

Appendix A.

Figure 1. Distribution of differences in ever smoking rates (2021 minus 2015) in municipalities among the population aged 12-16 yrs in the Netherlands

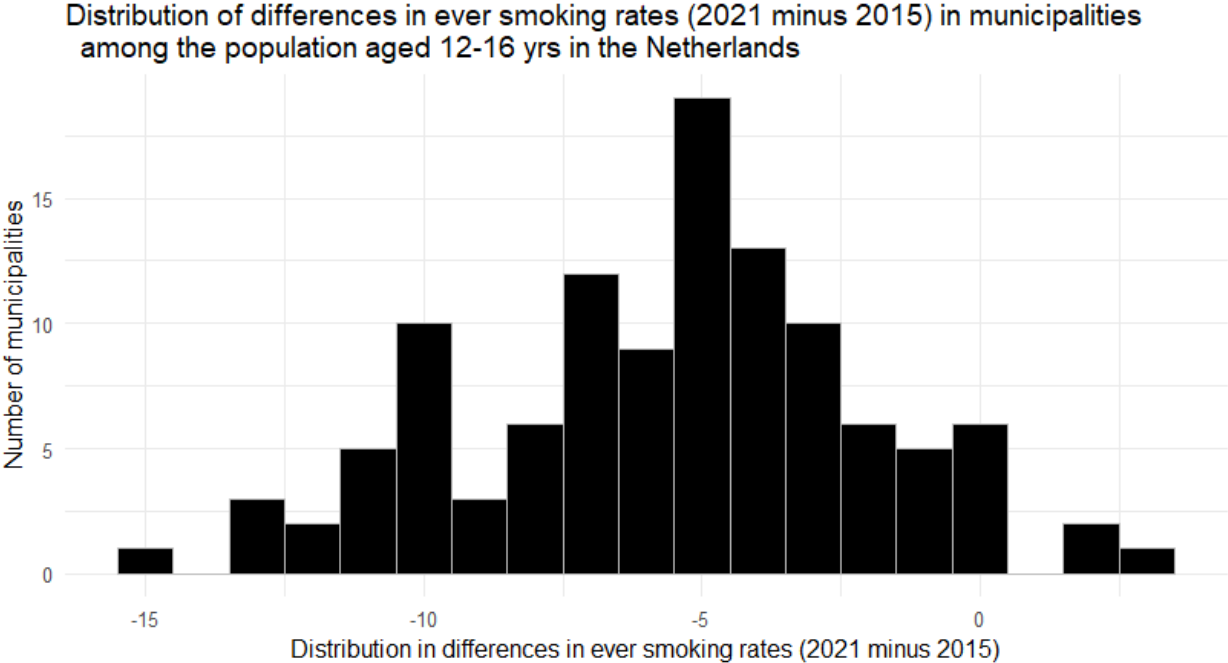


Figure 2. Distribution of differences in weekly smoking rates (2021 minus 2015) in municipalities among the population aged 12-16 yrs in the Netherlands

