

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. List and Brief Descriptions of Administrative Data Systems Included in the 2004-2009 Army STARRS Historical Administrative Data Study (HADS)

| Database Acronym | Description |
|--|---|
| ACR | ARMY CENTRAL REGISTRY (ACR): This is a victim-based registry documenting spouse and child abuse events involving Army service members. Substantiated incidents or evidence of an incident in the ACR include physical, sexual, emotional, and neglect subtypes. |
| AFMETS | ARMED FORCES MEDICAL EXAMINER TRACKING SYSTEM (AFMETS): Variables include manner of death and cause of death, including self-inflicted. |
| ACMIS | ARMY COURT MARTIAL MANAGEMENT INFORMATION SYSTEMS (ACMIS). System provides for the efficient collection, manipulation and presentation of data associated with Army courts martial. System includes data on docket entries; the accused; alleged offenses; trials and decisions; and sentences. |
| CIMS / ACI2 | CRIMINAL INVESTIGATION DIVISION INFORMATION MANAGEMENT SYSTEM (CIMS) / AUTOMATED CRIMINAL INVESTIGATION/CRIMINAL INTELLIGENCE (ACI2). Event-level crime record database. Separate system from ASCRC. |
| CIMS / ASCRC (OIF) | CRIMINAL INVESTIGATION DIVISION INFORMATION MANAGEMENT SYSTEM (CIMS) / AUTOMATED SYSTEM CRIME RECORD CENTER (ASCRC). Receives, maintains, accounts for, disseminates information from, and disposes of Army crime records; retrieves and correlates data and statistics from the records and provides to authorized recipients; coordinates automation of crime records data and information; and serves as functional proponent for the electronic imaging of crime records. |
| COPS / MPRS | CENTRALIZED OPERATIONS POLICE SUITE (COPS) / MILITARY POLICE REPORTING SYSTEM (MPRS). Centralized database that contains subsystems supporting the Military Police Corps Army-wide. Contains information included in law enforcement reports. |
| DCIPS | DEFENSE CASUALTY INFORMATION PROCESSING SYSTEM (DCIPS): Casualty data system for Army, Navy, Air Force, and Marines. It contains information on all casualties including deceased active duty members (and cause of death). |
| DMDC/CTS | DEFENSE MANPOWER DATA CENTER (DMDC) / CONTINGENCY TRACKING SYSTEM (CTS): Collection of activation, mobilization, and deployment data. Provides information to DoD decision makers and includes a CTS Deployment File used for tracking the location of deployed personnel. |
| DMDC/Master Personnel & DMDC/Transaction files | DEFENSE MANPOWER DATA CENTER (DMDC) / MASTER PERSONNEL & TRANSACTION FILES: The Active Duty Master File provides an inventory of all individuals on active duty (excluding reservists on active duty for training) at a point in time. It is a standardized and centralized database of present and past members of the active duty force. Personal data elements include social security number, education level, home of record, date of birth, marital status, number of dependents, race, ethnic group, and name. Military data |

| | |
|------------|---|
| | elements include Service, pay grade, Armed Forces Qualification Test percentile (enlisted only), source of commission (officers only), military primary duty and secondary occupation, Unit Identification Code, months of service, duty location, Estimated Termination of Service date, basic active service date, date of current rank, pay entry base date, foreign language ability, and major command code. |
| DODSER | DEPARTMENT OF DEFENSE SUICIDE EVENT REPORT (DODSER): Provides risk and protective factor information for suicide events. This file contains non-fatal attempts, completed suicides, and suicide ideation cases. |
| MDR | MILITARY HEALTH SYSTEM DATA REPOSITORY (MDR): This database contains information about medical, dental, pharmaceutical, and ancillary claims data for both in network and purchased care as well as both inpatient and outpatient treatment. Data are collected on both Army personnel and their beneficiaries. |
| DMDC/DEERS | DEFENSE MANPOWER DATA CENTER (DMDC) / DEFENSE ENROLLMENT ELIGIBILITY REPORTING SYSTEM (DEERS): A DoD PDR containing personnel data and data related to DoD affiliation, benefits, employment, and pay. |
| SADMS | SEXUAL ASSAULT DATA MANAGEMENT SYSTEM (SADMS). Centralized repository of relevant data regarding the entire lifecycle of sexual assault cases, involving victims and/or alleged offenders. |
| TMDS | THEATER MEDICAL DATA STORE (TMDS): Used to track, analyze, view and manage Soldier medical treatment information recorded in the theater of operations. Features of TMDS: accessibility and visibility of service members' deployed medical records, outpatient and inpatient treatment records created in theater facilities, treatment records from other applications, reports on movement of patients, patient status and injury/illnesses. |
| TRAC2ES | TRANSCOM REGULATING AND COMMAND AND CONTROL EVACUATION SYSTEM (TRAC2ES): A tracking system for all medical transfers across the world for all DOD services. |

eTable 2. List of Military Occupational Specialties (MOS) in the 2004-2009 Army STARRS Historical Administrative Data Study (HADS) That Were Categorized as Combat Arms, Special Forces, and Combat Medic

| Combat Arms | | |
|-----------------------|------|---|
| | E11B | Infantryman |
| | E11C | Indirect Fire Infantryman |
| | E11Z | Infantry Senior Sergeant |
| | E13B | Cannon Crewmember |
| | E13E | Cannon Fire Direction Specialist |
| | E13F | Fire Support Specialist |
| | E13S | Field Artillery Surveyor |
| | E19D | Cavalry Scout |
| | E19K | M1 Armor Crewman |
| | E19Z | Armor Senior Sergeant |
| | | |
| Special Forces | | |
| | E00D | Special Duty Assignment |
| | E18B | Special Forces Weapons Sergeant |
| | E18C | Special Forces Engineer Sergeant |
| | E18E | Special Forces Communications Sergeant |
| | E18F | Special Forces Assistant Operations and Intelligence Sergeant |
| | E18Z | Special Forces Senior Sergeant |
| | | |
| Combat Medic | | |
| | E68W | Health Care Specialist |
| | E91W | Health Care Specialist |
| | | |

eTable 3. International Classification of Diseases, Ninth Revision–Clinical Modification (ICD-9-CM) Codes Used to Identify Mental Disorders

| Included Mental Health Diagnoses | ICD-9-CM Codes |
|---|---|
| Adjustment Disorder | 309, .29, .3, .4, .82, .83, .89, .9 |
| Dysthymic Disorder/ Neurasthenia/ Depression NOS | 296.82, .90, .99 300.4, .5 309.0, .1 311, .0, .1 313.1 |
| Major Depression | 296.2, .20, .21, .22, .23, .24, .25, .26, .3, .30, .31, .32, .33, .34, .35, .36 |
| Bipolar Disorder | 296.00, .01, .02, .03, .04, .05, .06, .10, .11, .12, .13, .14, .15, .16, .40, .41, .42, .43, .44, .45, .46, .50, .51, .52, .53, .54, .55, .56, .60, .61, .62, .63, .64, .65, .66, .7, .80, .81, .89 301.13 |
| Anxiety State/ Anxiety Disorder | 300, .00, .01, .02, .09, .20, .21, .22, .23, .29, .3 309.21, .24, .28 313.0, .21, .22, .23 |
| Post-Traumatic Stress Disorder | 309.81 |
| Attention-Deficit/Hyperactivity Disorder/ Learning Disorders | 314.0, .00, .01, .1, .2, .8, .9 315.00, .01, .02, .09, .1, .2, .3, .31, .32, .34, .39, .4, .5, .8, .9 |
| Conduct Disorder/ Oppositional Defiant Disorder | 301.7 312.4, .8, .81, .82, .89, .9 313.81 V62.83 |
| Eating Disorders | 307.1, .50, .51, .59 |
| Other Impulse Control Disorders | 312.00, .01, .02, .03, .10, .11, .12, .13, .20, .21, .22, .23, .3, .30, .31, .32, .33, .34, .35, .39 |
| Alcohol Induced Mental Disorders/ Alcohol Dependence/ Alcohol Abuse | 291.0, .1, .2, .3, .4, .5, .8, .81, .82, .89, .9 303.00, .01, .02, .03, .9, .90, .91, .92, .93 305, .0, .00, .01, .02, .03 |

