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| **Table A1.** Prevalence of air quality awareness, perceptions, and behaviors among U.S. adolescents from 2015 to 2018, by survey year |
|  | **2015**  | **2016**  | **2017**  | **2018**  |
|  | **N a** | **Total N a** | **Weighted % (95% CI)** | **N a** | **Total N a** | **Weighted % (95% CI)** | **N a** | **Total N a** | **Weighted % (95% CI)** | **N a** | **Total N a** | **Weighted % (95% CI)** |
| Thinks air pollution can impact health  | 665 | 888 | 72.9 (69.2, 76.6) | 796 | 948 | 81.5 (78.3, 84.7) | 748 | 866 | 85.7 (82.9, 88.5) | 714 | 845 | 82.7 (79.6, 85.8) |
| Thinks they can limit exposure to air pollution  | 396 | 888 | 44.4 (40.4, 48.5) | 507 | 948 | 50.9 (47.1, 54.7) | 476 | 866 | 53.7 (49.8, 57.6) | 499 | 845 | 57.4 (53.5, 61.4) |
| Aware of air quality alerts  | 172 | 888 | 18.9 (15.7, 22.0) | 184 | 948 | 17.6 (14.9, 20.4) | 182 | 866 | 19.3 (16.3, 22.2) | 185 | 845 | 20.2 (17.1, 23.3) |
| Thought/informed air quality was bad b | --b | --b | --b | 127 | 948 | 13.1 (10.5, 15.7) | 119 | 866 | 13.0 (10.4, 15.5) | 124 | 845 | 13.6 (10.9, 16.3) |
| Did something differently when thought/informed air quality was bad b  | --b | --b | --b | 53 | 127 | 41.1 (30.9, 51.4) | 53 | 119 | 50.2 (39.9, 60.5) | 59 | 124 | 47.4 (36.9, 57.9) |
| Did the following differently when thought/informed air quality was bad c  |  |  |  |  |  |  |  |  |  |  |  |  |
| Spent less time outdoors  | 46 | 66 | 72.3 (58.3, 86.3) | 45 | 53 | 84.7 (72.1, 97.3) | 46 | 53 | 87.4 (77.2, 97.5) | 50 | 59 | 85.2 (75.0, 95.3) |
| Closed windows of house  | 28 | 66 | 44.5 (29.0, 60.1) | 29 | 53 | 44.0 (28.4, 59.5) | 24 | 53 | 49.2 (33.5, 64.9) | 33 | 59 | 59.8 (45.3, 74.2) |
| Did less strenuous activity  | 17 | 66 | 32.2 (16.7, 47.7) | 16 | 53 | 23.6 (11.9, 35.3) | 16 | 53 | 37.2 (21.3, 53.1) | 23 | 59 | 46.1 (30.9, 61.4) |
| Exercised indoors instead of outdoors  | 18 | 66 | 26.5 (13.5, 39.5) | 18 | 53 | 26.2 (14.0, 38.5) | 15 | 53 | 38.4 (22.2, 54.6) | 21 | 59 | 43.9 (28.4, 59.3) |
| Exercised on a different day/time  | 10 | 66 | 26.2 (10.3, 42.0) | 6 | 53 | 10.6 (0.0, 21.3) | 14 | 53 | 29.4 (14.4, 44.3) | 8 | 59 | 19.4 (5.3, 33.4) |
| Avoids busy roads to reduce exposure to air pollution when walking, biking, or exercising outdoors  |  |  |  |  |  |  |  |  |  |  |  |  |
| Always/usually | 133 | 888 | 16.6 (13.5, 19.8) | 178 | 948 | 17.7 (14.9, 20.5) | 177 | 866 | 21.2 (18.0, 24.4) | 158 | 845 | 18.7 (15.6, 21.8) |
| Sometimes/rarely | 207 | 888 | 22.7 (19.4, 26.0) | 233 | 948 | 24.7 (21.4, 28.0) | 237 | 866 | 28.0 (24.5, 31.5) | 223 | 845 | 24.8 (21.5, 28.1) |
| a Number (N) from unweighted survey sample b Data shown include 2016–2018 data only because of changes in the phrasing of questions between year 2015 and 2016–2018c Among respondents who reported they did something differently when thought/informed air quality was bad |

