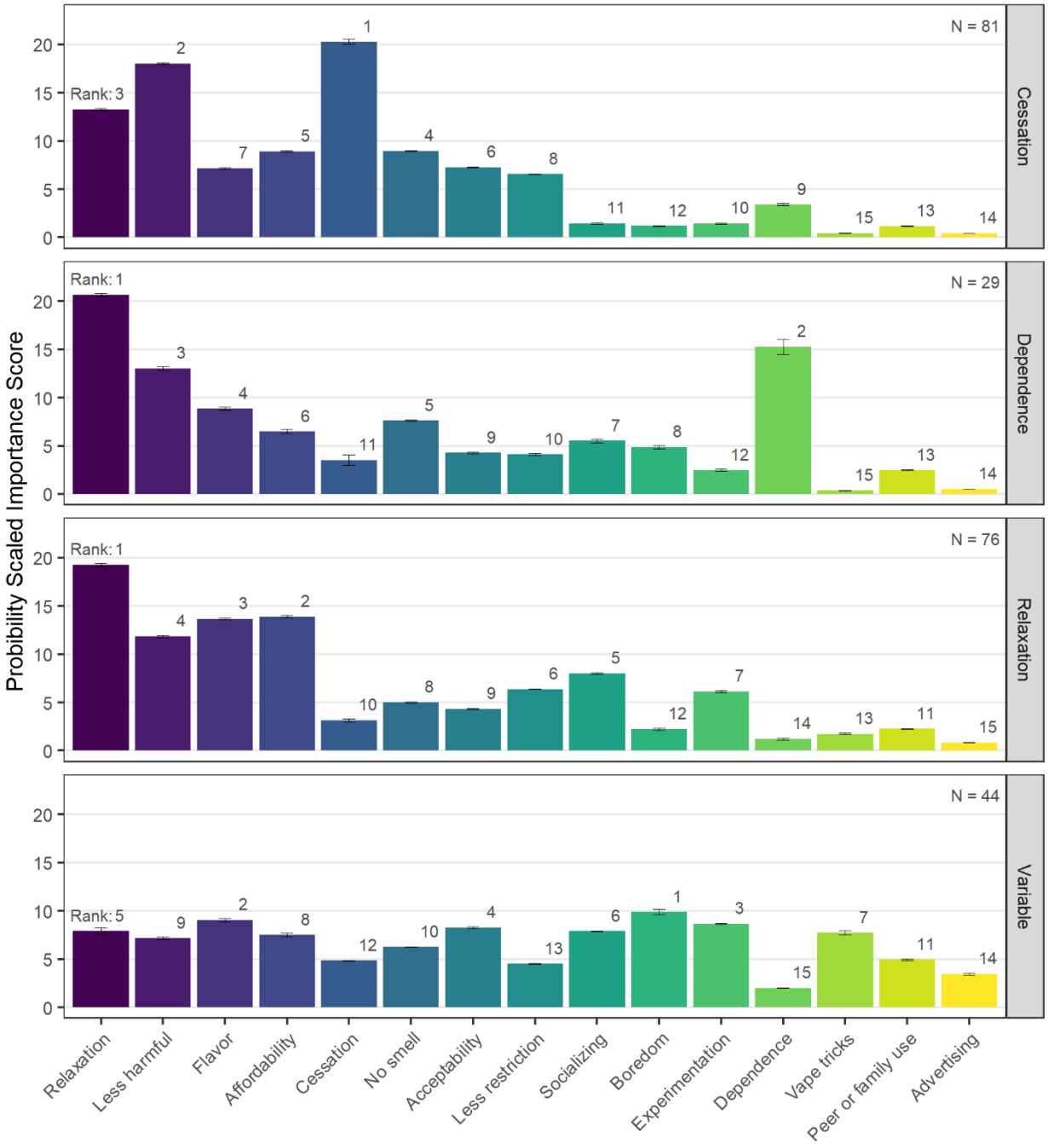
Supplemental Materials

eFigure 1. Probability Scaled Importance Scores for E-Cigarette Use Reasons by the 4-Latent Class Solution (N=230)



