	<0.001	1.44	1.22	1.72	<0.001	1.90	1.5	2.41	<0.001
36-40	1.05	0.96	1.15	0.28	1.93	1.68	2.22	<0.001	1.91	1.6	2.27	<0.001	3.45	2.74	4.35	<0.001
41-45	1.21	1.1	1.32	<0.001	2.41	2.09	2.76	<0.001	2.29	1.93	2.72	<0.001	4.01	3.18	5.06	<0.001
>=46	1.43	1.31	1.57	<0.001	2.6	2.27	2.97	<0.001	1.39	1.16	1.67	<0.001	4.45	3.54	5.59	<0.001
Rank																
officer	1.00				1.00				1.00				1.00			
sergeant	1.02	0.95	1.09	0.6	1.01	0.92	1.1	0.84	0.91	0.81	1.02	0.12	0.98	0.86	1.11	0.7
private	1.31	1.18	1.45	<0.001	1.63	1.4	1.89	<0.001	0.69	0.56	0.84	<0.001	1.90	1.49	2.42	<0.001
Personal experience of the disaster																
no	1.00				1.00				1.00				1.00			
yes	1.75	1.62	1.89	<0.001	2.79	2.55	3.06	<0.001	1.60	1.39	1.83	<0.001	3.69	3.28	4.15	<0.001
Body recovery duties																
no	1.00				1.00				1.00				1.00			
yes	1.71	1.63	1.79	<0.001	2.29	2.15	2.44	<0.001	1.64	1.51	1.78	<0.001	2.41	2.2	2.64	<0.001
Duties with radiation exposure risk																
no	1.00				1.00				1.00				1.00			
yes	1.06	1	1.13	0.03	1.28	1.19	1.38	<0.001	1.22	1.11	1.34	<0.001	1.23	1.1	1.37	<0.001
Deployment length																
<1 month	1.00				1.00				1.00				1.00			
1-3 months	1.42	1.36	1.49	<0.001	1.63	1.52	1.75	<0.001	1.27	1.17	1.38	<0.001	1.69	1.52	1.88	<0.001
>=3 months	1.83	1.71	1.96	<0.001	2.90	2.65	3.16	<0.001	1.37	1.21	1.55	<0.001	3.47	3.06	3.93	<0.001
Timing of post-deployment leave																
early	1.00				1.00				1.00				1.00			
late	1.17	1.12	1.22	<0.001	1.24	1.17	1.32	<0.001	1.16	1.07	1.25	<0.001	1.56	1.42	1.71	<0.001
none	1.28	1.16	1.4	<0.001	1.43	1.28	1.61	<0.001	1.26	1.07	1.48	0.005	1.97	1.69	2.29	<0.001
Post-deployment overtime work																
little to none	1.00				1.00				1.00				1.00			
<3 months	1.29	1.23	1.36	<0.001	1.59	1.48	1.7	<0.001	1.23	1.13	1.34	<0.001	1.86	1.68	2.05	<0.001
>=3 months	1.38	1.28	1.49	<0.001	1.95	1.78	2.15	<0.001	1.21	1.07	1.38	0.004	2.42	2.13	2.76	<0.001

Table 3. Distribution over trajectory clusters when using linear vs. quadratic terms in the model.

Linear plus quadratic term						
Linear term	Resilient	Incomplete recovery	Recovery	Late-onset	Chronic	Total
Class 1: Resilient	29132 (95.6%)	1195	0	149	0	30476
Class 2: Recovery	308	12079 (88.4%)	556	715	0	13658
Class 3: Incomplete recovery	0	118	5423 (91.3%)	158	238	5937
Class 4: Late-onset	34	176	86	2871 (90.1%)	20	3187
Class 5: Resilient	0	0	16	4	2354 (99.2%)	2374
Total:	29474	13568	6081	3897	2612	

Figure 1. Cox regression analysis for attrition.