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| **Table A2.** Prevalence of air quality awareness and perceptions among U.S. adolescents from 2015 to 2018, by demographic characteristics and survey year |
|  | **2015**  | **2016**  | **2017**  | **2018**  |
|  | **N a** | **Total N a** | **Weighted % (95% CI)** | **N a** | **Total N a** | **Weighted % (95% CI)** | **N a** | **Total N a** | **Weighted % (95% CI)** | **N a** | **Total N a** | **Weighted % (95% CI)** |
| Thinks air pollution can impact health |  |  |  |  |  |  |  |  |  |  |  |  |
| Age, in years |  |  |  |  |  |  |  |  |  |  |  |  |
| 12–13  | 222 | 317 | 68.5 (62.1, 75.0) | 262 | 321 | 80.4 (75.3, 85.6) | 246 | 292 | 84.5 (79.6, 89.4) | 214 | 253 | 85.2 (80.4, 90.0) |
| 14–15  | 212 | 227 | 70.9 (64.1, 77.8) | 273 | 311 | 85.4 (80.2, 90.5) | 231 | 268 | 85.0 (79.9, 90.0) | 240 | 281 | 83.7 (78.5, 89.0) |
| 16–17  | 231 | 294 | 78.7 (72.9, 84.5) | 261 | 316 | 78.8 (72.8, 84.7) | 271 | 306 | 87.5 (82.8, 92.1) | 260 | 311 | 79.5 (73.7, 85.3) |
| Gender |  |  |  |  |  |  |  |  |  |  |  |  |
| Female | 320 | 429 | 72.7 (67.5, 77.9) | 406 | 472 | 82.6 (78.1, 87.2) | 380 | 430 | 88.9 (85.5, 92.3) | 367 | 423 | 84.2 (79.8, 88.6) |
| Male | 345 | 459 | 73.1 (67.8, 78.3) | 390 | 476 | 80.4 (76.0, 84.8) | 368 | 436 | 82.6 (78.3, 86.9) | 347 | 422 | 81.3 (77.0, 85.6) |
|  Parental education level |  |  |  |  |  |  |  |  |  |  |  |  |
| High school or less | 127 | 201 | 62.6 (54.5, 70.6) | 159 | 203 | 74.3 (66.5, 82.0) | 165 | 207 | 79.0 (72.4, 85.5) | 146 | 187 | 74.7 (67.4, 82.1) |
| Some college | 214 | 292 | 69.8 (63.0, 76.6) | 258 | 311 | 82.6 (77.6, 87.6) | 245 | 277 | 87.7 (83.1, 92.4) | 236 | 280 | 84.3 (79.4, 89.2) |
| Bachelor’s or higher | 324 | 395 | 83.3 (79.0, 87.5) | 379 | 434 | 85.3 (81.1, 89.4) | 338 | 382 | 89.1 (85.7, 92.6) | 332 | 378 | 87.4 (83.4, 91.3) |
|  Region |  |  |  |  |  |  |  |  |  |  |  |  |
| Midwest | 174 | 251 | 65.6 (57.9, 73.2) | 208 | 253 | 79.7 (73.3, 86.0) | 196 | 220 | 87.1 (81.7, 92.6) | 195 | 223 | 87.7 (82.7, 92.6) |
| Northeast | 127 | 162 | 77.5 (69.7, 85.3) | 145 | 170 | 88.4 (77.5, 91.3) | 142 | 166 | 84.9 (78.4, 91.4) | 138 | 158 | 86.1 (79.8. 92.4) |
| South | 228 | 305 | 72.9 (66.8, 79.0) | 279 | 335 | 79.8 (74.3, 85.3) | 256 | 306 | 83.5 (78.5, 88.5) | 231 | 289 | 77.9 (72.2, 83.6) |
| West | 136 | 170 | 76.4 (68.3, 84.6) | 164 | 190 | 83.7 (77.2, 90.2) | 154 | 174 | 88.4 (82.9, 93.8) | 150 | 175 | 83.5 (76.8, 90.2) |
|  Metropolitan status  |  |  |  |  |  |  |  |  |  |  |  |  |
| Metropolitan | 583 | 762 | 75.5 (71.6, 79.3) | 707 | 831 | 82.9 (79.6, 86.2) | 651 | 757 | 85.1 (82.0, 88.1) | 626 | 738 | 83.3 (80.1, 86.6) |
