

Supplementary Table 1: Prevalence of smell, taste, and smell or taste disorders by tobacco use groups among US adults aged 18+ who reported their smoking status and responded to taste and smell questions in the 2021 National Health Interview Survey (NHIS)

Smoking status	Taste disorder (N=29,444)		Smell disorder (N=29,421)		Smell or Taste disorder (N=29,403)	
	%*	95%CI	%*	95%CI	%*	95%CI
Total US adults	9.8	(9.3, 10.2)	13.4	(12.9, 14.0)	16.5	(15.9, 17.1)
Non-tobacco users	9.5	(9.0, 10.0)	12.9	(12.4, 13.5)	16.0	(15.4, 16.5)
Cigarettes only	10.5	(9.2, 11.9)	14.7	(13.1, 16.3)	18.1	(16.3, 19.9)
E-cigarettes only	12.3	(9.3, 15.3)	18.5	(14.9, 22.1)	21.1	(17.3, 24.9)
Cigar, pipe, or smokeless tobacco only	8.2	(6.5, 10.0)	13.1	(10.9, 15.3)	16.2	(13.8, 18.7)
Multi-users	14.6	(11.8, 17.4)	19.1	(16.0, 22.2)	22.5	(19.2, 25.7)

*Weighted percentages
95%CI: 95% confidence interval

Supplementary Table 2: Logistic regression models of associations between smoking status and smell or taste disorders, taste disorders, and smell disorders among NHIS 2021 sample adults.

Smoking	Taste disorder		Smell disorder		Smell or Taste disorder	
	Crude OR (95%CI) (N=29,444)	Adjusted OR (95%CI) (N=29,442)	Crude OR (95%CI) (N=29,421)	Adjusted OR (95%CI) (N=29,419)	Crude OR (95%CI) (N=29,403)	Adjusted OR (95%CI) (N=29,401)
Non-tobacco user	Ref	Ref	Ref	Ref	Ref	Ref
Cigarettes only	1.12 (0.96, 1.30)	1.01 (0.86, 1.18)	1.16* (1.01, 1.33)	1.07 (0.93, 1.23)	1.2* (1.02, 1.32)	1.06 (0.93, 1.21)
E-cigarettes only	1.34* (1.01, 1.76)	1.35* (1.01, 1.78)	1.53* (1.20, 1.94)	1.51* (1.19, 1.93)	1.41* (1.12, 1.76)	1.42* (1.13, 1.80)
Cigar, pipe, or smokeless tobacco only	0.85 (0.68, 1.08)	0.93 (0.73, 1.18)	1.01 (0.83, 1.23)	1.09 (0.89, 1.43)	1.02 (0.84, 1.23)	1.11 (0.92, 1.34)
Multi-user	1.63* (1.29, 2.05)	1.54* (1.22, 1.95)	1.59* (1.29, 1.95)	1.52* (1.22, 1.87)	1.53* (1.26, 1.85)	1.47* (1.21, 1.78)

Adjusted for age, gender, race, and income.

*Indicates statistical significance (p-value <0.05)

Supplementary Table 3: Prevalence and odds ratio of smell and taste disorders by tobacco use groups among US adults aged 18+ who reported their smoking status and responded to taste and smell questions in the 2021 National Health Interview Survey (NHIS)

Tobacco product	Smell and Taste disorder (N=28,503)		Smell and Taste disorder (N=28,503)	
	% ^a	95%CI	Crude OR (95%CI)	Adjusted OR ^b (95%CI)
Total US adults	6.7	(6.3, 7.1)	-	-
Non-tobacco users	6.1	(5.6, 6.6)	Ref	Ref
Cigarettes only	6.7	(5.8, 7.6)	1.14 (0.96, 1.35)	1.14 (0.96, 1.35)
E-cigarettes only	8.6	(5.2, 11.9)	1.48 (0.96, 2.29)	1.52 (0.96, 2.42)
Cigar, pipe, or smokeless tobacco only	6.3	(5.2, 7.4)	1.04 (0.84, 1.28)	1.17 (0.94, 1.44)
Poly-tobacco product users	8.0	(7.3, 8.8)	1.40* (1.22, 1.59)	1.48* (1.29, 1.71)

^aWeighted percentages

^bAdjusted for age, gender, race, and income.

*Indicates statistical significance (p-value <0.05)

