

Model Validation

Our selection of the six-profile model was validated by re-running the analysis on a random sample of our original data set ($n = 800$). The fit and diagnostic statistics show in Table A demonstrate that, as in the full-sample analysis, that a 6-profile solution fit the data best. The AIC, BIC and SABIC values continued to decrease with the addition of more profiles, but the magnitude of the decrease between the six-profile and the seven-profile solutions. The p BLRT remained significant with the addition of more profiles. However, the BLRT may overestimate the number of profiles (Morin & Marsh, 2015). The p LMR was significant for the six-profile solution but did not reach significance for the seven-profile solution, suggesting that the six-profile solution performs better than both the five- and seven-profile solutions. Finally, the six-profile solution had a satisfactory entropy value and smallest average latent posterior probability.

Table A

Fit and diagnostic statistics for validation analysis

Profile s	LL	#fp	AIC	BIC	SABIC	Entro py	Small est avera ge LPP	N in smalle st profil e	% in small est profil e	p BLRT	p LMR
1	-5284.13	8	10584.26	10621.73	10596.33	-	-	-	-	-	-
2	-4729.32	13	9484.64	9545.54	9504.25	0.85	0.95	372	46.5	<.001	<.001
3	-4632.31	18	9300.62	9384.94	9327.78	0.78	0.86	181	22.6	<.001	.002
4	-4568.62	23	9183.24	9290.98	9217.95	0.81	0.81	141	17.6	<.001	.17
5	-4538.12	28	9142.21	9264.38	9174.47	0.78	0.75	117	14.6	<.001	.23
6	-4503.08	33	9072.16	9226.75	9121.96	0.83	0.81	47	5.9	<.001	.05
7	-4481.57	38	9039.14	9217.15	9096.48	0.82	0.78	52	6.5	<.001	.78
8	Log likelihood value not replicated.										

Note. $n = 800$. LL = log likelihood. #fp = number of free parameters. LPP = latent posterior probability. BLRT = Bootstrapped likelihood ratio test. LMR = Lo-Mendell-Rubin likelihood test.