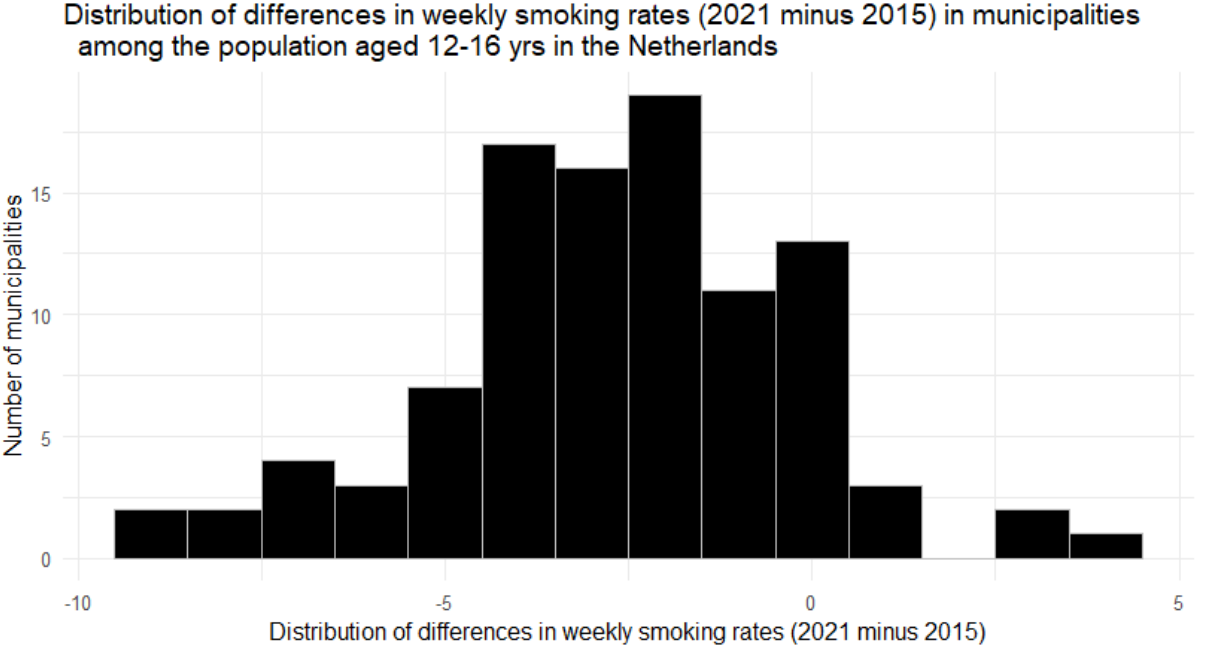


Table S1. Multivariable regression analysis of the difference in ever smoking rates (2021 minus 2015) between 2015 and 2021 in municipalities among the population aged 12-16 yrs in municipalities in the Netherlands.

Variables	Model 1 ^a (N=113)			Model 2 ^b (N=64)		
	Beta	CI	<i>p</i>	Beta	CI	<i>p</i>
Number of inhabitants per km ²	0.00	-0.00 – 0.00	0.543	0.00	-0.00 – 0.00	0.502
Level of urban density	0.28	-0.90 – 1.45	0.641	0.29	-1.17 – 1.74	0.70
Mean standardized income	0.05	-0.18 – 0.28	0.661	0.01	-0.24 – 0.26	0.94
Proportion of residents with a migration background (%)	-0.03	-0.21 – 0.14	0.691	0.02	-0.20 – 0.24	0.861
Proportion of elderly residents (%)	-0.00	-0.26 – 0.25	0.986	0.2	-0.14 – 0.46	0.293
Proportion of adults with a low education (%)	0.03	-0.25 – 0.40	0.889	0.07	-0.37 – 0.51	0.746
Being actively involved in the Smoke-free Generation movement	-	-	-	NA	NA	NA
Smoking being incorporated in a local policy	-	-	-	-1.85	-3.70 – 0.00	0.050
Number of smoke-free location types	-	-	-	0.01	-0.39 – 0.41	0.961
Tobacco control implementation grade	-	-	-	0.32	-0.52 – 1.16	0.453

^a Model 1 includes the independent variables inhabitants per km², level of urban density, standard income (mean), migration background, Proportion of elderly residents, and Proportion of adults with a low education (%).

^b Model 2 includes the independent variables inhabitants per km², level of urban density, standard income (mean), migration background, Proportion of elderly residents, Proportion of adults with a low education (%), Being actively involved in the Smoke-free Generation movement, Smoking being incorporated in a local policy, Number of smoke-free location types, and tobacco control implementation grade.

Table S2. Multivariable regression analysis difference in weekly smoking difference (2021 minus 2015) between 2015 and 2021 in municipalities among the population aged 12-16 yrs in the Netherlands.

Variables	Model 1 ^a (N= 100)			Model 2 ^b (N=55)		
	Beta	CI	<i>p</i>	Beta	CI	<i>p</i>
Number of inhabitants per km ²	-0.00	-0.00 – 0.00	0.922	0.00	-0.00 – 0.00	0.814
Level of urban density	-0.29	-1.14 – 0.56	0.497	-0.10	-1.33 – 1.14	0.878
Mean standardized income	-0.16	-0.32 – 0.01	0.071	-0.23	-0.45 - -0.01	0.044
Proportion of residents with a migration background (%)	0.02	-0.11 – 0.14	0.789	0.02	-0.16 – 0.21	0.804
Proportion of elderly residents (%)	0.06	-0.13 – 0.25	0.541	0.21	-0.07 – 0.48	0.139
Proportion of adults with a low education (%)	-0.20	-0.48 – 0.07	0.145	-0.20	-0.60 – 0.20	0.329
Being actively involved in the Smoke-free Generation movement	-	-	-	NA	NA	NA
Smoking being incorporated in a local policy	-	-	-	-1.09	-2.81 – 0.62	0.206
Number of smoke-free location types	-	-	-	-0.04	-0.39 – 0.31	0.819
Tobacco control implementation grade	-	-	-	0.21	-0.60 – 1.01	0.608

