

Supplemental table. Item response probabilities for models fitting 2 to 8 classes.

	2-class model		3-class model			4-class model				5-class model						
	Class 1	Class 2	Class 1	Class 2	Class 3	Class 1	Class 2	Class 3	Class 4	Class 1	Class 2	Class 3	Class 4	Class 5	Class 1	Class 2
Reasons	31.86%	68.14%	7.29%	63.35%	29.36%	28.82%	6.96%	6.93%	57.30%	46.49%	9.26%	6.33%	28.93%	8.98%	9.14%	6.36%
Experiment	99.96%	33.36%	15.13%	37.15%	99.97%	100.0%	51.2%	13.7%	37.1%	38.27%	27.57%	12.51%	99.99%	50.35%	27.60%	12.76%
Tastes good	6.70%	50.67%	35.78%	52.14%	5.13%	4.2%	95.6%	22.9%	47.5%	50.52%	25.20%	20.37%	4.54%	91.70%	24.77%	19.26%
Boredom	1.81%	31.19%	16.64%	32.60%	0.98%	0.6%	69.8%	5.8%	28.6%	31.25%	8.62%	5.05%	0.68%	66.60%	8.00%	4.75%
Good time	1.97%	28.83%	7.45%	31.18%	1.01%	0.5%	58.5%	1.1%	27.9%	31.51%	7.76%	0.45%	0.37%	53.08%	7.02%	0.81%
Relax	2.21%	26.68%	33.73%	25.25%	2.19%	2.3%	72.2%	22.5%	20.3%	2.32%	99.14%	18.24%	0.52%	81.37%	99.53%	17.59%
Looks cool	2.91%	18.21%	5.44%	19.63%	2.36%	2.3%	44.8%	1.0%	16.6%	20.35%	0.07%	0.68%	1.99%	36.18%	0.03%	0.96%
Get high	0.14%	9.93%	6.95%	10.08%	0.01%	0.1%	33.9%	3.0%	7.4%	5.92%	10.23%	2.81%	0.40%	31.30%	9.90%	2.77%
Help quit cigarettes	0.01%	12.55%	94.47%	2.48%	0.07%	0.1%	32.4%	89.9%	0.1%	0.36%	0.03%	93.23%	0.07%	27.28%	0.02%	93.29%
Cigarettes not permitted	0.00%	7.58%	51.57%	2.14%	0.06%	0.2%	24.1%	44.1%	0.7%	0.72%	1.12%	45.64%	0.16%	19.87%	1.18%	45.11%
Hooked	0.00%	1.35%	3.88%	1.02%	0.00%	0.00%	6.92%	2.45%	0.47%	0.34%	1.18%	2.51%	0.00%	5.54%	1.11%	2.54%

6-class model				7-class model							8-class model							
Class 3	Class 4	Class 5	Class 6	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8
36.65%	9.16%	29.19%	9.50%	11.80%	8.67%	3.87%	6.34%	29.26%	7.31%	32.74%	14.65%	98.00%	11.73%	5.43%	9.77%	0.0649	11.27%	30.86%
42.06%	49.08%	99.99%	22.71%	23.59%	49.28%	2.28%	12.46%	47.02%	2.23%	99.99%	37.19%	52.27%	33.50%	14.40%	51.88%	12.69%	22.78%	99.99%
38.13%	94.14%	3.69%	99.92%	27.16%	94.22%	1.03%	19.71%	46.83%	99.94%	9.12%	99.95%	92.17%	43.02%	0.21%	40.60%	20.32%	23.21%	0.09%
36.71%	65.92%	0.73%	11.47%	10.92%	65.31%	0.06%	5.15%	47.67%	6.98%	0.28%	0.11%	66.43%	99.84%	0.05%	30.96%	5.26%	1.75%	0.07%
40.61%	51.03%	0.05%	0.05%	8.42%	54.04%	99.86%	0.37%	33.93%	0.37%	2.26%	12.09%	56.97%	19.13%	99.88%	35.43%	0.29%	8.94%	2.44%
3.45%	79.49%	0.33%	0.21%	76.49%	79.22%	0.05%	18.13%	4.01%	0.24%	1.95%	2.39%	71.41%	9.81%	0.05%	2.26%	19.32%	73.03%	2.16%
26.13%	34.56%	1.80%	0.04%	0.00%	34.97%	0.03%	0.98%	32.72%	0.02%	2.03%	0.01%	35.77%	0.04%	0.02%	99.50%	0.75%	0.04%	0.16%
7.63%	30.63%	0.40%	0.03%	19.47%	31.45%	1.71%	2.76%	4.51%	0.01%	0.67%	2.12%	31.86%	1.08%	2.62%	1.56%	2.95%	22.61%	0.68%
0.05%	28.05%	0.08%	0.04%	0.03%	29.33%	0.40%	93.43%	0.02%	0.01%	0.18%	0.38%	24.99%	0.01%	0.27%	0.25%	92.38%	0.05%	0.01%
0.91%	19.71%	0.16%	0.00%	1.05%	20.33%	0.01%	45.61%	1.12%	0.00%	0.17%	0.00%	18.12%	1.04%	0.01%	0.85%	45.97%	1.16%	0.21%
0.42%	5.53%	0.00%	0.00%	2.48%	5.59%	0.00%	2.31%	0.00%	0.00%	0.00%	0.00%	4.88%	0.00%	0.00%	0.00%	2.37%	2.58%	0.00%