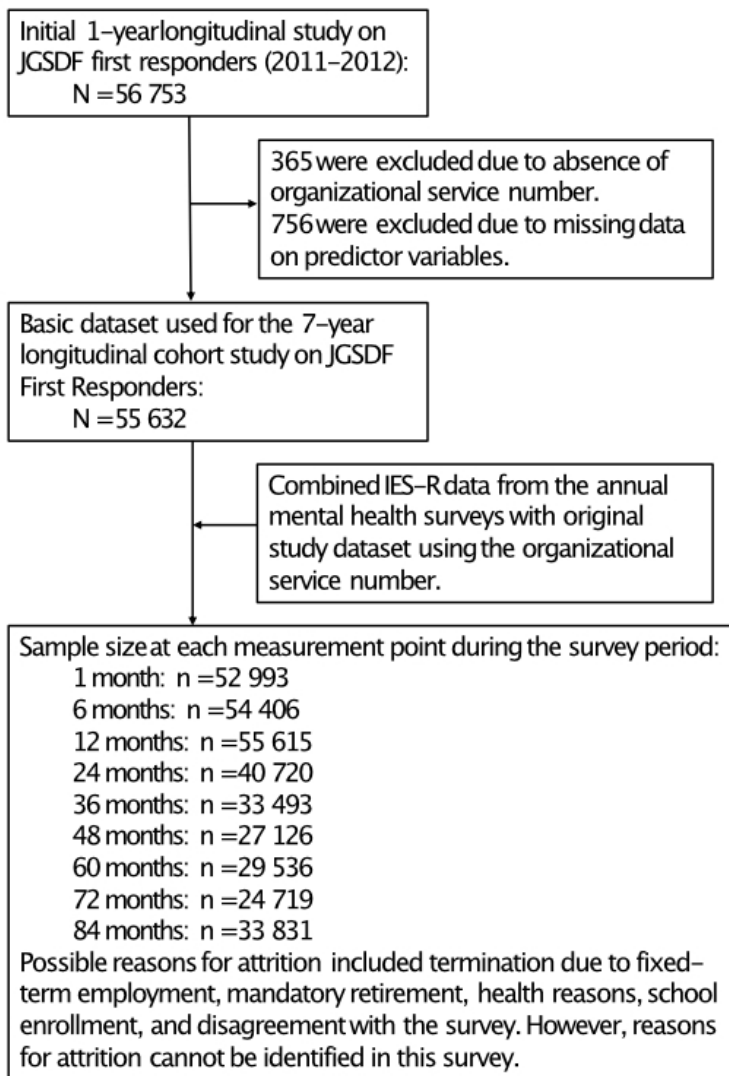
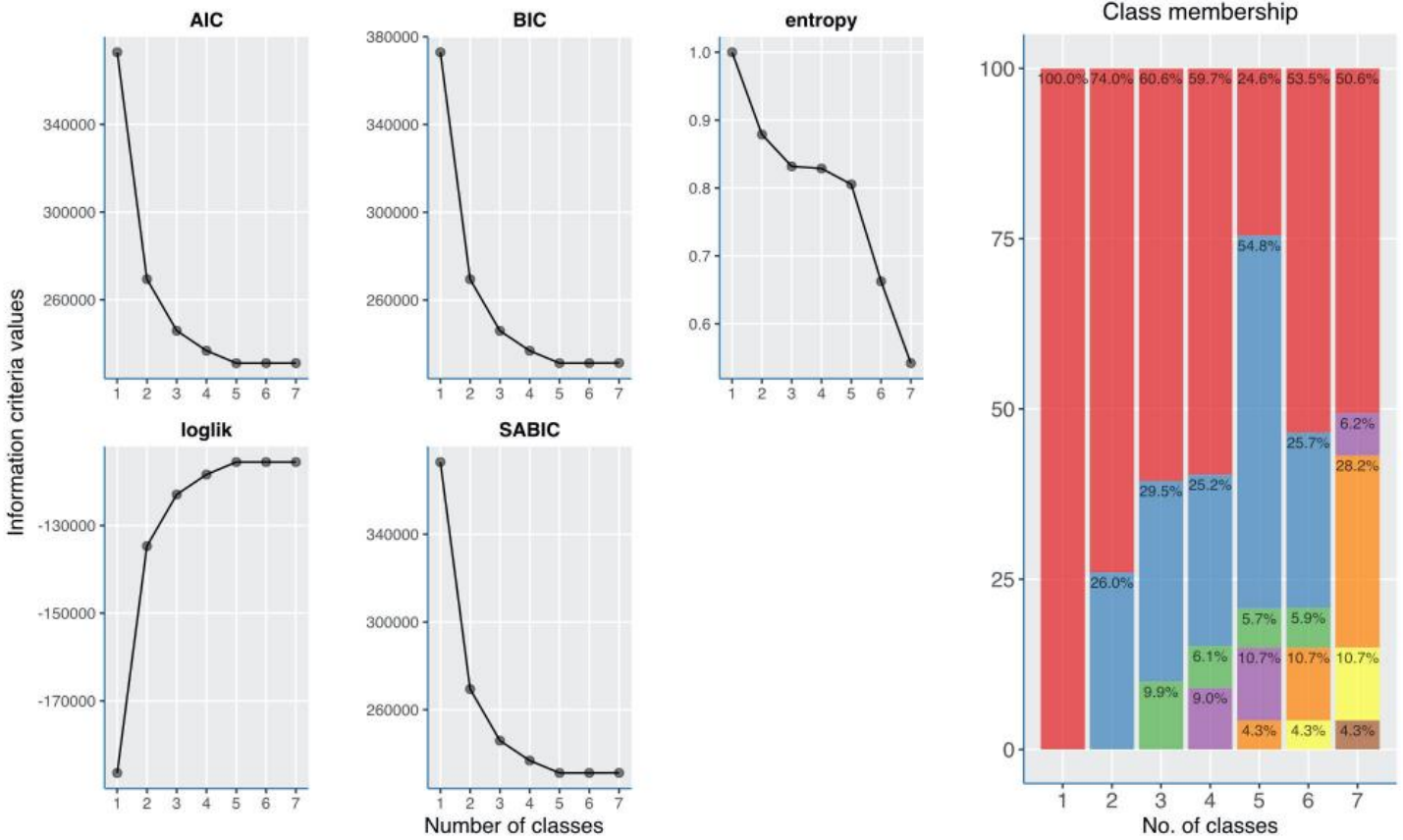