a Model 1 includes the independent variables inhabitants per km², level of urban density, standard income (mean), migration background, proportion of elderly residents, and proportion of adults with a low education (%).

b Model 2 includes the independent variables inhabitants per km², level of urban density, standard income (mean), migration background, proportion of elderly residents , proportion of adults with a low education (%), being actively involved in the Smoke-free Generation movement , smoking being incorporated in a local policy, number of smoke-free location types, and self-reported grade.

Appendix B.

Table S3. *Multivariable logistic regression between included and excluded municipalities of ever smoking in 2021 rates among people aged 12-16 in the Netherlands.*

Variables	Model 1 ^a (N=264)			Model 2 ^b (N=174)		
	Log odds	Std. Error	p	Log odds	Std. Error	p
Number of inhabitants per km ²	-0.00	0.00	0.569	0.00	0.00	0.590
Slightly urban	0.30	0.43	0.482	0.04	0.73	0.953
Moderately urban	0.61	0.57	0.285	0.50	0.96	0.604
Strongly urban	3.04	1.15	0.008	3.87	1.96	0.048
Very highly urban	3.31	1.99	0.097	3.60	1.96	0.178
Mean standardized income	0.10	0.06	0.071	0.33	0.12	0.005
Proportion of residents with a migration background (%)	-0.02	0.03	0.576	-0.03	0.04	0.493
Proportion of elderly residents (%)	-0.06	0.06	0.312	0.00	0.09	0.984
Proportion of adults with a low education (%)	0.18	0.08	0.030	0.26	0.12	0.033
Being actively involved in the Smoke-free Generation movement	-	-	-	NA	NA	NA
Smoking being incorporated in a local policy	-	-	-	0.09	0.56	0.871

Number of smoke-free location types	-	-	-	0.20	0.11	0.077
Tobacco control implementation grade	-	-	-	0.28	0.24	0.250

a. Model 1 includes the independent variables inhabitants per km², level of urban density, standard income (mean), migration background, Proportion of elderly residents , and proportion of adults with a low education (%). 301 municipalities were included. 48 municipalities were excluded.

b. Model 2 includes the independent variables inhabitants per km², level of urban density, standard income (mean), migration background, proportion of elderly residents, proportion of adults with a low education (%), being actively involved in the Smoke-free Generation movement , smoking being incorporated in a local policy, number of smoke-free location types, and self-reported grade.

Table S4. Multivariable *logistic regression between included and excluded municipalities of weekly smoking in 2021 rates among people aged 12-16 in the Netherlands.*

Variables	Model 1 ^a (N=264)			Model 2 ^b (N=174)		
	Log odds	Std. Error	<i>p</i>	Log odds	Std. error	<i>p</i>
Number of inhabitants per km ²	-0.00	0.00	0.880	0.00	0.00	0.955
Slightly urban	0.31	0.36	0.390	-0.13	0.54	0.815
Moderately urban	0.94	0.49	0.055	0.73	0.73	0.318
Strongly urban	2.74	0.87	0.002	2.36	1.12	0.035
Very highly urban	3.26	1.70	0.055	2.94	1.95	0.132
Mean standardized income	0.05	0.04	0.234	0.13	0.07	0.067
Proportion of residents with a migration background (%)	-0.02	0.03	0.526	-0.03	0.03	0.320

Proportion of elderly residents (%)	-0.05	0.27	0.270	-0.04	0.06	0.514
Proportion of adults with a low education (%)	0.09	0.18	0.177	-0.04	0.09	0.176
Being actively involved in the Smoke-free Generation movement	-	-	-	NA	NA	NA
Smoking being incorporated in a local policy	-	-	-	0.13	0.42	0.757
Number of smoke-free location types	-	-	-	0.09	0.07	0.236
Tobacco control implementation grade	-	-	-	0.18	0.18	0.331

a. Model 1 includes the independent variables inhabitants per km², level of urban density, standard income (mean), migration background, proportion of elderly residents , and proportion of adults with a low education (%).

b. Model 2 includes the independent variables inhabitants per km², level of urban density, standard income (mean), migration background, proportion of elderly residents, proportion of adults with a low education (%), being actively involved in the Smoke-free Generation movement , smoking being incorporated in a local policy, number of smoke-free location types, and self-reported grade.

