Supplementary Materials 3: Variable Selection Procedures

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| **Whole sample** | | | | | |
| **Variables** | **Strong effect size (>1.25 or <0.80) in univariate multinomial logistic regression** | | **Bootstrapping Inclusion Frequency (BIF) Scores Model 1 (%)** | **Bootstrapping Inclusion Frequency (BIF) Scores Model 2 (%)** | **Variance Inflation Factor (Tolerance)**  **Global model** |
| Rank (ref NCO) | **Other rank: 1.92 (1.47, 2.52)** | | 908 (90.8) | 945 (94.5) | 3.65 (0.27) |
| Service (ref: Army) | **RAF: 0.52 (0.41, 0.65)** | | 659 (65.9) | 688 (68.8) | 1.26 (0.79) |
| Reservist status (ref: Regular) | **1.72 (1.37, 2.16)** | | 1000 (100) | 1000 (100) | 1.19 (0.84) |
| Deployment (ref: Iraq only) | **Iraq and Afghanistan: 1.55 (1.26, 1.90)** | | 608 (60.8) | - | 3.27 (0.30) |
| Combat role (ref: combat service support) | **Combat: 2.43 (2.00, 2.96)** | | 662 (66.2) | 766 (76.6) | 1.82 (0.55) |
| Belief of being in serious danger (ref: never) | **Many times: 4.84 (3.59, 6.53)** | | 1000 (100) | 1000 (100) | 3.33 (0.29) |
| Length of time in hostile area (ref: Not at all) | **More than a month: 2.79 (2.22, 3.50)** | | 200 (20.0) | - | 2.76 (0.36) |
| General health (ref: Excellent/very good) | **Fair/Poor: 0.40 (0.31, 0.52)** | | 1000 (100) | 1000 (100) | 1.41 (0.70) |
|  | **Strong evidence base** | |  |  |  |
| Age | **0.95 (0.94, 0.96)** | | 1000 (100) | 1000 (100) | 1.99 (0.50) |
| Sex (ref: male) | Female: 1.16 (0.89, 1.51) | | 705 (70.5) | 743 (74.3) | 1.16 (0.86) |
| PTSD symptoms (PCL non case) | **1.02 (1.01, 1.03)** | | 1000 (100) | 1000 (100) | 2.33 (0.42) |
| PTSD symptoms (PCL case) | 0.98 (0.96, 1.01) | | 996 (99.6) | 995 (99.5) | 1.39 (0.71) |
| CMD (GHQ case) | **0.79 (0.64, 0.96)** | | 998 (99.8) | 1000 (100) | 1.59 (0.63) |
|  | **Subject to best subset variable selection** | **Selected through best subset variable selection (Lowest Bayesian Information Criterion score)** |  |  |  |
| Relationship status | 0.90 (0.71, 1.14) | x | - | - | 1.10 (0.90) |
| Years since last deployment | **0.96 (0.94, 0.99)** | x | - | - | 3.33 (0.30) |
| Smoking behaviour | 0.99 (0.97, 1.01) | x | - | - | 1.09 (0.91) |
| Combat experiences | **1.13 (1.10, 1.15)** | 🗸 | 1000 (100) | 1000 (100) | 2.36 (0.42) |
| Alcohol consumption | **0.96 (0.94, 0.99)** | 🗸 | 1000 (100) | 1000 (100) | 1.05 (0.94) |
| Recent Life events | **1.14 (1.07, 1.21)** | x | - | - | 1.28 (0.77) |
| Adverse Childhood Events (0-4) | **1.08 (1.01, 1.15)** | x | - | - | 1.50 (0.66) |
| Adverse Childhood Events 4+ | 0.97 (0.91, 1.03) | x | - | - | 1.43 (0.70) |
| Serving status (ref: serving) | Ex-serving: 1.03 (0.87, 1.22) | x | - | - | 1.58 (0.63) |

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| **Male Sample** | | | | | |
| **Variables** | **Strong effect size (>1.25 or <0.80) in univariate multinomial logistic regression** | | **Bootstrapping Inclusion Frequency (BIF) Scores Model 1 (%)** | **Bootstrapping Inclusion Frequency (BIF) Scores Model 2 (%)** | **Variance Inflation Factor (Tolerance)**  **Global model\*** |
| Rank (ref: NCO) | **Other rank: 2.05 (1.54, 2.72)** | | 740 (74.0) | 870 (87.0) | 3.52 (0.28) |
| Service (ref: Army) | **RAF: 0.52 (0.41, 0.65)** | | 501 (50.1) | - | 1.27 (0.78) |
| Reservist status (ref: Regular) | **1.72 (1.37, 2.16)** | | 1000 (100) | 1000 (100) | 1.16 (0.85) |
| Deployment (ref: Iraq only) | **Iraq and Afghanstan: 1.55 (1.26, 1.90)** | | 679 (67.9) | - | 1.40 (0.71) |
| Combat role (ref: combat service support) | **Combat: 2.43 (2.00, 2.96)** | | 68 (65.8) | - | 1.74 (0.57) |
| Belief of being in serious danger (ref: never) | **Many times: 4.84 (3.59, 6.53)** | | 1000 (100) | 1000 (100) | 3.49 (0.28) |
| Length of time in hostile area (ref: not at all) | **More than a month: 2.79 (2.22, 3.50)** | | 178 (17.8) | - | 2.89 (0.34) |
| General health (ref: very good/excellent) | **Fair/Poor: 0.40 (0.31, 0.52)** | | 1000 (100) | 1000 (100) | 1.41 (0.71) |
|  | **Strong evidence base** | |  |  |  |
| Age | **0.95 (0.94, 0.96)** | | 1000 (100) | 1000 (100) | 2.01 (0.49) |
| PTSD symptoms (PCL non case) | **1.02 (1.01, 1.03)** | | 1000 (100) | 1000 (100) | 2.35 (0.42) |
| PTSD symptoms (PCL case) | 0.98 (0.96, 1.01) | | 992 (99.2) | 992 (99.2) | 1.40 (0.71) |
| CMD (GHQ case) | **0.79 (0.64, 0.96)** | | 988 (98.8) | 993 (99.3) | 1.58 (0.63) |
|  | **Subject to best subset variable selection** | **Selected through best subset variable selection (Lowest Bayesian Information Criterion score)** |  |  |  |
| Relationship status (ref: single) | In a relationship: 0.90 (0.71, 1.14) | x | - | - | 1.08 (0.92) |
| Years since last deployment | **0.96 (0.94, 0.99)** | x | - | - | 3.24 (0.30) |
| Smoking behaviour | 0.99 (0.97, 1.01) | x | - | - | 1.09 (0.91) |
| Combat experiences | **1.13 (1.10, 1.15)** | 🗸 | 1000 (100) | 1000 (100) | 2.40 (0.41) |
| