

## Supplementary Online Content

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This supplementary material has been provided by the authors to give readers additional information about their work.

**eTable 1.** International Classification of Diseases Codes for Violent Assault Outcomes and Types of Criminal Offense Outcomes

| Outcome                    | ICD code      |               |               | Offense types   |
|----------------------------|---------------|---------------|---------------|---|
|                            | ICD-8         | ICD-9         | ICD-10        |   |
| Any violent assault        | E960–<br>E969 | E960–<br>E969 | X85–<br>Y05   |   |
| Sexual assault             |               | E960.1        | Y05,<br>T74.2 |   |
| Violent crime              |               |               |               | Murder, manslaughter, assault, kidnapping, illegal restraint, illegal coercion or threats, robbery, threats or violence against an officer, arson, gross violation of a person’s integrity, harassment, rape, sexual coercion, child molestation, sexual intercourse with a child, child pornography offenses, pimping, sexual harassment |
| Alcohol/drug-related crime |               |               |               | Driving under the influence of alcohol or drugs; Violations of the Narcotic Drugs Act, such as possession, manufacturing, trafficking or sales of narcotics   |
| Traffic-related crime      |               |               |               | Reckless driving, hit and run offenses, causing death or injury by driving, moving violations   |
| Property crimes            |               |               |               | Theft, burglary, appropriation of a vehicle, unlawful dispossession, unlawful repossession, unlawful diversion of power   |
| Other non-violent crimes   |               |               |               | Any non-violent criminal offense not included in other categories   |

**eTable 2.** International Classification of Diseases Codes and Frequencies for Psychiatric Comorbidities

| Comorbidities             | ICD-codes   |   |                                   | Frequencies (%)              |  |
|---------------------------|---|---|-----------------------------------|------------------------------|--|
|                           | ICD-8   | ICD-9                                       | ICD-10                            | People with TS/CTD (n=7,791) | Unaffected general population (n=13,811,493) |
| ADHD                      | -   | 314   | F90                               | 3,971 (51.0)                 | 152,180 (1.1)                                |
| Anxiety disorders         | 300.00, 300.20, 307, 308.4                            | 300A, 300C, 308, 309                        | F40, F41, F43                     | 1,992 (25.6)                 | 580,538 (4.2)                                |
| Autism spectrum disorders | -   | 299   | F84.0, F84.1, F84.5, F84.8, F84.9 | 2,007 (25.8)                 | 52,030 (0.4)                                 |
| Conduct disorders         | -   | -   | F91                               | 543 (7.0)                    | 10,920 (0.1)                                 |
| Depressive disorders      | 296.0, 296.2, 298.09                                  | 296B, 296X, 298A, 311, 300E                 | F32-F34 (excl. F34.0), F38-F39    | 1,554 (20.0)                 | 566,971 (4.1)                                |
| OCD                       | 300.3   | 300D  | F42                               | 1,348 (17.3)                 | 36,308 (0.3)                                 |
| Psychotic disorders       | 295, 296.00, 296.10, 296.30, 296.88, 296.99, 297, 298 | 295, 296A, 296C, 296E, 296W, 296X, 297, 298 | F20-F25, F28, F29, F30-F31, F34.0 | 718 (9.2)                    | 263,769 (1.9)                                |
| Substance use disorders   | 303, 304, 291, 294.30                                 | 303, 304, 305A, 305X, 291, 292              | F10-F16, F18-F19                  | 892 (11.5)                   | 491,145 (3.6)                                |

Note: ADHD was also defined as ever having dispensed stimulant medication with Anatomical Therapeutic Chemical (ATC) classification codes N06BA01, N06BA02, N06BA04, N06BA09, and N06BA12. Psychotic disorders include bipolar disorders and schizophrenia spectrum disorders.

Abbreviations: ADHD attention-deficit/hyperactivity disorder, ICD International Classification of Diseases, OCD obsessive-compulsive disorder.