| | |
|--|---|
| Drug Induced Mental Disorders | 292 |
| Non-Dependent Drug Abuse | 305.2, .20, .21, .22, .23, .3, .30, .31, .32, .33, .4, .40, .41, .42, .43, .5, .50, .51, .52, .53, .6, .60, .61, .62, .63, .7, .70, .71, .72, .73, .8, .80, .81, .82, .83, .9, .90, .91, .92, .93 |
| Drug dependence | 304 |
| Personality Disorders | 301.0, .1, .10, .11, .12, .20, .21, .22, .3, .4, .50, .51, .59, .6, .8, .80, .81, .82, .83, .84, .89, .9 |
| Non-Affective Psychosis | 295.00, .01, .02, .03, .04, .05, .10, .11, .12, .13, .14, .15, .20, .21, .22, .23, .24, .25, .30, .31, .32, .33, .34, .35, .40, .41, .42, .43, .44, .45, .50, .51, .52, .53, .54, .60, .61, .62, .63, .64, .65, .70, .71, .72, .73, .74, .75, .80, .81, .82, .83, .84, .85, .90, .91, .92, .93, .94, .95 297.0, .1, .2, .3, .8, .9 298.0, .1, .2, .3, .4, .8, .9, .90 |
| Somatoform/ Dissociative Disorders | 300.10, .11, .12, .13, .14, .15, .16, .19, .6, .7, .80, .81, .82, .89 306.0, .1, .2, .3, .4, .50, .51, .52, .53, .59, .6, .7, .8, .9 307.54, .80, .81, .89 |
| Organic Mental Disorders | 290.0, .10, .11, .12, .13, .20, .21, .3, .40, .41, .42, .43, .8, .9 293.0, .1, .81, .82, .83, .84, .89, .89, .9 294.0, .1, .10, .11, .8, .9 307.20, .21, .22, .23, .3 310.0, .8, .9 317 318.0, .1, 2 319 |
| Sexual Disorders | 302, .0, .1, .2, .3, .4, .50, .51, .52, .53, .6, .70, .71, .72, .73, .74, .75, .76, .79, .81, .82, .83, .84, .85, .89, .9 |
| Sleep Disorders | 307.4, .40, .41, .42, .43, .44, .45, .46, .47, .48, .49 |
| Other Mental Disorders/ Mental Illness | 292.85 299.00, .01, .10, .80, .81, .90, .91 300.9 307.0, .52, .53, .6, .7, .9 309.22 310.1 |

| | |
|---|--|
| | 313.3, .82, .89, .9 316 |
| Traumatic Stress | 308, .0, .1, .2, .3, .4, .9 |
| Stressors/ Adversities | V40.0, .00, .1, .2, .20, .3, .30, .9, .90 V61, .0, .01, .02, .03, .04, .05, .06, .07, .08, .09, .2, .20, .21, .22, .23, .24, .29, .3, .4, .41, .42, .49, .8, .9 V62, .0, .1, .10, .2, .20, .21, .22, .29, .3, .4, .5, .8, .80, .81, .810, .811, .812, .82, .89, .9, .90 V69.4, .5, .9 |
| Marital Problems | V61.1, .10, .11, .12 |
| Excluded Mental Health Diagnoses | ICD-9-CM Codes |
| Postconcussion Syndrome | 310.2 |
| Tobacco Use Disorder | 305.1, .10, .11, .12, .13 |
| Symptoms, Signs, and Ill-Defined Conditions, Mental | 797 798, .0, .1, .2, .9 799, .0, .01, .02, .1, .2, .21, .22, .23, .24, .25, .29, .3, .4, .8, .81, .82, .89, .9 |
| Prior History of Mental Disorders | V11.0, .1, .2, .3, .8, .80, .9, .90 V66.3 V67.3 |
| Indicator of Impulsivity and Risky Behavior | V69.2, .3 |
| Self-Damaging Behavior | V69.8 |

eTable 4. The National Corrections Reporting Program (NCRP) Offense Codes Used to Identify Categories of Criminal Perpetration and Victimization

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|---|
| |
| I. Minor Physical Violent Crime (Minor Violence) |
| A. Simple Assault |
| 15. Simple Assault |
| 16.2 Simple Assault On A Public Officer |
| 86. Simple Assault Of Military Official |
| 20.2 Violent Offenses, Other – Simple Assault |
| B. Family-Related Simple Assault |
| 89.1 Family-Related Simple Assault |
| C. Other Physical Violence |
| 20.5 Violent Offenses, Other – Violent Offenses |
| II. Verbal Violent Crime (Minor Violence) |
| A. Blackmail/Extortion/Intimidation |
| 17. Blackmail/Extortion/Intimidation |
| B. Rioting |
| 56. Rioting |
| C. Harassment (Non-Sexual) |
| 69.2 Invasion Of Privacy – Other Harassment |
| 73.1 Other Public Order Offenses – Harassment |
| E. Sexual Verbal Violence |
| 66.1 Morals/Decency – Sexual Harassment |
| 69.1 Invasion Of Privacy – Sexual Harassment |
| III. Major Physical Violent Crime (Major Violence) |
| A. Murder/Homicide/Manslaughter |
| 1. Murder |
| 2. Unspecified Homicide |
| 3. Voluntary/Nonnegligent Manslaughter |
| 5. Manslaughter – Non-Vehicular |
| B. Kidnapping |
| 6. Kidnapping |
| C. Aggravated Arson |
| 22.1 Aggravated Arson |
| D. Aggravated Assault |
| 14. Aggravated Assault |
| 16.1 Aggravated Assault On A Public Officer |
| 87. Aggravated Assault Of Military Official |
| 20.1 Violent Offenses, Other – Aggravated Assault |
| E. Family-Related Aggravated Assault |
| 64.2 Family Related Aggravated Assault |
| 19. Child Abuse |
| F. Robbery |

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| 11. Armed Robbery |
| 12. Unarmed Robbery |
| IV. Sexual Violent Crime (Major Violence) |
| A. Rape/Sodomy/Sexual Assault |
| 7. Rape – Force |
| 8. Rape – Statutory – No Force |
| 13. Forcible Sodomy |
| 9. Sexual Assault - Other |
| 10. Lewd Act With Children |
| B. Family-Related Sexual Violence |
| 89.3 Family-Related Sexual Offenses |
| V. Non-Violent Offenses |
| A. Reckless Endangerment |
| 4. Manslaughter - Vehicular |
| 18. Hit And Run Driving |
| 32. Hit/Run Driving - Property Damage |
| 61. Driving While Intoxicated |
| 62. Driving Under The Influence (Dui) |
| 63. Driving Under Influence (Dui) - Drugs |
| 20.3 Violent Offenses, Other – Reckless Endangerment |
| B. Burglary |
| 21. Burglary |
| C. Simple Arson |
| 22.2 Simple Arson |
| D. Forgery/Fraud |
| 24. Forgery/Fraud |
| E. Theft |
| 23. Auto Theft |
| 25. Grand Larceny – Theft Over \$200 |
| 26. Petty Larceny - Theft Under \$200 |
| 27. Larceny/Theft – Value Unknown |
| 28. Embezzlement |
| 29. Stolen Property – Receiving |
| 30. Stolen Property – Trafficking |
| 33. Unauthorized Use Of Vehicle |
| 73.2 Public Order Offenses, Other – Theft |
| F. Property Offenses |
| 31. Destruction Of Property |
| 34. Trespassing |
| 35. Property Offenses - Other |
| G. Commercialized Vice, Illegal Substances |
| 36. Trafficking – Heroin |
| 37. Trafficking - Cocaine Or Crack |
| 38. Trafficking – Other Controlled Substances |
| 39. Trafficking Marijuana/Hashish |