eTable 1. Latent Class Analysis Fit Indices

Groups	Log-likelihood	McFadden's Adjusted R^2	AIC	CAIC	BIC	ABIC	Chi-Square	Relative Chi-Square	Group Segment Size					
									1.	2.	3.	4.	5.	6.
1	-5557.35	16.59482	11142.70	11245.29	11231.29	11186.81	2211.450	157.9607	100%					
2	-5175.96	22.31873	10409.92	10622.44	10593.44	10501.29	2974.227	102.5596	61.3%	38.7%				
3	-5028.07	24.53828	10144.14	10466.59	10422.59	10282.78	3270.007	74.3183	39.0%	26.1%	34.9%			
4	-4927.02	26.05489	9972.03	10404.41	10345.41	10157.94	3472.112	58.8494	19.3%	33.3%	12.8%	34.7%		
5	**-4847.22**	**27.25241**	**9842.44**	**10384.75**	**10310.75**	**10075.61**	**3631.696**	**49.0770**	**15.7%**	**27.9%**	**9.9%**	**34.5%**	**12.0%**	
6	-4786.88	28.15806	9751.76	10403.99	10314.99	10032.19	3752.384	42.1616	10.6%	35.1%	18.3%	5.4%	10.2%	20.5%

Note. From 100 Replicated Latent Class Models with 2000 Maximum Convergence Iterations. Bolded row indicates accepted solution.

eTable 2. Probability Scaled Importance Scores for E-Cigarette Use Reasons across Latent Classes (N=230)

	Probability Scaled Importance Scores				
	Cessation	**Dependence**	**Relaxation**	**Socializing**	**Variable**
	Group 4	*Group 3*	*Group 2*	*Group 5*	*Group 1*
Reason	N = 80	N = 21	N = 66	N = 27	N = 36
Relaxation	13.3 (13.3, 13.4)	20.5 (20.4, 20.5)	20.6 (20.5, 20.6)	11.7 (11.6, 11.8)	8.4 (8.2, 8.6)
Less harmful	17.9 (17.9, 18.0)	14.2 (14.1, 14.2)	12.6 (12.5, 12.6)	9.0 (8.8, 9.2)	6.9 (6.8, 7.0)
Flavor	7.0 (6.9, 7.0)	9.1 (9.1, 9.1)	13.9 (13.8, 14.0)	12.3 (12.2, 12.4)	8.4 (8.3, 8.5)
Affordability	8.9 (8.9, 9.0)	6.3 (6.3, 6.3)	14.7 (14.6, 14.8)	5.6 (5.5, 5.7)	9.0 (8.9, 9.1)
Cessation	20.2 (20.1, 20.4)	2.4 (2.4, 2.4)	2.8 (2.7, 2.9)	5.2 (4.9, 5.6)	5.1 (4.9, 5.2)
No smell	9.1 (9.1, 9.1)	6.2 (6.2, 6.2)	5.5 (5.4, 5.5)	2.6 (2.5, 2.7)	9.1 (9.1, 9.2)
Acceptable	7.2 (7.2, 7.2)	3.5 (3.5, 3.5)	4.4 (4.3, 4.4)	3.9 (3.9, 4.0)	10.2 (10.0, 10.3)
Less restriction	6.7 (6.7, 6.7)	3.3 (3.3, 3.3)	6.0 (6.0, 6.0)	5.3 (5.2, 5.3)	4.9 (4.9, 5.0)
Socializing	1.4 (1.4, 1.5)	6.3 (6.3, 6.3)	5.3 (5.2, 5.4)	22.2 (21.7, 22.7)	3.5 (3.4, 3.6)
Boredom	1.1 (1.1, 1.2)	3.6 (3.6, 3.6)	2.6 (2.5, 2.6)	3.3 (3.2, 3.3)	10.5 (10.3, 10.7)
Experimentation	1.4 (1.4, 1.4)	2.2 (2.2, 2.2)	6.4 (6.4, 6.5)	5.6 (5.5, 5.7)	8.1 (8.1, 8.2)
Dependence	3.5 (3.5, 3.6)	19.2 (19.1, 19.2)	1.2 (1.1, 1.3)	2.0 (2.0, 2.1)	1.9 (1.8, 1.9)
Vape tricks	0.4 (0.4, 0.4)	0.3 (0.3, 0.3)	1.7 (1.7, 1.7)	2.2 (2.2, 2.3)	7.5 (7.3, 7.6)
Peer or family use	1.2 (1.1, 1.2)	2.5 (2.5, 2.5)	1.8 (1.7, 1.8)	7.3 (7.1, 7.4)	3.2 (3.2, 3.3)
Advertising	0.4 (0.4, 0.4)	0.5 (0.4, 0.5)	0.7 (0.6, 0.7)	1.8 (1.8, 1.9)	3.3 (3.2, 3.3)