**eTable 3.** Association of Tourette Syndrome/Chronic Tic Disorder With Violent Assault and Criminal Convictions Restricted to a Subcohort With Follow-up From Birth

|  | People with Tourette syndrome or chronic tic disorder <sup>a</sup> | Unaffected general population <sup>b</sup> |   |
|--|--|--|---|
| Outcome                                      | n (%)  | n (%)                                      | HR (95% CI) adjusted for sex and birth year |
| <b>Violent assault</b>                       |  |  |   |
| <b>Any assault</b>                           | 308 (5.0)  | 89,920 (2.4)                               | 2.02 (1.81-2.26)                            |
| Men  | 244 (5.0)  | 60,067 (3.1)                               | 1.86 (1.64-2.11)                            |
| Women  | 64 (4.9)   | 29,853 (1.6)                               | 3.18 (2.49-4.06)                            |
| Sexual assault <sup>c</sup>                  | 37 (0.6)   | 12,501 (0.3)                               | 2.91 (2.11-4.02)                            |
| Nonsexual assault <sup>d</sup>               | 276 (4.5)  | 79,113 (2.1)                               | 1.96 (1.75-2.21)                            |
| Men  | 237 (4.9)  | 58,008 (3.0)                               | 1.86 (1.63-2.11)                            |
| Women  | 39 (3.0)   | 21,105 (1.1)                               | 2.84 (2.07-3.89)                            |
| <b>Conviction for criminal offense</b>       |  |  |   |
| <b>Violent crime conviction <sup>e</sup></b> | 537 (12.3)   | 86,539 (3.4)                               | 3.49 (3.21-3.80)                            |
| Men  | 487 (14.3)   | 73,548 (5.6)                               | 3.41 (3.12-3.72)                            |
| Women  | 50 (5.3)   | 12,991 (1.0)                               | 5.63 (4.26-7.43)                            |
| <b>Any non-violent crime conviction</b>      | 1,036 (23.7)   | 355,947 (13.9)                             | 1.85 (1.74-1.96)                            |
| Men  | 895 (26.2)   | 262,523 (20.0)                             | 1.82 (1.71-1.95)                            |
| Women  | 141 (14.8)   | 93,424 (7.5)                               | 2.36 (2.00-2.78)                            |
| Alcohol/drug-related crime conviction        | 395 (9.1)  | 98,712 (3.9)                               | 2.21 (2.01-2.44)                            |
| Men  | 358 (10.5)   | 82,673 (6.3)                               | 2.14 (1.93-2.37)                            |
| Women  | 37 (3.9)   | 16,039 (1.3)                               | 3.54 (2.57-4.89)                            |
| Traffic crime conviction                     | 327 (7.5)  | 122,800 (4.8)                              | 1.59 (1.42-1.77)                            |
| Men  | 309 (9.1)  | 110,201 (8.4)                              | 1.55 (1.38-1.73)                            |
| Women  | 18 (1.9)   | 12,599 (1.0)                               | 2.52 (1.59-4.00)                            |
| Property crime conviction                    | 507 (11.6)   | 145,406 (5.7)                              | 2.32 (2.12-2.53)                            |
| Men  | 418 (12.3)   | 91,074 (6.9)                               | 2.40 (2.18-2.64)                            |
| Women  | 89 (9.4)   | 54,332 (4.4)                               | 2.43 (1.97-2.99)                            |
| Other non-violent crime conviction           | 643 (14.7)   | 178,265 (7.0)                              | 2.22 (2.06-2.40)                            |
| Men  | 583 (17.1)   | 145,183 (11.1)                             | 2.19 (2.02-2.37)                            |
| Women  | 60 (6.3)   | 33,082 (2.7)                               | 2.91 (2.26-3.75)                            |

Notes: <sup>a</sup>Assault outcomes n=6,165; Conviction outcomes n=4,365; People with follow-up ending before age 15 were excluded from conviction analyses.

<sup>b</sup>Assault outcomes n=3,828,057; Conviction outcomes n=2,562,152; People with follow-up ending before age 15 were excluded from conviction analyses.

<sup>c</sup> Models were not estimated for men and women separately due to insufficient number of cases.

