

Supplementary Materials for

Tobacco, heated tobacco products, e-cigarette, alcohol, cannabis and other psychotropic substances. Polysubstance use during the COVID-19 pandemic in Italy

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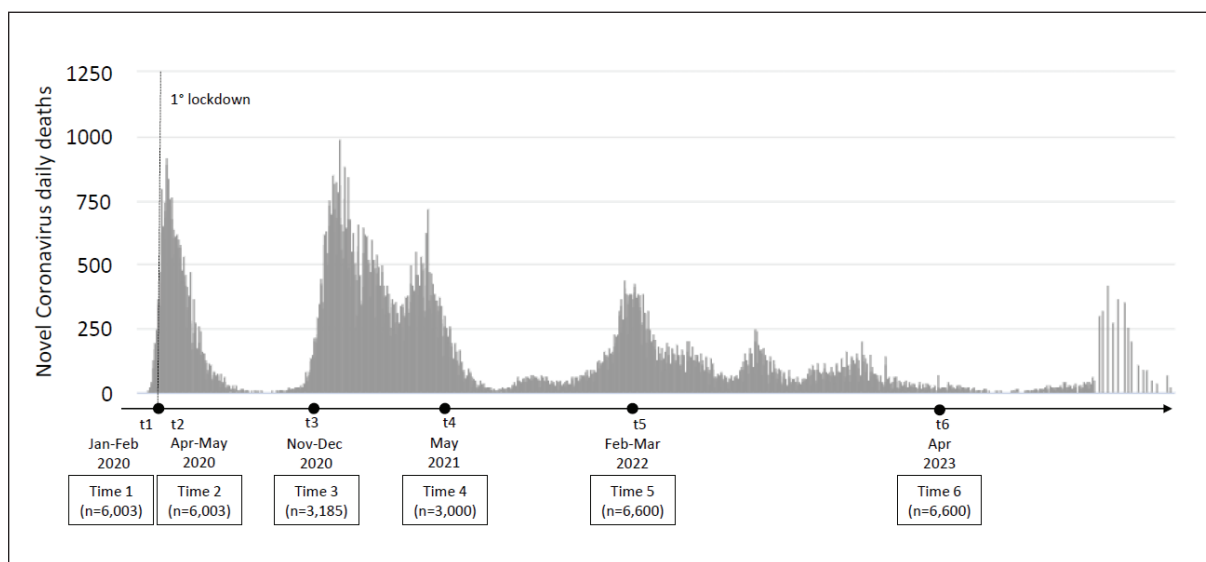


Figure S1
Correspondence between pandemic peaks and LOST surveys in Italy from 2020 to 2023.

Table S1
Comparison of demographic characteristics between lost to follow-up and new enrolled respondents in time 4, 5 and 6 (time 3, N=3000 with no new enrolled) in comparison to baseline (time 1 and 2, N=6003). P-value: chi² test

Characteristics	Time 4 (N=3000, retainers = 2814)		Time 5 (N=6600, retainers=4831)		Time 6 (N=6600, retainers=4445)	
	Lost to follow-up	New enrolled	Lost to follow-up	New enrolled	Lost to follow-up	New enrolled
Total, N	3189	186	1172	1769	1558	2155
Sex						
Males, N (%)	1508 (47.3)	83 (44.4)	539 (46.0)	813 (46.0)	727 (46.7)	989 (45.9)
Females, N (%)	1681 (52.7)	103 (55.4)	633 (54.0)	956 (54.0)	831 (53.3)	1166 (54.1)
p-value	0.479		0.987		0.643	
Age group						
18-34	814 (25.5)	37 (19.9)	394 (33.6)	473 (26.7)	505 (32.4)	557 (25.9)
35-54	1439 (45.1)	84 (45.2)	532 (45.4)	881 (49.8)	690 (44.3)	1064 (49.4)
55-74	936 (29.4)	65 (35.0)	246 (21.0)	415 (23.5)	363 (23.3)	534 (24.8)
p-value	0.131		<0.001		<0.001	
Level of education						
Low	456 (14.3)	28 (15.1)	163 (13.9)	210 (11.9)	222 (14.3)	239 (11.1)
Intermediate	1571 (49.3)	93 (50.0)	573 (48.9)	905 (51.2)	775 (49.7)	1100 (51.0)
High	1162 (36.4)	65 (35.0)	436 (37.2)	654 (37.0)	561 (36.0)	816 (37.9)
p-value	0.906		0.219		0.015	