Table S5. *Multivariable logistic regression between included and excluded municipalities of difference ever smoking between 2015 and 2021 rates among people aged 12-16 in the Netherlands.*

Variables	Model 1 ^a (N=113)			Model 2 ^b (N=64)		
	Log odds	Std. Error	<i>p</i>	Log odds	Std. Error	<i>p</i>
Number of inhabitants per km ²	0.00	0.00	0.178	0.00	0.00	0.083
Slightly urban	0.47	0.39	0.229	0.58	0.58	0.313
Moderately urban	0.38	0.47	0.413	0.32	0.70	0.647

Strongly urban	0.91	0.57	0.11	0.62	0.81	0.441
Very highly urban	0.13	1.03	0.902	0.21	1.34	0.878
Mean standardized income	0.01	0.03	0.798	0.03	0.04	0.459
Proportion of residents with a migration background (%)	-0.00	0.02	0.851	-0.00	0.03	0.923
Proportion of elderly residents (%)	0.10	0.04	0.020	0.17	0.06	0.004
Proportion of adults with a low education (%)	0.03	0.06	0.629	0.10	0.08	0.201
Being actively involved in the Smoke-free Generation movement	-	-	-	NA	NA	NA
Smoking being incorporated in a local policy	-	-	-	-0.40	0.37	0.286
Number of smoke-free location types	-	-	-	-0.02	0.06	0.781
Tobacco control implementation grade	-	-	-	-0.26	0.15	0.087

a. Model 1 includes the independent variables inhabitants per km², level of urban density, standard income (mean), migration background, proportion of elderly residents , and proportion of adults with a low education (%).

b. Model 2 includes the independent variables inhabitants per km², level of urban density, standard income (mean), migration background, proportion of elderly residents , proportion of adults with a low education (%), being actively involved in the Smoke-free Generation movement, smoking being incorporated in a local policy, number of smoke-free location types, and self-reported grade.

Table S6. Multivariable *logistic regression* between included and excluded municipalities of difference weekly smoking between 2015 and 2021 rates among people aged 12-16 in the Netherlands.

Variables	Model 1 ^a (N=00)			Model 2 ^b (N=55)		
	Log odds	Std. Error	<i>p</i>	Log odds	Std. Error	<i>p</i>
Number of inhabitants per km ²	0.00	0.00	0.398	0.00	0.00	0.205
Slightly urban	0.40	0.42	0.332	0.07	0.59	0.911
Moderately urban	0.56	0.49	0.248	0.50	0.70	0.478
Strongly urban	1.27	0.59	0.031	0.83	0.81	0.307
Very highly urban	0.77	1.04	0.455	1.09	1.32	0.409
Mean standardized income	0.01	0.03	0.743	0.03	0.05	0.532
Proportion of residents with a migration background (%)	-0.01	0.02	0.658	-0.02	0.03	0.561
Proportion of elderly residents (%)	0.08	0.05	0.071	0.15	0.06	0.012
Proportion of adults with a low education (%)	0.06	0.06	0.289	0.14	0.08	0.096
Being actively involved in the Smoke-free Generation movement	-	-	-	NA	NA	NA
Smoking being incorporated in a local policy	-	-	-	-0.70	0.39	0.069
Number of smoke-free location types	-	-	-	-0.03	0.06	0.612

Tobacco control implementation grade	-	-	-	-0.07	0.16	0.651
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a. Model 1 includes the independent variables inhabitants per km², level of urban density, standard income (mean), migration background, proportion of elderly residents , and proportion of adults with a low education (%).

b. Model 2 includes the independent variables inhabitants per km², level of urban density, standard income (mean), migration background, Proportion of elderly residents, proportion of adults with a low education (%), being actively involved in the Smoke-free Generation movement, smoking being incorporated in a local policy, number of smoke-free location types, and self-reported grade.