<sup>d</sup> Excluding sexual assault

<sup>e</sup> Including sexual crime convictions

**eTable 4.** Association of Persistent Tourette Syndrome/Chronic Tic Disorder With Violent Assault and Criminal Convictions

|  | People with Tourette syndrome or chronic tic disorder <sup>a</sup> | Unaffected general population <sup>b</sup> |   |
|--|--|--|---|
| Outcome                                      | n (%)  | n (%)                                      | HR (95% CI) adjusted for sex and birth year |
| <b>Violent assault</b>                       |  |  |   |
| Any assault                                  | 197 (9.0)  | 254,895 (1.8)                              | 2.68 (2.33-3.08)                            |
| Men  | 143 (9.2)  | 146,000 (2.1)                              | 2.23 (1.89-2.62)                            |
| Women  | 54 (8.4)   | 108,805 (1.6)                              | 3.77 (2.89-4.93)                            |
| Sexual assault <sup>c</sup>                  | 37 (1.7)   | 45,594 (0.3)                               | 4.65 (3.37-6.43)                            |
| Nonsexual assault <sup>d</sup>               | 171 (7.8)  | 214,187 (1.6)                              | 2.53 (2.18-2.94)                            |
| Men  | 138 (8.9)  | 131,179 (1.9)                              | 2.22 (1.88-2.62)                            |
| Women  | 33 (5.1)   | 83,008 (1.2)                               | 2.99 (2.12-4.21)                            |
| <b>Conviction for criminal offense</b>       |  |  |   |
| <b>Violent crime conviction <sup>e</sup></b> | 393 (18.1)   | 322,720 (2.6)                              | 3.61 (3.27-3.98)                            |
| Men  | 344 (22.4)   | 284,990 (5.0)                              | 3.41 (3.07-3.80)                            |
| Women  | 49 (7.7)   | 37,730 (0.6)                               | 7.21 (5.45-9.54)                            |
| <b>Any non-violent crime conviction</b>      | 751 (34.5)   | 1,757,905 (14.3)                           | 1.73 (1.61-1.86)                            |
| Men  | 614 (39.9)   | 1,341,662 (21.6)                           | 1.66 (1.54-1.80)                            |
| Women  | 137 (21.4)   | 416,243 (6.8)                              | 2.42 (2.05-2.86)                            |
| Alcohol/drug-related crime conviction        | 323 (14.8)   | 436,651 (3.5)                              | 2.45 (2.20-2.74)                            |
| Men  | 280 (18.2)   | 381,178 (6.1)                              | 2.31 (2.06-2.60)                            |
| Women  | 43 (6.7)   | 55,473 (0.9)                               | 4.81 (3.57-6.48)                            |
| Traffic crime conviction                     | 283 (13.0)   | 769,370 (6.2)                              | 1.48 (1.32-1.66)                            |
| Men  | 261 (17.0)   | 654,386 (10.6)                             | 1.45 (1.28-1.63)                            |
| Women  | 22 (3.4)   | 114,984 (1.9)                              | 1.64 (1.08-2.50)                            |
| Property crime conviction                    | 376 (17.3)   | 567,003 (4.6)                              | 2.30 (2.08-2.54)                            |
| Men  | 289 (18.8)   | 381,366 (6.2)                              | 2.23 (1.99-2.50)                            |
| Women  | 87 (13.6)  | 185,637 (3.0)                              | 2.93 (2.37-3.62)                            |
| Other non-violent crime conviction           | 487 (22.4)   | 885,987 (7.2)                              | 2.10 (1.92-2.29)                            |
| Men  | 420 (27.3)   | 727,099 (11.7)                             | 2.01 (1.82-2.21)                            |
| Women  | 67 (10.5)  | 158,888 (2.6)                              | 3.04 (2.39-3.87)                            |

Notes: <sup>a</sup>Assault outcomes n=2,197; Conviction outcomes n=2,177; People with follow-up ending before age 15 were excluded from conviction analyses. Restricted to individuals with persistent tics, defined as at least two visits to psychiatric specialist services for Tourette syndrome or chronic tic disorder after age 18.

<sup>b</sup>Assault outcomes n=13,811,493; Conviction outcomes n=12,333,904; People with follow-up before age 15 only were excluded from conviction analyses.

<sup>c</sup> Models were not estimated for men and women separately due to insufficient number of cases.

<sup>d</sup> Excluding sexual assault

<sup>e</sup> Including sexual crime convictions