Table S2

Distribution of individuals (raw data) by socio-demographic and individual characteristics in all time periods

	Time 1¹ N=6,003	Time 2¹ N=6,003	Time 3¹ N=3,185	Time 4¹ N=3,000	Time 5¹ N=6,600	Time 6¹ N=6,600
Sex						
Male	3,026	3,026	1,689	1,601	3,299	3,288
Female	2,977	2,977	1,496	1,399	3,301	3,312
Age						
18-34	1,456	1,456	757	679	1,537	1,508
35-54	2,760	2,760	1,497	1,405	3,110	3,134
55-74	1,787	1,787	931	916	1,953	1,958
Level of education						
High	2,283	2,283	1,277	1,186	2,501	2,538
Medium	2,895	2,895	1,504	1,417	3,227	3,220
Low	825	825	404	397	872	842
Economic status						
Over the national mean	815	815	456	440	987	1,050
On average	3,699	3,699	1,962	1,855	4,054	3,999
Under the national mean	1,489	1,489	767	705	1,559	1,551
Geographic area						
North	3,386	3,386	1,781	1,665	3,382	3,382
Centre	1,026	1,026	560	532	1,627	1,624
South and islands	1,591	1,591	844	803	1,591	1,594
Anxiety or depression						
No	4,568	3,096	2,041	1,975	4,395	4,558
Yes	1,435	2,907	1,144	1,025	2,205	2,042
Sleep disorders						
No	3,649	2,825	1,564	1,442	3,160	3,088
Yes	2,354	3,178	1,621	1,558	3,440	3,512
Use of psychotropic drugs						
No	5,447	5,320	2,846	2,699	6,006	5,962
Yes	556	683	339	301	594	638

N: number.

¹Time 1: pre-lockdown February 2020; Time 2: lockdown (April-May 2020); Time 3: November-December 2020; Time 4: May 2021; Time 5: February-March 2022; Time 6: April 2023.

Table S3

Comparison of model fit indices for the Latent Class Analysis models with 1, 2 or 3 profiles at all time points

	N	LL	Degree of freedom	AIC	BIC
Time 1¹					
1 profile	6,003	-11121	5	22251	22285
2 profiles	6,003	-10730	11	21481	21555
Time 2¹					
1 profile	6,003	-10798	5	21607	21640
2 profiles	6,003	-10429	11	20880	20953
Time 3¹					
1 profile	3,185	-6160	5	12330	12360
2 profiles	3,185	-5813	11	11648	11715
3 profiles	3,185	-5697	17	11427	11530
Time 4¹					
1 profile	3,000	-5887	5	11784	11814
2 profiles	3,000	-5608	11	11238	11304
3 profiles	3,000	-5518	17	11070	11173
Time 5¹					
1 profile	6,600	-12229	5	24468	24502
2 profiles	6,600	-11692	11	23406	23481
3 profiles	6,600	-11595	17	23224	23340
Time 6¹					
1 profile	6,600	-12693	5	25396	25430
2 profiles	6,600	-12094	11	24210	24284
3 profiles	6,600	-11938	17	23910	24026

LL: log-likelihood, AIC: Akaike information criterion; BIC: Bayesian information criterion.

¹Time 1: pre-lockdown (February 2020); Time 2: lockdown (April-May 2020); Time 3: November-December 2020; Time 4: May 2021; Time 5: February-March 2022; Time 6: April 2023.