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|---|
| 40. Trafficking - Drug Unspecified |
| H. Commercialized Vice, Other |
| 70. Commercialized Vice |
| 72.1 Liquor Law Violations – Commercialized Vice |
| I. Possession/Use/Other Violation Of Illegal Substance |
| 41. Possession/Use – Heroin |
| 42. Possession/Use – Cocaine Or Crack |
| 43. Possession/Use - Other Controlled Substances |
| 44. Possession/Use - Marijuana/Hashish |
| 45. Possession/Use - Drug Unspecified |
| 46. Heroin Violation Offense Unspecified |
| 47. Cocaine Or Crack Violation Offense Unspecified |
| 48. Controlled Substance – Offense Unspecified |
| 49. Marijuana/Hashish Violation - Offense Unspecified |
| 50. Drug Offenses - Violation/Drug Unspecified |
| J. Court-Ordered Violations |
| 51. Escape From Custody |
| 52. Flight To Avoid Prosecution |
| 54. Parole Violation |
| 55. Probation Violations |
| 58. Contempt Of Court |
| 59. Offenses Against Courts, Legislatures And Commissions |
| 68. Obstruction - Law Enforcement |
| K. Weapon Offense |
| 53. Weapon Offense |
| L. Traffic Offense – Minor |
| 60. Traffic Offenses – Minor |
| M. Drunkenness/Vagrancy/Disorderly Conduct |
| 65. Drunkenness/Vagrancy/Disorderly Conduct |
| 72.2 Liquor Law Violations, Other |
| N. Military Specific Non-Violent Offenses |
| 88. Disobey Army Orders |
| 89. AWOL/Desertion/Treason |
| O. Family-Related Non-Violent Offenses |
| 58. Family Related Offenses – Contempt Of Court |
| 64.1 Family Related Offenses – Reckless Endangerment |
| 64.3 Family Related Offenses – Domestic Disturbance |
| 64.4 Family Related Offenses – Custody Offenses |
| 66.2 Family Related Offenses – Morals/Decency – Other Moral/Decency Offense |
| P. Other Non-Violent Offenses |
| 20.4 Violent Offenses, Other – Non-Violent Offenses |
| 57. Habitual Offender |
| 66.2 Morals/Decency – Other Moral/Decency Offense |
| 67. Immigration Violations |
| 69.3 Invasion Of Privacy –Other |

| |
|--|
| 71. Contributing To The Delinquency Of A Minor |
| 73.4 All Other Public Order Offenses |
| 74. Bribery And Conflict Of Interest |
| 75. Juvenile Offenses |
| 76. Felony – Unspecified |
| 77. Misdemeanor Unspecified |
| 78. Other/Unknown |

eTable 5. List of Family Violence-Related Data Sources Included in the 2004-2009 Army STARRS Historical Administrative Data Study (HADS)

| Data Sources | Database / Code | Description |
|------------------------------------|------------------------|---|
| Army Legal Records | | Includes legal records of aggravated and/or simple assault, emotional and/or sexual abuse, and family-related non-violent offenses (see eTable 6) |
| | ACMIS | Army Court Martial Management Information Systems (ACMIS). System provides for the efficient collection, manipulation and presentation of data associated with Army courts martial. System includes data on docket entries; the accused; alleged offenses; trials and decisions; and sentences. |
| | CIMS / ACI2 | Criminal Investigation Division Information Management System (CIMS) / Automated Criminal Investigation/Criminal Intelligence (ACI2). Event-level crime record database. Separate system from ASCRC. |
| | CIMS / ASCRC (OIF) | Criminal Investigation Division Information Management System (CIMS) / Automated System Crime Record Center (ASCRC). Receives, maintains, accounts for, disseminates information from, and disposes of Army crime records; retrieves and correlates data and statistics from the records and provides to authorized recipients; coordinates automation of crime records data and information; and serves as functional proponent for the electronic imaging of crime records. |
| | COPS / MPRS | Centralized Operations Police Suite (COPS) / Military Police Reporting System (MPRS). Centralized database that contains subsystems supporting the Military Police Corps Army-wide. Contains information included in law enforcement reports. |
| | SADMS | Sexual Assault Data Management System (SADMS). Centralized repository of relevant data regarding the entire lifecycle of sexual assault cases, involving victims and/or alleged offenders. |
| Army Central Registry (ACR) | | This is a victim-based registry documenting spouse and child abuse events involving Army service members. Substantiated incidents or evidence of an incident in the ACR include physical, sexual, emotional, and neglect subtypes. |
| ICD-9 Codes | | |
| | 995.80 | Unspecified Adult Maltreatment |
| | 995.81 | Adult Physical Abuse |
| | 995.82 | Adult Emotional / Psychological Abuse |
| | 995.83 | Adult Sexual Abuse |
| | 995.84 | Adult Neglect (Nutritional) |
| | 995.85 | Other Adult Abuse and Neglect |
| | E967.3 | Perpetrator of Adult and Child Abuse by Spouse or Partner |
| | V61.11 | Counseling for Victim of Spouse and Partner Abuse |
| | V61.12 | Counseling for Perpetrator of Spousal and Partner Abuse |

| | | |
|--|--------|---|
| | V61.22 | Counseling for Perpetrator of Parent Child Abuse |
| | V62.83 | Counseling for Perpetrator of Physical/Sexual Abuse |

eTable 6. The National Corrections Reporting Program (NCRP) Offense Codes Used to Identify Family Violence

I. Major Physical Violence

E.) Family-Related Aggravated Assault

64.2 Family-related aggravated assault

580 Cruelty to Spouse

120 Domestic Violence (other than verbal)

19. Child Abuse

170 Child Abuse, except offenses specified sexual in nature

170 Cruelty to Juvenile

171 Child Abuse, Attempted

172 Child Abuse, Conspiracy

Aggravated Abandonment

Child Neglect involving cruelty OR first and second degree

Assault on a child under the age of 16

Abuse of grandchildren

II. Minor Physical Violence

B.) Family-Related Simple Assault

89.1 Family-related simple assault

Spouse/family/domestic assault, unspecified degree

Domestic dispute, unspecified (different from domestic disturbance)

III. Verbal Violence

D.) Family-Related Emotional Abuse

89.2 Family-related emotional abuse

Emotional abuse, of spouse/child/family member

IV. Sexual Violence

B.) Family-Related Sexual Violence

89.3 Family-related sexual offenses

Incest with a child (age < 18 years)

Rape of family member/spouse

Sexual abuse of family member/spouse

V. Non-violent Offenses

O.) Family-Related Non-Violence Offenses

58. Family-related offenses- Contempt of court

530 Violation of protective order (family-related)

530 Violation of restraining order (family-related)

64.1 Family-related offenses- Reckless endangerment

580 Abandonment (except when specified Aggravated Abandonment)

580 Desertion

Endangerment/mistreatment of dependent adult

580 Failure to provide

580 Non-support, family-related offenses

580 Non-support of spouse or children

9999 Endangerment/mistreatment of spouse

Spouse neglect

180 Child endangerment

Child neglect

64.3 Family-related offenses- Domestic disturbance

Domestic/family disturbance (verbal or unspecified)

"Domestic," unspecified

64.4 Family-related offenses- Custody offenses

580 Custodial interference

580 Interference with custody

66.2 Family-related offenses- Morals/Decency- Other Moral/Decency offense

600 Adultery

600 Bigamy

600 Incest (with person 18 years of age or older, or unspecified age)

060 Sex with close blood relative (incest- no force)

eTable 7. Multivariable Associations of Sociodemographic, Service-Related, and Mental Health Variables With Suicide Attempt in the Total Sample of Regular Army Enlisted Soldiers¹