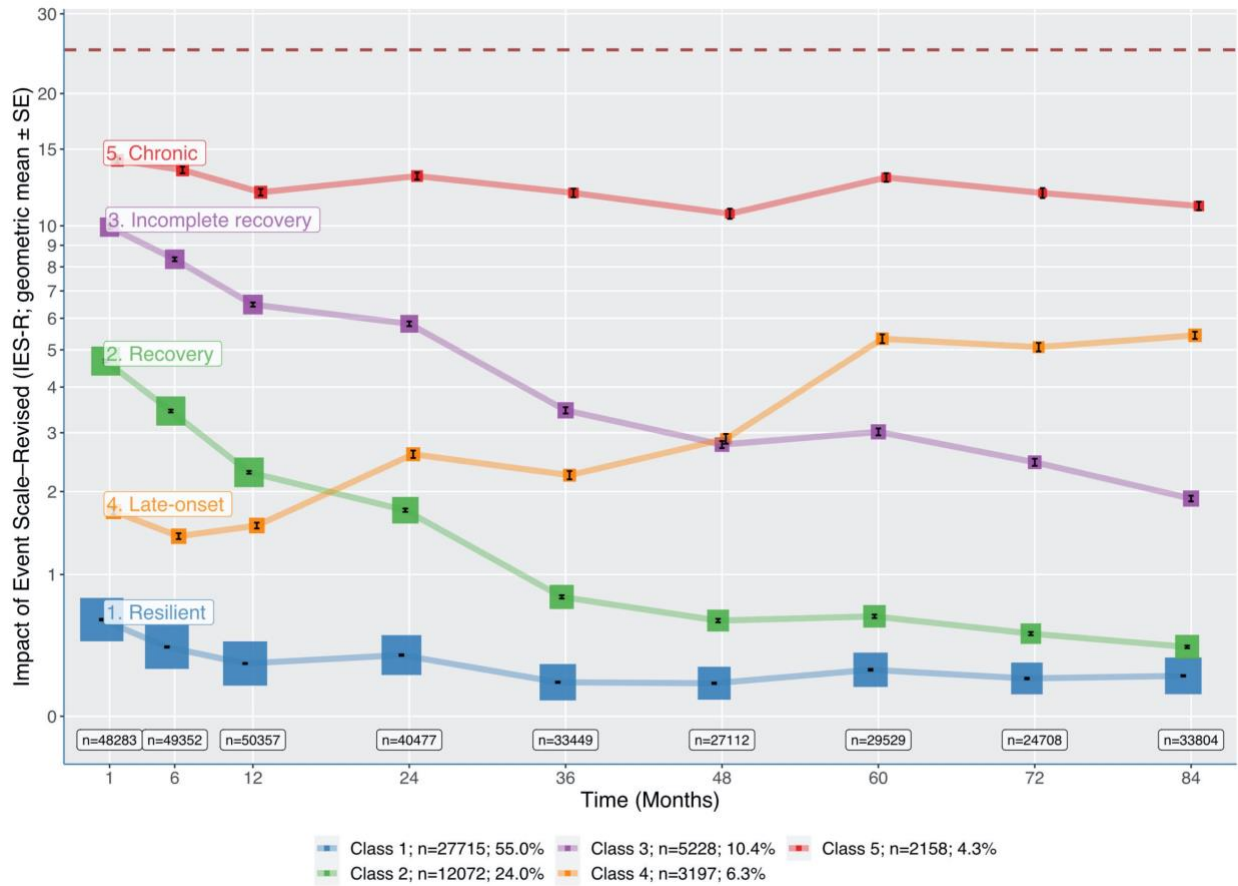
Figure 2. Fit indices for the 1- through 7-class models.



Loglik, log-likelihood; AIC, Akaike information criterion; BIC, Bayesian information criterion; SABIC; sample-size-adjusted BIC.

Best fit was determined by the lowest BIC, SABIC, and AIC, and entropy values approaching 1.

Figure 3. Longitudinal trajectories of IES-R score in participants who completed assessments at ≥ 4 time points.



The error bars represent standard errors of the mean, and the size of each box is proportional to the number of subjects within that category at that time point. The dotted line presents the cut-off score for probable PTSD in a Japanese sample.

Figure 4. Risk factors for symptomatic trajectories compared to the ‘resilient’ trajectory, for participants who completed assessments at ≥ 4 time points.



Data are odds ratios with the error bars representing 95% CI, and the size of each box is proportional to the number of participants.