| Non-metropolitan | 82 | 126 | 59.1 (48.6, 69.7) | 89 | 117 | 73.6 (63.8, 83.4) | 97 | 109 | 89.5 (83.1, 95.9) | 88 | 107 | 79.1 (69.8, 88.4) |
| Thinks they can limit exposure to air pollution  |  |  |  |  |  |  |  |  |  |  |  |  |
| Age, in years  |  |  |  |  |  |  |  |  |  |  |  |  |
| 12–13  | 129 | 317 | 39.8 (33.0, 46.7) | 172 | 321 | 49.5 (43.1, 55.9) | 161 | 292 | 55.9 (49.3, 62.5) | 152 | 253 | 60.9 (54.0, 67.8) |
| 14–15  | 125 | 227 | 42.8 (36.0, 49.6) | 180 | 311 | 55.6 (49.1, 62.2) | 142 | 268 | 49.9 (43.0, 56.8) | 163 | 281 | 57.5 (50.6, 64.4) |
| 16–17  | 142 | 294 | 50.2 (43.2, 57.2) | 155 | 316 | 47.7 (41.0, 54.4) | 173 | 306 | 55.2 (48.6, 61.9) | 184 | 311 | 54.2 (47.6, 60.8) |
| Gender |  |  |  |  |  |  |  |  |  |  |  |  |
| Female | 196 | 459 | 43.7 (38.1, 49.4) | 263 | 476 | 53.5 (48.2, 58.9) | 238 | 436 | 53.7 (48.2, 59.2) | 252 | 422 | 58.6 (53.0, 64.2) |
| Male | 200 | 429 | 45.1 (39.5, 50.8) | 244 | 472 | 48.4 (43.0, 53.8) | 238 | 430 | 53.6 (48.1, 59.1) | 247 | 423 | 56.3 (50.7, 61.8) |
|  Parental education level |  |  |  |  |  |  |  |  |  |  |  |  |
| High school or less | 77 | 201 | 38.5 (30.3, 46.7) | 94 | 203 | 42.6 (34.4, 50.7) | 97 | 207 | 45.4 (37.5, 53.3) | 96 | 187 | 46.5 (38.3, 54.7) |
| Some college | 128 | 292 | 42.6 (35.7, 49.4) | 163 | 311 | 51.5 (45.0, 58.0) | 145 | 277 | 50.4 (43.5, 57.3) | 160 | 280 | 59.0 (52.3, 65.7) |
| Bachelor’s or higher | 191 | 395 | 50.5 (44.6, 56.3) | 250 | 434 | 55.8 (50.4, 61.2) | 234 | 382 | 62.5 (57.1, 68.0) | 243 | 378 | 64.3 (58.8, 69.9) |
|  Region |  |  |  |  |  |  |  |  |  |  |  |  |
| Midwest | 100 | 251 | 38.4 (30.8, 46.0) | 134 | 253 | 49.7 (42.3, 57.0) | 131 | 220 | 56.4 (48.8, 63.9) | 125 | 223 | 56.3 (48.6, 64.0) |
| Northeast | 66 | 162 | 35.6 (27.2, 44.1) | 97 | 170 | 55.9 (47.0, 64.8) | 75 | 166 | 41.7 (33.2, 50.3) | 93 | 158 | 60.5 (51.9, 69.1) |
| South | 148 | 305 | 50.0 (43.3, 56.6) | 176 | 335 | 49.1 (42.7, 55.5) | 173 | 306 | 54.6 (48.0, 61.2) | 169 | 289 | 53.6 (47.0, 60.3) |
| West | 82 | 170 | 47.6 (38.5, 56.7) | 100 | 190 | 51.3 (43.0, 59.5) | 97 | 174 | 58.3 (50.0, 66.6) | 112 | 175 | 62.3 (53.9, 70.8) |
|  Metropolitan status  |  |  |  |  |  |  |  |  |  |  |  |  |
| Metropolitan | 353 | 762 | 46.3 (42.0, 50.7) | 457 | 831 | 51.8 (47.8, 55.9) | 410 | 757 | 52.7 (48.5, 56.8) | 435 | 738 | 57.4 (53.1, 61.6) |
| Non-metropolitan | 43 | 126 | 34.4 (24.4, 44.4) | 50 | 117 | 45.8 (35.0, 56.6) | 66 | 109 | 59.7 (49.1, 70.4) | 64 | 107 | 57.8 (47.3, 68.4) |
| Aware of air quality alerts |  |  |  |  |  |  |  |  |  |  |  |  |
|  Age, in years |  |  |  |  |  |  |  |  |  |  |  |  |
|  12–13  | 58 | 317 | 18.4 (12.8, 24.0) | 54 | 321 | 16.1 (11.6, 20.6) | 47 | 292 | 14.2 (10.0, 18.5) | 48 | 253 | 20.3 (14.3, 26.2) |
