Table S1. Logistic regressions, each excluding one odor to determine if it in particular was driving the effect (adjusting for age, gender, race/ethnicity, education and comorbidity index; N=2,918)

Table S2. Factors possibly mediating the effect of olfactory dysfunction on mortality: nutrition, cognition, mental health, health behaviors, and frailty

**Table S1. Logistic regressions, each excluding one odor to determine if it in particular was driving the effect (adjusting for age, gender, race/ethnicity, education and comorbidity index; N=2,918). 1Odds ratio, 295% Confidence Interval.**

|  |  |
| --- | --- |
|  | **Odds Ratio and 95% Confidence Interval** |
|  |  |  |  |  |  |
|  | **Excluding Rose** | **Excluding****Leather** | **Excluding****Orange** | **Excluding****Fish** | **Excluding****Peppermint** |
| Odor identification (# of errors, vs. 0) |  |  |  |  |  |
|  1 | 1.151(0.84, 1.57) 2 | 1.39(0.97, 1.99) | 1.10(0.78, 1.54) | 1.07 (0.79, 1.45) | 1.23(0.90, 1.68) |
|  2 | 1.46(0.96, 2.20) | 1.69(1.10, 2.62) | 1.53(0.99, 2.37) | 1.59(1.02, 2.49) | 1.42(0.91, 2.21) |
|  3 | 2.51 (1.34, 4.69) | 2.55(1.55, 4.18) | 2.28(1.25, 4.18) | 2.25 (1.33, 3.82) | 2.11(1.32, 3.38) |
|  4 | 3.95 (1.99, 7.84) | 5.10 (2.37, 11.00) | 3.52(1.69, 7.33) | 3.26 (1.66, 6.39) | 5.71(2.60, 12.54) |
|  |  |  |  |  |  |
| Overall p value a | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |

a One degree of freedom test for trend.

**Table S2. Factors possibly mediating the effect of olfactory dysfunction on mortality: nutrition, cognition, mental health, health behaviors, and frailty. 1Odds ratio (95% Confidence Interval), 2p value.**