| | OR | 95% CI | Cases (N) | Total (N) ² | Rate ³ | Pop % ⁴ | SRE ⁵ |
|-------------------------------------|------|-----------|-----------|------------------------|-------------------|--------------------|------------------|
| Socio-Demographic Predictors | | | | | | | |
| Gender | | | | | | | |
| Male | 1.0 | – | 7,214 | 26,507,814 | 327 | 86.3 | 323 |
| Female | 2.3* | (2.2–2.5) | 2,436 | 4,207,436 | 695 | 13.7 | 753 |
| χ^2_1 | | 1,083.8* | | | | | |
| Current Age | | | | | | | |
| < 21 | 1.4* | (1.2–1.6) | 3,315 | 4,624,915 | 860 | 15.1 | 449 |
| 21–24 | 1.1* | (1.0–1.3) | 3,499 | 9,230,699 | 455 | 30.1 | 371 |
| 25–29 | 1.0 | (0.9–1.2) | 1,756 | 7,119,756 | 296 | 23.2 | 337 |
| 30–34 | 1.0 | – | 635 | 4,239,435 | 180 | 13.8 | 324 |
| 35–39 | 0.9* | (0.8–1.0) | 300 | 3,344,500 | 108 | 10.9 | 279 |
| 40+ | 0.9 | (0.7–1.1) | 145 | 2,155,945 | 81 | 7.0 | 277 |
| χ^2_5 | | 44.1* | | | | | |
| Race/Ethnicity | | | | | | | |
| White | 1.0 | – | 6,808 | 18,358,008 | 445 | 59.8 | 418 |
| Black | 0.7* | (0.6–0.7) | 1,415 | 6,972,415 | 244 | 22.7 | 287 |
| Hispanic | 0.8* | (0.7–0.8) | 979 | 3,557,179 | 330 | 11.6 | 322 |
| Asian | 0.7* | (0.6–0.8) | 286 | 1,217,486 | 282 | 4.0 | 297 |
| Other | 1.0 | (0.9–1.2) | 162 | 610,162 | 319 | 2.0 | 422 |
| χ^2_4 | | 217.8* | | | | | |
| Education | | | | | | | |
| < High School ⁶ | 1.8* | (1.7–1.9) | 2,888 | 3,878,088 | 894 | 12.6 | 593 |
| High School | 1.0 | – | 6,380 | 23,503,980 | 326 | 76.5 | 333 |
| Some College | 0.8* | (0.7–0.9) | 191 | 1,704,591 | 134 | 5.5 | 257 |
| ≥ College | 0.7* | (0.6–0.8) | 191 | 1,628,591 | 141 | 5.3 | 232 |
| χ^2_3 | | 679.8* | | | | | |
| Marital Status | | | | | | | |
| Never Married | 0.9* | (0.8–0.9) | 5,441 | 12,589,441 | 519 | 41.0 | 357 |
| Currently Married | 1.0 | – | 3,974 | 16,814,774 | 284 | 54.7 | 407 |
| Previously Married | 1.0 | (0.9–1.1) | 235 | 1,311,035 | 215 | 4.3 | 406 |
| χ^2_2 | | 31.6* | | | | | |
| Service-Related Predictors | | | | | | | |
| Age at Army Entry | | | | | | | |
| < 21 | 1.0 | (1.0–1.1) | 6,471 | 19,095,671 | 407 | 62.2 | 382 |
| 21–24 | 1.0 | – | 2,139 | 7,531,739 | 341 | 24.5 | 366 |
| 25+ | 1.0 | (0.9–1.1) | 1,040 | 4,087,840 | 305 | 13.3 | 368 |
| χ^2_2 | | 1.6 | | | | | |
| Time in Service | | | | | | | |
| 1 Year | 2.7* | (2.4–3.1) | 3,400 | 4,502,800 | 906 | 14.7 | 676 |
| 2 Years | 1.9* | (1.7–2.1) | 2,016 | 4,057,816 | 596 | 13.2 | 467 |
| 3–4 Years | 1.5* | (1.4–1.6) | 2,278 | 6,819,878 | 401 | 22.2 | 358 |
| 5–10 Years | 1.0 | – | 1,542 | 8,322,742 | 222 | 27.1 | 246 |
| > 10 Years | 0.5* | (0.4–0.5) | 414 | 7,012,014 | 71 | 22.8 | 114 |
| χ^2_4 | | 408.0* | | | | | |
| Deployment Status | | | | | | | |
| Never Deployed | 2.2* | (2.1–2.4) | 5,894 | 12,421,294 | 569 | 40.4 | 395 |
| Currently Deployed | 1.0 | – | 940 | 7,173,140 | 157 | 23.4 | 179 |
| Previously Deployed | 2.9* | (2.7–3.2) | 2,816 | 1,112,081 | 304 | 36.2 | 520 |
| χ^2_2 | | 771.9* | | | | | |

| | | | | | | | |
|---|------------|-----------|-------|------------|-------|------|-------|
| Delayed Promotion | | | | | | | |
| Late Promotion ≤ 2 Months | 2.4* | (2.1–2.7) | 308 | 238,308 | 1,551 | 0.8 | 921 |
| Late Promotion > 2 Months | 2.0* | (1.8–2.2) | 1,267 | 1,129,067 | 1,347 | 3.7 | 763 |
| On Schedule Promotion | 1.0 | – | 4,243 | 6,795,843 | 749 | 22.1 | 385 |
| Not Relevant Due to Rank ⁷ | 0.8* | (0.7–0.9) | 3,832 | 22,552,032 | 204 | 73.4 | 305 |
| | χ^2_3 | 582.4* | | | | | |
| Demotion | | | | | | | |
| Demoted in Past Year | 1.8* | (1.7–2.0) | 1,078 | 1,034,278 | 1,251 | 3.4 | 632 |
| Demoted Before Past Year | 1.4* | (1.3–1.6) | 625 | 2,211,625 | 339 | 7.2 | 498 |
| Never Demoted | 1.0 | – | 7,947 | 27,469,347 | 347 | 89.4 | 351 |
| | χ^2_2 | 217.9* | | | | | |
| Military Occupation | | | | | | | |
| Combat Arms | 1.2* | (1.1–1.3) | 2,506 | 7,159,106 | 420 | 23.3 | 419 |
| Special Forces | 0.3* | (0.2–0.5) | 16 | 369,016 | 52 | 1.2 | 114 |
| Combat Medic | 1.4* | (1.3–1.5) | 682 | 1,470,882 | 556 | 4.8 | 504 |
| Other | 1.0 | – | 6,446 | 21,716,246 | 356 | 70.7 | 356 |
| | χ^2_3 | 130.4* | | | | | |
| Mental Health Predictors | | | | | | | |
| Previous Mental Health Diagnosis | | | | | | | |
| Yes | 6.2* | (5.9–6.5) | 6,143 | 10,708,143 | 688 | 34.9 | 1,082 |
| No | 1.0 | – | 3,507 | 20,007,107 | 210 | 65.1 | 176 |
| | χ^2_1 | 5,620.3* | | | | | |
| Total | – | – | 9,650 | 30,715,250 | 377.0 | 100 | – |

¹The sample of Regular Army enlisted soldiers (n=9,650 cases, 153,528 control person-months) is a subset of the total Regular Army sample (n=193,617 person-months) from the Army STARRS Historical Administrative Data Study (HADS). Control person-months were assigned a weight of 200 to adjust for under-sampling.

²Total includes both cases (i.e., soldiers with a suicide attempt) and control person-months.

³Rate per 100,000 person-years, calculated based on n_1/n_2 , where n_1 is the unique number of soldiers within each category and n_2 is the annual number of person-years, not person-months, in the population (n=3.08 million).

⁴Pop % = percent of the total population of enlisted soldiers.

⁵SRE = Standardized risk estimates (number of soldiers with a suicide attempt per 100,000 person-years) were calculated assuming other predictors were at their sample-wide means.

⁶< High School includes: General Educational Development credential (GED), home study diploma, occupational program certificate, correspondence school diploma, high school certificate of attendance, adult education diploma, and other non-traditional high school credentials.

⁷Soldiers above the rank of E4 are not promoted on a set schedule.

* $p < 0.05$

eTable 8. Counts and Rates of Suicide Attempts by Sociodemographic and Service-Related Variables Among Regular Army Enlisted Soldiers With and Without a History of Mental Health Diagnosis¹

| | History of Mental Health Diagnosis | | | | | | | | | |
|-------------------------------------|--|------------------------|-------------------|--------------------|------------------|--|------------------------|-------------------|--------------------|------------------|
| | No Previous Mental Health Diagnosis (n = 103,525) | | | | | Any Previous Mental Health Diagnosis (n = 59,653) | | | | |
| | Cases (n) | Total (n) ² | Rate ³ | Pop % ⁴ | SRE ⁵ | Cases (n) | Total (n) ² | Rate ³ | Pop % ⁴ | SRE ⁵ |
| Socio-demographic Predictors | | | | | | | | | | |
| Gender | | | | | | | | | | |
| Male | 898 | 17,707,809 | 177 | 88.5 | 177 | 4,605 | 8,800,005 | 628 | 82.2 | 637 |
| Female | 2,609 | 2,299,298 | 469 | 11.5 | 459 | 1,538 | 1,908,138 | 967 | 17.8 | 907 |
| Current Age | | | | | | | | | | |
| < 21 | 1,736 | 3,979,936 | 523 | 19.9 | 246 | 1,579 | 644,979 | 2,938 | 6.0 | 984 |
| 21–24 | 1,106 | 6,461,906 | 205 | 32.3 | 191 | 2,393 | 2,768,793 | 1,037 | 25.9 | 729 |
| 25–29 | 437 | 4,219,837 | 124 | 21.1 | 180 | 1,319 | 2,899,919 | 546 | 27.1 | 583 |
| 30–34 | 141 | 2,356,941 | 72 | 11.8 | 169 | 494 | 1,882,494 | 315 | 17.6 | 524 |
| 35–39 | 62 | 1,813,662 | 41 | 9.1 | 160 | 238 | 1,530,838 | 187 | 14.3 | 433 |
| 40+ | 25 | 1,174,825 | 26 | 5.9 | 150 | 120 | 981,120 | 147 | 9.2 | 430 |
| Race/Ethnicity | | | | | | | | | | |
| White | 2,477 | 12,233,677 | 243 | 61.1 | 229 | 4,331 | 6,124,331 | 849 | 57.2 | 747 |
| Black | 478 | 4,194,478 | 137 | 21.0 | 164 | 937 | 2,777,937 | 405 | 25.9 | 540 |
| Hispanic | 389 | 2,369,189 | 197 | 11.8 | 191 | 590 | 1,187,990 | 596 | 11.1 | 620 |
| Asian | 115 | 353,648 | 161 | 4.3 | 220 | 171 | 361,371 | 568 | 3.4 | 725 |
| Other | 48 | 856,115 | 163 | 1.8 | 171 | 114 | 256,514 | 533 | 2.4 | 615 |
| Education | | | | | | | | | | |
| < High School ^b | 1,130 | 2,637,130 | 514 | 13.2 | 358 | 1,758 | 1,240,958 | 1,700 | 11.6 | 929 |
| High School | 2,256 | 15,295,656 | 177 | 76.5 | 180 | 4,124 | 8,208,324 | 603 | 76.7 | 633 |
| Some College | 47 | 995,647 | 57 | 5.0 | 121 | 144 | 708,944 | 244 | 6.6 | 553 |
| ≥ College | 74 | 1,078,674 | 82 | 5.4 | 123 | 117 | 549,917 | 255 | 5.1 | 453 |
| Marital Status | | | | | | | | | | |
| Never Married | 2,428 | 9,572,828 | 304 | 47.8 | 206 | 3,013 | 3,016,613 | 1,199 | 28.2 | 691 |
| Currently Married | 1,052 | 9,844,252 | 128 | 49.2 | 222 | 208 | 6,970,522 | 503 | 65.1 | 686 |
| Previously Married | 27 | 590,027 | 55 | 2.9 | 164 | 2,922 | 721,008 | 346 | 6.7 | 676 |
| Service-Related Predictors | | | | | | | | | | |
| Age at Army Entry | | | | | | | | | | |
| < 21 | 2,436 | 12,466,436 | 235 | 62.3 | 221 | 4,035 | 6,629,235 | 730 | 61.9 | 664 |
| 21–24 | 711 | 4,896,111 | 174 | 24.5 | 189 | 1,428 | 2,635,628 | 650 | 24.6 | 720 |