| 14–15  | 52 | 227 | 17.5 (12.4, 22.6) | 63 | 311 | 17.2 (12.7, 21.7) | 61 | 268 | 21.2 (15.7, 26.6) | 56 | 281 | 20.1 (14.6, 25.7) |
| 16–17  | 62 | 294 | 20.5 (15.0, 26.0) | 67 | 316 | 19.5 (14.1, 24.9) | 74 | 306 | 22.1 (16.8, 27.5) | 81 | 311 | 20.2 (15.6, 24.9) |
|  Gender |  |  |  |  |  |  |  |  |  |  |  |  |
|  Female | 77 | 459 | 17.6 (13.2, 21.9) | 87 | 476 | 17.0 (13.1, 21.0) | 100 | 436 | 22.3 (17.8, 26.8) | 98 | 422 | 22.6 (17.9, 27.3) |
|  Male | 95 | 429 | 20.1 (15.6, 24.6) | 97 | 472 | 18.2 (14.3, 22.2) | 82 | 430 | 16.3 (12.5, 20.1) | 87 | 423 | 17.9 (13.9, 22.0) |
|  Parental education level |  |  |  |  |  |  |  |  |  |  |  |  |
| High school or less | 30 | 201 | 13.1 (7.4, 18.7) | 30 | 203 | 13.5 (8.1, 18.8) | 38 | 207 | 17.1 (11.4, 22.8) | 38 | 187 | 17.7 (11.6, 23.8) |
| Some college | 50 | 292 | 16.7 (11.6, 21.7) | 57 | 311 | 16.1 (11.6, 20.6) | 63 | 277 | 20.7 (15.4, 26.0) | 53 | 280 | 17.9 (12.7, 23.1) |
| Bachelor’s or higher | 92 | 395 | 25.0 (19.7, 30.2) | 97 | 434 | 21.4 (16.9, 26.0) | 81 | 382 | 19.8 (15.3, 24.2) | 94 | 378 | 24.2 (19.2, 29.1) |
|  Region |  |  |  |  |  |  |  |  |  |  |  |  |
| Midwest | 41 | 251 | 15.4 (9.9, 20.9) | 57 | 253 | 20.1 (14.7, 25.6) | 48 | 220 | 20.2 (14.4, 26.1) | 40 | 223 | 17.3 (11.3, 23.3) |
| Northeast | 27 | 162 | 12.4 (7.5, 17.3) | 25 | 170 | 12.3 (7.0, 17.6) | 32 | 166 | 17.5 (11.1, 23.8) | 31 | 158 | 20.6 (13.0, 28.1) |
| South | 60 | 305 | 19.2 (14.0, 24.4) | 63 | 335 | 18.5 (13.5, 23.4) | 63 | 306 | 16.7 (12.3, 21.1) | 67 | 289 | 19.5 (14.5, 24.5) |
| West | 44 | 170 | 26.3 (18.2, 34.4) | 39 | 190 | 17.9 (11.9, 23.9) | 39 | 174 | 23.8 (16.5, 31.1) | 47 | 175 | 23.8 (16.8, 30.7) |
|  Metropolitan status |  |  |  |  |  |  |  |  |  |  |  |  |
| Metropolitan | 163 | 762 | 21.4 (17.8, 25.0) | 173 | 831 | 19.6 (16.5, 22.8) | 163 | 757 | 19.9 (16.7, 23.2) | 173 | 738 | 21.5 (18.1, 24.9) |
| Non-metropolitan | 9 | 126 | 5.4 (1.6, 9.3) | 11 | 117 | 6.5 (2.4, 10.6) | 19 | 109 | 15.2 (8.1 , 22.2) | 12 | 107 | 12.5 (4.9 , 20.1) |
| aNumber (N) from unweighted survey sample  |

**Table A3.** Regression coefficients (β) with standard errors (SE) generated using linear regression to assess linear trends (Ptrend) in the prevalence of air quality awareness, perceptions, and behaviors across the 2015–2018 study period

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|  | β (SE) | Ptrend |
| Thinks air pollution can impact health | 3.131 (1.960) | 0.251 |
| Thinks they can limit exposure to air pollution | 4.150 (0.556) | 0.018 |
| Aware of air quality alerts | 0.601 (0.449) | 0.313 |
| Thought/informed air quality was bada | 0.255 (0.231) | 0.469 |
| Did something differently when thought/informed air quality was bada | 3.158 (3.447) | 0.528 |
| a For 2016–2018 only because of changes in the phrasing of questions between year 2015 and 2016–2018 |