Note. Data expressed as Mean (95% Confidence Interval). From a 5-solution latent class analysis with probability scaled importance scores (range 0-100) which reflect the relative likelihood that a given reason is the most important reason for e-cigarette use.

eTable 3. Association of Sample Characteristics with Remaining Pairwise Latent Classes of Reasons for E-cigarette Use (N=230)

Regressor	Dependence vs. Relaxation	Dependence vs. Socializing	Dependence vs. Variable	Relaxation vs. Socializing	Relaxation vs. Variable	Socializing vs. Variable	Omnibus *P*-value[2]
Age	1.31 (1.08, 1.59)**	1.27 (1.03, 1.58)*	1.18 (0.95, 1.45)	0.97 (0.84, 1.13)	0.90 (0.78, 1.03)	0.92 (0.78, 1.09)	.004
Gender							.11
Female	*Ref*	*Ref*	*Ref*	*Ref*	*Ref*	*Ref*	
Male	1.36 (0.45, 4.16)	1.58 (0.44, 5.62)	2.79 (0.79, 9.93)	1.16 (0.43, 3.08)	2.05 (0.78, 5.36)	1.77 (0.55, 5.66)	
Race/Ethnicity							.18
White	*Ref*	*Ref*	*Ref*	*Ref*	*Ref*	*Ref*	
Non-white	2.48 (0.77, 7.99)	2.33 (0.64, 8.56)	3.73 (1.06, 13.16)*	0.94 (0.37, 2.38)	1.51 (0.64, 3.57)	1.60 (0.56, 4.59)	
Income							
Live comfortably	*Ref*	*Ref*	*Ref*	*Ref*	*Ref*	*Ref*	.30
Meet needs	1.11 (0.29, 4.25)	2.81 (0.61, 12.87)	1.29 (0.30, 5.46)	2.52 (0.81, 7.88)	1.16 (0.43, 3.13)	0.46 (0.13, 1.64)	
Basic expenses	0.80 (0.20, 3.22)	1.01 (0.19, 5.38)	0.68 (0.15, 3.15)	1.25 (0.33, 4.77)	0.85 (0.28, 2.64)	0.68 (0.15, 3.04)	
Tobacco product use							.042
Exclusive e-cig	*Ref*	*Ref*	*Ref*	*Ref*	*Ref*	*Ref*	
Former smoker	0.91 (0.21, 3.95)	0.44 (0.07, 2.58)	2.04 (0.42, 9.93)	0.48 (0.12, 2.01)	2.23 (0.69, 7.20)	4.64 (0.96, 22.38)	
Dual user	1.75 (0.39, 7.84)	1.44 (0.28, 7.42)	2.72 (0.53, 13.88)	0.82 (0.26, 2.59)	1.55 (0.50, 4.78)	1.90 (0.50, 7.24)	
Device type							.85
Pod based device	*Ref*	*Ref*	*Ref*	*Ref*	*Ref*	*Ref*	
Other device types	1.52 (0.40, 5.75)	1.50 (0.34, 6.59)	2.11 (0.51, 8.77)	0.99 (0.36, 2.74)	1.39 (0.54, 3.59)	1.40 (0.44, 4.47)	
Dependence	0.36 (0.18, 0.72)**	0.47 (0.22, 1.00)	0.51 (0.24, 1.07)	1.31 (0.75, 2.28)	1.42 (0.84, 2.40)	1.08 (0.58, 2.02)	.018
30-day frequency	0.99 (0.93, 1.05)	1.00 (0.94, 1.08)	0.96 (0.90, 1.02)	1.02 (0.97, 1.07)	0.97 (0.93, 1.02)	0.95 (0.90, 1.01)	.004

Note. Data expressed as Relative Odds Ratios (95% Confidence Interval). [1] From separate multinomial logistic regressions predicting latent classes from covariates with the respective class serving as the referent group (i.e., dependence, relaxation, and socializing). Parameter estimates from previously analyzed paired comparisons excluded from the table. [2] From separate drop-in-deviance tests comparing the residual deviances in the fully adjusted model to a series of reduced models each omitting a single examined regressor.
* $p < .05$, ** $p < .01$, *** $p < .001$