| | | | | | | | | | | |
|---------------------------------------|--------------|-------------------|------------|------------|----------|--------------|-------------------|------------|------------|----------|
| 25+ | 360 | 2,644,560 | 163 | 13.2 | 189 | 680 | 1,443,280 | 565 | 13.5 | 793 |
| Time in Service | | | | | | | | | | |
| 1 Year | 2,091 | 4,179,491 | 600 | 20.9 | 446 | 1,309 | 323,309 | 4,859 | 3.0 | 2,942 |
| 2 Years | 652 | 3,234,052 | 242 | 16.2 | 217 | 1,364 | 823,764 | 1,987 | 7.7 | 1,388 |
| 3–4 Years | 501 | 4,550,901 | 132 | 22.7 | 132 | 1,777 | 2,268,977 | 940 | 21.2 | 736 |
| 5–10 Years | 208 | 4,369,208 | 57 | 21.8 | 66 | 1,334 | 3,953,534 | 405 | 36.9 | 412 |
| > 10 Years | 55 | 3,673,455 | 18 | 18.4 | 27 | 359 | 3,338,559 | 129 | 31.2 | 195 |
| Deployment Status | | | | | | | | | | |
| Never Deployed | 2,714 | 9,193,714 | 354 | 46.0 | 224 | 3,180 | 3,227,580 | 1,182 | 30.1 | 737 |
| Currently Deployed | 305 | 4,748,505 | 77 | 23.7 | 114 | 635 | 2,424,635 | 314 | 22.6 | 337 |
| Previously Deployed | 488 | 6,064,888 | 97 | 30.3 | 256 | 2,328 | 5,055,928 | 553 | 47.2 | 855 |
| Delayed Promotion | | | | | | | | | | |
| Late Promotion ≤ 2 Months | 103 | 171,503 | 721 | 0.9 | 442 | 205 | 66,805 | 3,682 | 0.6 | 1,386 |
| Late Promotion > 2 Months | 211 | 563,011 | 450 | 2.8 | 350 | 1,056 | 566,056 | 2,239 | 5.3 | 1,086 |
| On Schedule Promotion | 2,358 | 6,013,158 | 471 | 30.1 | 215 | 1,885 | 782,685 | 2,890 | 7.3 | 836 |
| Not Relevant Due to Rank ⁷ | 835 | 13,259,435 | 76 | 66.3 | 172 | 2,997 | 9,292,597 | 387 | 86.8 | 540 |
| Demotion | | | | | | | | | | |
| Demoted in Past Year | 188 | 489,388 | 461 | 2.4 | 443 | 890 | 544,890 | 1,960 | 5.1 | 1,234 |
| Demoted Before Past Year | 82 | 970,482 | 101 | 4.9 | 265 | 543 | 1,241,143 | 525 | 11.6 | 757 |
| Never Demoted | 3,237 | 18,547,237 | 209 | 92.7 | 203 | 4,710 | 8,922,110 | 634 | 83.3 | 629 |
| Military Occupation | | | | | | | | | | |
| Combat Arms | 948 | 4,951,348 | 230 | 24.7 | 233 | 1,558 | 2,207,758 | 847 | 20.6 | 779 |
| Special Forces | 6 | 282,206 | 26 | 1.4 | 67 | 10 | 86,810 | 138 | 0.8 | 369 |
| Combat Medic | 236 | 861,836 | 329 | 4.3 | 276 | 446 | 609,046 | 879 | 5.7 | 848 |
| Other | 2,317 | 13,911,717 | 200 | 69.5 | 199 | 4,129 | 7,804,529 | 635 | 72.9 | 648 |
| Total | 3,507 | 20,007,107 | 201 | 100 | – | 6,143 | 10,708,143 | 688 | 100 | – |

¹The sample of Regular Army enlisted soldiers (n=9,650 cases, 153,528 control person-months) is a subset of the total Regular Army sample (n=193,617 person-months) from the Army STARRS Historical Administrative Data Study (HADS). Control person-months were assigned a weight of 200 to adjust for under-sampling.

²Total includes both cases (i.e., soldiers with a suicide attempt) and control person-months.

³Rate per 100,000 person-years, calculated based on n_1/n_2 , where n_1 is the unique number of soldiers within each category and n_2 is the annual number of person-years, not person-months, in the population (n=3.08 million).

⁴Pop % = percent of the population of enlisted soldiers within each stratum (i.e., with or without a history of mental health diagnosis).

⁵SRE = Standardized risk estimates (number of soldiers with a suicide attempt per 100,000 person-years) were calculated assuming other predictors were at their sample-wide means. The SREs for each predictor (sections I-V) were calculated using separate logistic regression analyses that adjusted for socio-demographics (gender, current age, race/ethnicity, education, marital status) and service-related variables (age at Army entry, time in service [1 year, 2 years, 3-4 years, 5-10 years, >10 years], deployment status [never, currently, or previously deployed], delayed promotion, demotion, military occupation [combat arms, special forces, combat medic, other]). Models also included a dummy predictor variable for calendar month and year to control for secular trends.

⁶< High School includes: General Educational Development credential (GED), home study diploma, occupational program certificate, correspondence school diploma, high school certificate of attendance, adult education diploma, and other non-traditional high school credentials.

⁷Soldiers above the rank of E4 are not promoted on a set schedule.

eTable 9. Multivariable Associations of Marriage Start/End Recency With Suicide Attempt in the Total Sample of Regular Army Enlisted Soldiers^{1,2}

| | OR | 95% CI | Cases (N) | Total (N) ³ | Rate ⁴ | Pop % ⁵ | SRE ⁶ |
|------------------------------------|-------|-----------|-----------|------------------------|-------------------|--------------------|------------------|
| I. Marriage Start Recency | | | | | | | |
| 1 Month Ago | 0.5* | (0.4–0.7) | 44 | 213,844 | 247 | 0.7 | 88 |
| 2–3 Months Ago | 1.1 | (0.9–1.2) | 217 | 454,217 | 573 | 1.5 | 195 |
| 4–12 Months Ago | 1.3* | (1.2–1.4) | 978 | 1,993,978 | 589 | 6.5 | 236 |
| > 12 Months Ago | 1.1* | (1.1–1.2) | 2,735 | 14,152,735 | 232 | 46.1 | 203 |
| Not Currently Married ⁷ | 1.0 | – | 5,676 | 13,900,476 | 490 | 45.3 | 890 |
| χ^2_4 | 84.6* | | | | | | |
| II. Marriage End Recency | | | | | | | |
| 1 Month Ago | 1.1 | (0.6–1.9) | 11 | 47,011 | 281 | 0.2 | 279 |
| 2–3 Months Ago | 1.1 | (0.7–1.6) | 23 | 92,423 | 299 | 0.3 | 275 |
| 4–12 Months Ago | 1.2 | (1.0–1.6) | 73 | 297,073 | 295 | 1.0 | 314 |
| > 12 Months Ago | 1.1 | (0.9–1.3) | 128 | 874,528 | 176 | 2.8 | 283 |
| Currently Married | 1.1* | (1.1–1.2) | 3,974 | 16,814,774 | 284 | 54.7 | 314 |
| Never Married | 1.0 | – | 5,441 | 12,589,441 | 519 | 41.0 | 448 |
| χ^2_5 | 32.3* | | | | | | |
| Total | – | – | 9,650 | 30,715,250 | 377.0 | 100 | – |

¹The sample of Regular Army enlisted soldiers (n=9,650 cases, 153,528 control person-months) is a subset of the total Regular Army sample (n=193,617 person-months) from the Army STARRS Historical Administrative Data Study (HADS). Control person-months were assigned a weight of 200 to adjust for under-sampling.