Table S4

Expected proportions (%) of the population in each class identified by the Latent Class Models in each time

		Time 1¹ % (95% CI)	Time 2¹ % (95% CI)	Time 3¹ % (95% CI)	Time 4¹ % (95% CI)	Time 5¹ % (95% CI)	Time 6¹ % (95% CI)
Class 1	Tobacco cigarette	20.9 (18.8, 23.1)	20.2 (18.7, 21.8)	12.8 (9.1, 17.6)	13.3 (4.1, 35.5)	14.7 (11.3, 19.1)	7.1 (2.4, 19.2)
	Alcohol at-risk ²	23.2 (20.4, 26.2)	21.1 (19.4, 23.0)	26.5 (23.9, 29.2)	37.5 (34.1, 41.0)	40.4 (38.5, 42.3)	40.1 (38, 42.2)
	Cannabis	1.0 (0.3, 2.9)	0.4 (0.0, 4.1)	2.2 (1.2, 3.8)	1.4 (0.5, 4.0)	0.5 (0.2, 1.7)	0.8 (0.4, 1.6)
	Psychoactive substances	1.7 (1.1, 2.6)	1.4 (1.0, 2.1)	0.5 (0.2, 1.0)	0.2 (0.0, 1.7)	0.1 (0.0, 0.3)	0.2 (0.1, 0.4)
	NCEDs	7.9 (6.9, 9.0)	8.8 (7.9, 9.9)	2.7 (1.2, 5.8)	2.5 (0.2, 23.7)	3.9 (2.2, 6.6)	0.0 (0.0, 1.5)
Class 2	Tobacco cigarette	46.2 (38.9, 53.7)	40.2 (33.3, 47.5)	53.5 (42.9, 63.8)	36.9 (11.2, 73.0)	40.4 (27.9, 54.3)	51.4 (41.4, 61.3)
	Alcohol at-risk ²	74.5 (62.3, 83.8)	70.4 (59.2, 79.5)	82.9 (70.6, 90.7)	91.3 (75.6, 97.2)	91.0 (79.8, 96.3)	100.0 (99.9, 100.0)
	Cannabis	63.7 (33.4, 86.0)	67.8 (46.7, 83.4)	93.9 (75.3, 98.7)	90.2 (43.8, 99.1)	87.6 (54.0, 97.7)	87.7 (69.0, 95.8)
	Psychoactive substances	27.8 (17.8, 40.6)	32.9 (24.1, 43.0)	25.0 (18.0, 33.6)	19.7 (10.6, 33.7)	11.7 (7.6, 17.6)	22.8 (16.1, 31.2)
	NCEDs	18.9 (14.2, 24.7)	20.8 (16.0, 26.6)	27.0 (18.7, 37.4)	23.8 (5.6, 61.9)	20.0 (11.3, 32.9)	31.5 (22.7, 41.8)
Class 3	Tobacco cigarette			86.4 (61.9, 96.1)	91.1 (2.7, 100.0)	91.8 (42.9, 99.4)	60 (55.4, 64.5)
	Alcohol at-risk ²			50.8 (41.4, 60.0)	55.4 (33.3, 75.6)	60.3 (52.5, 67.6)	50.3 (46.0, 54.7)
	Cannabis			0.0 (0.0, 0.0)	5.2 (0.0, 89.9)	4.3 (1.1, 15.7)	3.8 (2.3, 6.4)
	Psychoactive substances			0.0 (0.0, 0.0)	0.0 (0.0, 0.0)	0.7 (0.2, 2.3)	0.5 (0.2, 1.4)
	NCEDs			63.5 (39.7, 82.1)	58.4 (10.3, 94.5)	68.7 (40.9, 87.4)	45.9 (30.1, 62.6)

CI: confidence interval; NCEDs: nicotine-containing electronic devices (electronic-cigarettes or heated tobacco products).

¹Time 1: pre-lockdown (February 2020); Time 2: Lockdown (April-May 2020); Time 3: November-December 2020; Time 4: May 2021; Time 5: February-March 2022; Time 6: April 2023. ² Alcohol at risk: respondents with a total Alcohol Use Disorders Identification Test-Concise score ≥ 4 for women and ≥ 5 for men.