|  |  |
| --- | --- |
|  | **Odds Ratio, 95% Confidence Interval, p value** |
|  |  |  |  |  |  |  |
| **Covariates** | **Model C** | **Model C + Nutrition** | **Model C + Cognition** | **Model C +** **Mental Health** | **Model C +** **Health Behaviors** | **Model C +****Frailty** |
| Olfactory dysfunction(vs. Normosmic) |  |  |  |  |  |  |
|  Anosmic | 3.41 (2.06,5.64) 1 | 3.29 (1.78,6.07) | 2.80 (1.61,4.86) | 3.43 (2.06,5.69) | 3.56 (2.10,6.05) | 3.69 (2.22,6.13) |
|  | <0.0012 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
|  |  |  |  |  |  |  |
|  Hyposmic | 1.48 (1.03,2.14) | 1.56 (0.88,2.78) | 1.36 (0.95,1.96) | 1.45 (1.00,2.10) | 1.48 (1.03,2.13) | 1.40 (0.97,2.01) |
|  | 0.04 | 0.13 | 0.09 | 0.05 | 0.03 | 0.07 |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| Age (per year) | 1.06 (1.04,1.09) | 1.05 (1.02,1.08) | 1.06 (1.04,1.08) | 1.06 (1.04,1.08) | 1.08 (1.06,1.10) | 1.06 (1.04,1.08) |
|  | <0.001 | 0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| Female gender | 0.74 (0.55,1.00) | 0.70 (0.49,1.01) | 0.71 (0.52,0.96) | 0.72 (0.54,0.97) | 0.80 (0.59,1.09) | 0.67 (0.50,0.90) |
|  | 0.05 | 0.06 | 0.03 | 0.03 | 0.15 | 0.009 |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| Race/ethnicity (vs. White) |  |  |  |  |  |  |
| African American | 0.88 (0.62,1.24) | 0.78 (0.45,1.35) | 0.77 (0.55,1.09) | 0.85 (0.59,1.21) | 0.85 (0.60,1.20) | 0.85 (0.60,1.20) |
|  | 0.45 | 0.36 | 0.14 | 0.36 | 0.36 | 0.35 |
|  |  |  |  |  |  |  |
|  Hispanic | 0.61 (0.36,1.02) | 0.37 (0.18,0.75) | 0.49 (0.27,0.90) | 0.54 (0.32,0.91) | 0.68 (0.40,1.17) | 0.58 (0.33,1.03) |
|  | 0.06 | 0.007 | 0.02 | 0.02 | 0.16 | 0.06 |
|  |  |  |  |  |  |  |
|  Other | 0.88 (0.38,2.06) | 0.92 (0.33,2.56) | 0.80 (0.34,1.85) | 0.85 (0.40,1.83) | 0.82 (0.35,1.89) | 0.86 (0.37,2.02) |
|  | 0.77 | 0.87 | 0.59 | 0.68 | 0.63 | 0.73 |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| Educationa | 0.76 (0.66,0.87) | 0.74 (0.62,0.88) | 0.80 (0.69,0.92) | 0.78 (0.68,0.90) | 0.79 (0.69,0.90) | 0.79 (0.68,0.90) |
|  | <0.001 | 0.001 | 0.003 | 0.001 | 0.001 | 0.001 |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  | **Model C** | **Model C + Nutrition** | **Model C + Cognition** | **Model C +** **Mental Health** | **Model C +** **Health Behaviors** | **Model C +****Frailty** |
|  |  |  |  |  |  |  |
| Comorbidity Index | 1.36 (1.28,1.45) | 1.40 (1.27,1.54) | 1.36 (1.27,1.45) | 1.34 (1.26,1.43) | 1.36 (1.28,1.46) | 1.29 (1.20,1.38) |
|  | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| BMI (vs. Normal weight) |  |  |  |  |  |  |
|  Underweight |  | 3.88 (1.29,11.69) |  |  |  |  |
|  |  | 0.02 |  |  |  |  |
|  |  |  |  |  |  |  |
|  Overweight/obese |  | 0.59 (0.38,0.92) |  |  |  |  |
|  |  | 0.02 |  |  |  |  |
|  |  |  |  |  |  |  |
|  Unknown |  | 2.12 (1.11, 4.04) |  |  |  |  |
|  |  | 0.02 |  |  |  |  |
|  |  |  |  |  |  |  |
| Self-reported tasteb |  | 1.15 (0.93,1.41) |  |  |  |  |
|  |  | 0.18 |  |  |  |  |
|  |  |  |  |  |  |  |
| Poor appetitec |  | 1.22 (1.01,1.47) |  |  |  |  |
|  |  | 0.04 |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| SPMSQd (# of errors) |  |  | 1.30 (1.17,1.44) |  |  |  |
|  |  |  | <0.001 |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| Self-reported mental healthe |  |  |  | 1.20 (1.06,1.36) |  |  |
|  |  |  |  | 0.006 |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| Current smoker |  |  |  |  | 2.39 (1.73,3.31) |  |
|  |  |  |  |  | <0.001 |  |
|  |  |  |  |  |  |  |
| Problem drinking |  |  |  |  | 1.14 (0.83,1.57) |  |
|  |  |  |  |  | 0.40 |  |
|  | **Model C** | **Model C + Nutrition** | **Model C + Cognition** | **Model C +** **Mental Health** | **Model C +** **Health Behaviors** | **Model C +****Frailty** |
|  |  |  |  |  |  |  |
| ADLf disability |  |  |  |  |  | 2.22 (1.63,3.03) |
|  |  |  |  |  |  | <0.001 |
|  |  |  |  |  |  |  |
| N | 2,918 | 1,455 | 2,918 | 2,909 | 2,918 | 2,912 |

a Treated as a continuous measure using integer scores for educational level (higher scores = more education)

b Treated as a continuous measure using integer scores for taste level (higher scores = worse taste)

c Based on response to “During the past week…I did not feel like eating; my appetite was poor.” Response choices: rarely/none of the time, some of the time, occasionally, most of the time. Treated as a continuous measure using integer scores for frequency (higher scores = greater frequency)

d SPMSQ = Short Portable Mental Status Questionnaire

e Treated as a continuous measure using integer scores for mental health level (higher scores = worse health)

f ADL = Activities of Daily Living