²Each predictor (sections I & II) was examined in a separate logistic regression model that adjusted for socio-demographics (gender, current age, race/ethnicity, education) and service-related variables (age at Army entry, time in service [1 year, 2 years, 3–4 years, 5–10 years, >10 years], deployment status [never, currently, or previously deployed], delayed promotion, demotion, military occupation [combat arms, special forces, combat medic, other]). Models also included a dummy predictor variable for calendar month and year to control for secular trends. The marital status variable used in other models was removed for these analyses.

³Total includes both cases (i.e., soldiers with a suicide attempt) and control person-months.

⁴Rate per 100,000 person-years, calculated based on n_1/n_2 , where n_1 is the unique number of soldiers within each category and n_2 is the annual number of person-years, not person-months, in the population (n=3.08 million).

⁵Pop % = percent of the total population of enlisted soldiers.

⁶SRE = Standardized risk estimates (number of soldiers with a suicide attempt per 100,000 person-years) were calculated assuming other predictors were at their sample-wide means.

⁷Includes soldiers who were never married or previously married.

* $p < 0.05$

eTable 10. Counts and Rates of Suicide Attempts by Marriage Start/End Recency Among Regular Army Enlisted Soldiers With and Without a History of Mental Health Diagnosis¹

| | History of Mental Health Diagnosis | | | | | | | | | |
|---|--|------------------------|-------------------|--------------------|------------------|--|------------------------|-------------------|--------------------|------------------|
| | No Previous Mental Health Diagnosis (n = 103,525) | | | | | Any Previous Mental Health Diagnosis (n = 59,653) | | | | |
| | Cases (n) | Total (n) ² | Rate ³ | Pop % ⁴ | SRE ⁵ | Cases (n) | Total (n) ² | Rate ³ | Pop % ⁴ | SRE ⁵ |
| I. Marriage Start Recency | | | | | | | | | | |
| 1 Month Ago | 24 | 160,224 | 180 | 0.8 | 124 | 20 | 53,620 | 448 | 0.5 | 282 |
| 2–3 Months Ago | 114 | 334,114 | 409 | 1.7 | 278 | 103 | 120,103 | 1,029 | 1.1 | 594 |
| 4–12 Months Ago | 324 | 1,369,324 | 284 | 6.8 | 244 | 654 | 624,654 | 1,256 | 5.8 | 836 |
| > 12 Months Ago | 590 | 7,980,590 | 89 | 39.9 | 211 | 2,145 | 6,172,145 | 417 | 57.6 | 666 |
| Not Currently Married ⁶ | 2,455 | 10,162,855 | 290 | 50.8 | 206 | 3,221 | 3,737,621 | 1,034 | 34.9 | 689 |
| II. Marriage End Recency⁷ | | | | | | | | | | |
| 1 Month Ago | – | 21,802 | 110 | 0.1 | 195 | 9 | 25,109 | 430 | 0.2 | 592 |
| 2–3 Months Ago | – | 44,002 | 55 | 0.2 | 98 | 21 | 48,421 | 520 | 0.5 | 700 |
| 4–12 Months Ago | – | 131,609 | 82 | 0.7 | 182 | 64 | 165,464 | 464 | 1.5 | 704 |
| > 12 Months Ago | 14 | 392,614 | 43 | 2.0 | 176 | 114 | 481,914 | 284 | 4.5 | 673 |
| Currently Married | 1,052 | 9,844,252 | 128 | 49.2 | 224 | 2,922 | 6,970,522 | 503 | 65.1 | 691 |
| Never Married | 2,428 | 9,572,828 | 304 | 47.8 | 206 | 3,013 | 3,016,613 | 1,199 | 28.2 | 687 |
| Total | 3,507 | 20,007,107 | 210 | 100 | – | 6,143 | 10,708,143 | 688 | 100 | – |

¹The sample of Regular Army enlisted soldiers (n=9,650 cases, 153,528 control person-months) is a subset of the total Regular Army sample (n=193,617 person-months) from the Army STARRS Historical Administrative Data Study (HADS). Control person-months were assigned a weight of 200 to adjust for under-sampling.

²Total includes both cases (i.e., soldiers with a suicide attempt) and control person-months.

³Rate per 100,000 person-years, calculated based on n_1/n_2 , where n_1 is the unique number of soldiers within each category and n_2 is the annual number of person-years, not person-months, in the population (n=3.08 million).

⁴Pop % = percent of the population of enlisted soldiers within each stratum (i.e., with or without a history of mental health diagnosis).

⁵SRE = Standardized risk estimates (number of soldiers with a suicide attempt per 100,000 person-years) were calculated assuming other predictors were at their sample-wide means. The SREs for each predictor (sections I & II) were calculated using separate logistic regression analyses that adjusted for socio-demographics (gender, current age, race/ethnicity, education) and service-related variables (age at Army entry, time in service [1 year, 2 years, 3-4 years, 5-10 years, >10 years], deployment status [never, currently, or previously deployed], delayed promotion, demotion, military occupation [combat arms, special forces, combat medic, other]). Models also included a dummy predictor variable for calendar month and year to control for secular trends. The marital status variable used in other models was removed for these analyses.

⁶Includes soldiers who were never married or previously married.

⁷Some N's not reported due to a small number of cases.

eTable 11. Multivariable Associations of Outpatient Physical and Injury-Related Healthcare Visits With Suicide Attempt in the Total Sample of Regular Army Enlisted Soldiers^{1,2}

| | OR | 95% CI | Cases (N) | Total (N) ³ | Rate ⁴ | Pop % ⁵ | SRE ⁶ |
|--|----------|------------|-----------|------------------------|-------------------|--------------------|------------------|
| I. Days with Outpatient Physical Healthcare Visit in Past 2 Months | | | | | | | |
| 0 | 1.0 | – | 1,778 | 12,874,178 | 166 | 41.9 | 192 |
| 1 | 1.4* | (1.3–1.5) | 1,440 | 6,377,040 | 271 | 20.8 | 275 |
| 2–4 | 2.1* | (2.0–2.2) | 3,094 | 8,101,494 | 458 | 26.4 | 401 |
| 5–7 | 4.2* | (3.9–4.5) | 1,647 | 2,088,447 | 972 | 6.6 | 799 |
| 8+ | 6.9* | (6.4–7.4) | 1,691 | 1,329,091 | 1,527 | 4.3 | 1,273 |
| χ^2_4 | 3,652.0* | | | | | | |
| II. Previous Injury-Related Healthcare Visit⁷ | | | | | | | |
| Any Inpatient Visit for Previous Injury | 5.6* | (5.2–6.1) | 806 | 1,043,406 | 927 | 3.4 | 1,243 |
| Only Outpatient Visit for Previous Injury | 2.0* | (1.9–2.1) | 6,612 | 18,721,012 | 424 | 61.0 | 457 |
| No Visit for Previous Injury | 1.0 | – | 2,232 | 10,950,832 | 245 | 35.7 | 213 |
| χ^2_2 | 1,630.5* | | | | | | |
| III. Recency of Last Injury-Related Outpatient Healthcare Visit⁷ | | | | | | | |
| 1 Month | 4.1* | (3.8–4.3) | 2,740 | 3,404,940 | 966 | 11.1 | 819 |
| 2 Months | 3.3* | (3.1–3.6) | 1,102 | 1,855,302 | 713 | 6.0 | 645 |
| 3 Months | 2.8* | (2.6–3.1) | 674 | 1,384,274 | 584 | 4.5 | 564 |
| 4+ Months | 2.0* | (1.9–2.1) | 2,971 | 11,688,371 | 305 | 38.1 | 392 |
| No Outpatient Visit for Injury | 1.0 | – | 2,163 | 12,382,363 | 210 | 40.3 | 184 |
| χ^2_4 | 2,450.5* | | | | | | |
| IV. Recency of Last Injury-Related Inpatient Healthcare Visit⁷ | | | | | | | |
| 1 Month | 9.7* | (8.4–11.2) | 191 | 56,191 | 4,079 | 0.2 | 3,253 |
| 2 Months | 5.5* | (4.4–6.9) | 80 | 49,080 | 1,956 | 0.2 | 1,968 |
| 3 Months | 5.1* | (4.1–6.3) | 81 | 45,081 | 2,156 | 0.1 | 1,855 |
| 4+ Months | 2.2* | (2.0–2.5) | 454 | 893,054 | 610 | 2.9 | 823 |
| No Inpatient Visit for Injury | 1.0 | – | 8,844 | 29,671,844 | 358 | 96.6 | 355 |
| χ^2_4 | 1,542.5* | | | | | | |
| V. Any Previous Combat Injury | | | | | | | |
| Yes | 1.4* | (1.2–1.7) | 163 | 501,163 | 390 | 1.6 | 534 |