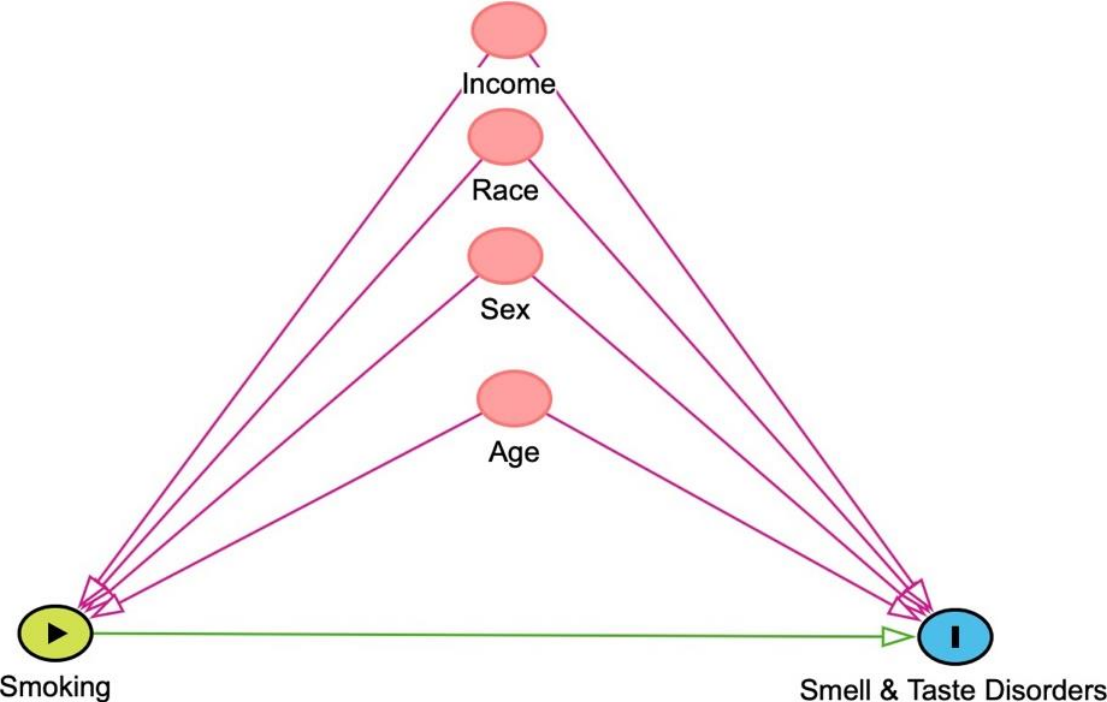
Supplementary Table 4: Logistic regression models of interaction between smoking status and sex on smell or taste disorders, taste disorder, and smell disorder among US adults aged 18+ who reported their smoking status and responded to taste and smell questions in the 2021 National Health Interview Survey (NHIS).

Tobacco product	Taste disorder		Smell disorder		Smell or Taste disorder	
	Crude OR (95%CI) (N=28,483)	Adjusted OR (95%CI) (N=28,483)	Crude OR (95%CI) (N=28,460)	Adjusted OR (95%CI) (N=28,460)	Crude OR (95%CI) (N=28,442)	Adjusted OR (95%CI) (N=28,442)
Male						
Non-tobacco user	Ref	Ref	Ref	Ref	Ref	Ref
Cigarettes only	1.32* (1.03, 1.70)	1.23 (0.95, 1.59)	1.20 (0.95, 1.52)	1.13 (0.89, 1.43)	1.30* (1.04, 1.62)	1.19 (0.96, 1.49)
E-cigarettes only	1.68 (0.97, 2.91)	1.75* (1.01, 3.03)	2.15* (1.37, 3.39)	2.17* (1.37, 3.44)	1.83* (1.19, 2.84)	1.88* (1.21, 2.92)
Cigar, pipe, or smokeless tobacco only	1.27* (1.00, 1.62)	1.30* (1.03, 1.65)	1.31* (1.06, 1.62)	1.34* (1.08, 1.66)	1.24* (1.02, 1.50)	1.28* (1.05, 1.55)
Poly-tobacco product users	1.36* (1.13, 1.63)	1.33* (1.11, 1.60)	1.55* (1.32, 1.84)	1.53* (1.29, 1.81)	1.47* (1.27, 1.70)	1.45* (1.25, 1.67)
Female						
Non-tobacco user	Ref	Ref	Ref	Ref	Ref	Ref
Cigarettes only	1.11 (0.94, 1.32)	1.10 (0.93, 1.31)	1.22* (1.05, 1.41)	1.19* (1.03, 1.38)	1.21* (1.06, 1.38)	1.17* (1.02, 1.34)
E-cigarettes only	1.07 (0.69, 1.66)	1.09 (0.69, 1.72)	1.10 (0.75, 1.61)	1.07 (0.72, 1.59)	1.08 (0.76, 1.53)	1.09 (0.75, 1.57)
Cigar, pipe, or smokeless tobacco only	0.85 (0.65, 1.11)	0.84 (0.65, 1.10)	0.95 (0.76, 1.20)	0.96 (0.76, 1.20)	0.95 (0.77, 1.18)	0.98 (0.79, 1.21)
Poly-tobacco product users	1.58* (1.36, 1.84)	1.49* (1.27, 1.74)	1.53* (1.34, 1.75)	1.43* (1.25, 1.65)	1.56* (1.38, 1.77)	1.48* (1.30, 1.68)

Adjusted for age, gender, race, and income.

*Indicates statistical significance (p-value <0.05)

Supplementary Figure 1: Directed Acyclic Graph (DAG) illustrates the relationship between smoking and smell and taste disorder among the different demographic factors in the model.



©2024 Bin Hamdan R.H. et al.