| | | | | | | | |
|--------------|-------|---|-------|------------|-----|------|-----|
| No | 1.0 | – | 9,487 | 30,214,087 | 377 | 98.4 | 375 |
| χ^2_1 | 20.5* | | | | | | |
| Total | – | – | 9,650 | 30,715,250 | 377 | 100 | – |

¹The sample of Regular Army enlisted soldiers (n=9,650 cases, 153,528 control person-months) is a subset of the total Regular Army sample (n=193,617 person-months) from the Army STARRS Historical Administrative Data Study (HADS). Control person-months were assigned a weight of 200 to adjust for under-sampling.

²Each predictor (sections I-V) was examined in a separate logistic regression model that adjusted for socio-demographics (gender, current age, race/ethnicity, education, marital status) and service-related variables (age at Army entry, time in service [1 year, 2 years, 3-4 years, 5-10 years, >10 years], deployment status [never, currently, or previously deployed], delayed promotion, demotion, military occupation [combat arms, special forces, combat medic, other]). Models also included a dummy predictor variable for calendar month and year to control for secular trends.

³Total includes both cases (i.e., soldiers with a suicide attempt) and control person-months.

⁴Rate per 100,000 person-years, calculated based on n_1/n_2 , where n_1 is the unique number of soldiers within each category and n_2 is the annual number of person-years, not person-months, in the population (n=3.08 million).

⁵Pop % = percent of the total population of enlisted soldiers.

⁶SRE = Standardized risk estimates (number of soldiers with a suicide attempt per 100,000 person-years) were calculated assuming other predictors were at their sample-wide means.

⁷These previous injuries were not suicide-related according to information available in the administrative records.

* $p < 0.05$

eTable 12. Counts and Rates of Suicide Attempts by Outpatient Physical and Injury-Related Healthcare Visits Among Regular Army Enlisted Soldiers With and Without a History of Mental Health Diagnosis¹

| | History of Mental Health Diagnosis | | | | | | | | | |
|--|--|------------------------|-------------------|--------------------|------------------|--|------------------------|-------------------|--------------------|------------------|
| | No Previous Mental Health Diagnosis (n = 103,525) | | | | | Any Previous Mental Health Diagnosis (n = 59,653) | | | | |
| | Cases (n) | Total (n) ² | Rate ³ | Pop % ⁴ | SRE ⁵ | Cases (n) | Total (n) ² | Rate ³ | Pop % ⁴ | SRE ⁵ |
| I. Days with an Outpatient Physical Healthcare Visit in the Past 2 Months | | | | | | | | | | |
| 0 | 976 | 9,167,176 | 128 | 45.8 | 155 | 802 | 3,707,002 | 260 | 34.6 | 320 |
| 1 | 616 | 4,258,416 | 174 | 21.3 | 177 | 824 | 2,118,624 | 467 | 19.8 | 494 |
| 2–4 | 1,194 | 5,017,594 | 286 | 25.1 | 231 | 1,900 | 3,083,900 | 739 | 28.8 | 673 |
| 5–7 | 439 | 1,052,439 | 501 | 5.3 | 269 | 1,208 | 981,008 | 1,478 | 9.2 | 1,156 |
| 8+ | 282 | 511,482 | 662 | 2.6 | 515 | 1,409 | 817,609 | 2,068 | 7.6 | 1,602 |
| II. Previous Injury-Related Healthcare Visit⁶ | | | | | | | | | | |
| Any Inpatient Visit for Previous Injury | 74 | 420,674 | 211 | 2.1 | 409 | 732 | 622,732 | 1,411 | 5.8 | 1,562 |
| Only Outpatient Visit for Previous Injury | 2,110 | 11,005,310 | 230 | 55.0 | 269 | 4,502 | 7,715,702 | 700 | 72.1 | 692 |
| No Visit for Previous Injury | 1,323 | 8,581,123 | 185 | 42.9 | 153 | 909 | 2,369,709 | 460 | 22.1 | 466 |
| III. Recency of Last Injury-Related Outpatient Healthcare Visit⁶ | | | | | | | | | | |
| 1 Month | 803 | 1,820,803 | 529 | 9.1 | 426 | 1,937 | 1,584,137 | 1,467 | 14.8 | 1,182 |
| 2 Months | 324 | 1,030,124 | 377 | 5.1 | 337 | 778 | 852,178 | 1,131 | 7.7 | 966 |
| 3 Months | 213 | 792,813 | 322 | 4.0 | 313 | 461 | 591,461 | 935 | 5.5 | 864 |
| 4+ Months | 855 | 6,866,055 | 149 | 34.3 | 233 | 2,116 | 4,822,316 | 527 | 45.0 | 619 |
| No Outpatient Visit for Injury | 1,312 | 9,497,312 | 166 | 47.5 | 139 | 851 | 2,885,051 | 354 | 26.9 | 337 |
| IV. Recency of Last Injury-Related Inpatient Healthcare Visit^{6,7} | | | | | | | | | | |
| 1 Month | 15 | 23,615 | 762 | 0.1 | 669 | 176 | 32,576 | 6,483 | 0.3 | 3,992 |
| 2 Months | – | 21,207 | 396 | 0.1 | 485 | 73 | 27,873 | 3,143 | 0.3 | 2,574 |
| 3 Months | – | 21,606 | 333 | 0.1 | 333 | 75 | 23,475 | 3,834 | 0.2 | 2,559 |
| 4+ Months | 46 | 354,246 | 156 | 1.8 | 340 | 408 | 538,808 | 909 | 5.0 | 1,102 |
| No Inpatient Visit for Injury | 3,433 | 19,586,433 | 210 | 97.9 | 208 | 5,411 | 10,085,411 | 644 | 94.2 | 640 |
| V. Any Previous Combat Injury | | | | | | | | | | |
| Yes | 21 | 202,821 | 124 | 1.0 | 337 | 142 | 298,342 | 571 | 2.8 | 647 |
| No | 3,486 | 19,804,286 | 211 | 99.0 | 210 | 6,001 | 10,409,801 | 692 | 97.2 | 689 |

| | | | | | | | | | | |
|--------------|-------|------------|-----|-----|---|-------|------------|-----|-----|---|
| Total | 3,507 | 20,007,107 | 210 | 100 | – | 6,143 | 10,708,143 | 688 | 100 | – |
|--------------|-------|------------|-----|-----|---|-------|------------|-----|-----|---|

¹The sample of Regular Army enlisted soldiers (n=9,650 cases, 153,528 control person-months) is a subset of the total Regular Army sample (n=193,617 person-months) from the Army STARRS Historical Administrative Data Study (HADS). Control person-months were assigned a weight of 200 to adjust for under-sampling.

²Total includes both cases (i.e., soldiers with a suicide attempt) and control person-months.

³Rate per 100,000 person-years, calculated based on n_1/n_2 , where n_1 is the unique number of soldiers within each category and n_2 is the annual number of person-years, not person-months, in the population (n=3.08 million).

⁴Pop % = percent of the population of enlisted soldiers within each stratum (i.e., with or without a history of mental health diagnosis).

⁵SRE = Standardized risk estimates (number of soldiers with a suicide attempt per 100,000 person-years) were calculated assuming other predictors were at their sample-wide means. The SREs for each predictor (sections I-V) were calculated using separate logistic regression analyses that adjusted for socio-demographics (gender, current age, race/ethnicity, education, marital status) and service-related variables (age at Army entry, time in service [1 year, 2 years, 3-4 years, 5-10 years, >10 years], deployment status [never, currently, or previously deployed], delayed promotion, demotion, military occupation [combat arms, special forces, combat medic, other]). Models also included a dummy predictor variable for calendar month and year to control for secular trends.

⁶These previous injuries were not suicide-related according to information available in the administrative records.

⁷Some N's not reported due to a small number of cases.

eTable 13. Multivariable Associations of Crime Victimization/Perpetration and Family Violence With Suicide Attempt in the Total Sample of Regular Army Enlisted Soldiers^{1,2}

| | OR | 95% CI | Cases (N) | Total (M) ³ | Rate ⁴ | Pop % ⁵ | SRE ⁶ |
|---|----------|-----------|-----------|------------------------|-------------------|--------------------|------------------|
| I. Crime Victimization⁷ | | | | | | | |
| Major Violent Crime | 2.3* | (2.0–2.6) | 249 | 231,449 | 1,291 | 0.8 | 841 |
| Minor Violent Crime | 1.7* | (1.5–2.0) | 172 | 304,172 | 679 | 1.0 | 615 |
| Non-Violent Crime | 1.3* | (1.2–1.4) | 489 | 1,587,689 | 370 | 5.2 | 456 |
| No Crime Victimization | 1.0 | – | 8,740 | 28,591,940 | 367 | 93.1 | 365 |
| χ^2_3 | 212.7* | | | | | | |
| II. Crime Perpetration⁷ | | | | | | | |
| Major Violent Crime | 3.2* | (2.9–3.6) | 329 | 453,929 | 870 | 1.5 | 1,031 |
| Minor Violent Crime | 2.5* | (2.3–2.9) | 308 | 445,908 | 829 | 1.5 | 828 |
| Non-Violent Crime | 2.1* | (2.0–2.3) | 1,848 | 2,921,248 | 759 | 9.5 | 691 |
| No Crime Perpetration | 1.0 | – | 7,165 | 26,894,165 | 320 | 87.6 | 322 |
| χ^2_3 | 1,030.2* | | | | | | |
| III. Family Violence⁸ | | | | | | | |
| Yes | 2.6* | (2.4–2.8) | 575 | 887,775 | 777 | 2.9 | 940 |
| No | 1.0 | – | 9,075 | 29,827,475 | 365 | 97.1 | 363 |
| χ^2_1 | 450.4* | | | | | | |
| Total | – | – | 9,650 | 30,715,250 | 377.0 | 100 | – |

¹The sample of Regular Army enlisted soldiers (n=9,650 cases, 153,528 control person-months) is a subset of the total Regular Army sample (n=193,617 person-months) from the Army STARRS Historical Administrative Data Study (HADS). Control person-months were assigned a weight of 200 to adjust for under-sampling.

²Each predictor (sections I–III) was examined in a separate logistic regression model that adjusted for socio-demographics (gender, current age, race/ethnicity, education) and service-related variables (age at Army entry, time in service [1 year, 2 years, 3–4 years, 5–10 years, >10 years], deployment status [never, currently, or previously deployed], delayed promotion, demotion, military occupation [combat arms, special forces, combat medic, other]). Models also included a dummy predictor variable for calendar month and year to control for secular trends.

³Total includes both cases (i.e., soldiers with a suicide attempt) and control person-months.

⁴Rate per 100,000 person-years, calculated based on n_1/n_2 , where n_1 is the unique number of soldiers within each category and n_2 is the annual number of person-years, not person-months, in the population (n=3.08 million).

⁵Pop % = percent of the total population of enlisted soldiers.

⁶SRE = Standardized risk estimates (number of soldiers with a suicide attempt per 100,000 person-years) were calculated assuming other predictors were at their sample-wide means.

⁷Includes only founded crimes. Categories are hierarchical and mutually exclusive such that soldiers were classified based on the most serious crime in their records (major violent crime > minor violent crime > non-violent crime).

⁸Includes any history of family violence victimization or perpetration based on legal, Army Central Registry, or medical records.

* $p < 0.05$

eTable 14. Counts and Rates of Suicide Attempts by Crime Victimization/Perpetration and Family Violence Among Regular Army Enlisted Soldiers With and Without a History of Mental Health Diagnosis¹

| | History of Mental Health Diagnosis | | | | | | | | | |
|---|--|------------------------|-------------------|--------------------|------------------|--|------------------------|-------------------|--------------------|------------------|
| | No Previous Mental Health Diagnosis (n = 103,525) | | | | | Any Previous Mental Health Diagnosis (n = 59,653) | | | | |
| | Cases (n) | Total (n) ² | Rate ³ | Pop % ⁴ | SRE ⁵ | Cases (n) | Total (n) ² | Rate ³ | Pop % ⁴ | SRE ⁵ |
| I. Crime Victimization⁶ | | | | | | | | | | |
| Major Violent Crime | 24 | 70,224 | 410 | 0.4 | 307 | 225 | 161,225 | 1,675 | 1.5 | 1,175 |
| Minor Violent Crime | 30 | 128,430 | 280 | 0.6 | 342 | 142 | 175,742 | 970 | 1.6 | 866 |
| Non-Violent Crime | 94 | 810,894 | 139 | 4.1 | 240 | 395 | 776,795 | 610 | 7.3 | 737 |
| No Crime Victimization | 3,359 | 18,997,559 | 212 | 95.0 | 208 | 5,381 | 9,594,381 | 673 | 89.6 | 670 |
| II. Crime Perpetration⁶ | | | | | | | | | | |
| Major Violent Crime | 25 | 115,425 | 260 | 0.6 | 397 | 304 | 338,504 | 1,078 | 3.2 | 1,186 |
| Minor Violent Crime | 37 | 142,637 | 311 | 0.7 | 350 | 271 | 303,271 | 1,072 | 2.8 | 1,003 |
| Non-Violent Crime | 368 | 1,364,368 | 324 | 6.8 | 396 | 1,480 | 1,556,880 | 1,141 | 14.5 | 886 |
| No Crime Perpetration | 3,077 | 18,384,677 | 201 | 91.9 | 198 | 4,088 | 8,509,488 | 577 | 79.5 | 608 |
| III. Family Violence⁷ | | | | | | | | | | |
| Yes | 22 | 64,822 | 407 | 0.3 | 607 | 553 | 822,953 | 806 | 7.7 | 1,052 |
| No | 3,485 | 19,942,285 | 210 | 99.7 | 210 | 5,590 | 9,885,190 | 679 | 92.3 | 666 |
| Total | 3,507 | 20,007,107 | 210 | 100 | – | 6,143 | 10,708,143 | 688 | 100 | – |

¹The sample of Regular Army enlisted soldiers (n=9,650 cases, 153,528 control person-months) is a subset of the total Regular Army sample (n=193,617 person-months) from the Army STARRS Historical Administrative Data Study (HADS). Control person-months were assigned a weight of 200 to adjust for under-sampling.

²Total includes both cases (i.e., soldiers with a suicide attempt) and control person-months.

³Rate per 100,000 person-years, calculated based on n_1/n_2 , where n_1 is the unique number of soldiers within each category and n_2 is the annual number of person-years, not person-months, in the population (n=3.08 million).

⁴Pop % = percent of the population of enlisted soldiers within each stratum (i.e., with or without a history of mental health diagnosis).

⁵SRE = Standardized risk estimates (number of soldiers with a suicide attempt per 100,000 person-years) were calculated assuming other predictors were at their sample-wide means. The SREs for each predictor (sections I-III) were calculated using separate logistic regression analyses that adjusted for socio-demographics (gender, current age, race/ethnicity, education, marital status) and service-related variables (age at Army entry, time in service [1 year, 2 years, 3-4 years, 5-10 years, >10 years], deployment status [never, currently, or previously deployed], delayed promotion, demotion, military occupation [combat arms, special forces, combat medic, other]). Models also included a dummy predictor variable for calendar month and year to control for secular trends.

⁶Includes only founded crimes. Categories are hierarchical and mutually exclusive such that soldiers were classified based on the most serious crime in their records (major violent crime > minor violent crime > non-violent crime).

⁷Includes any history of family violence victimization or perpetration based on legal, Army Central Registry, or medical records.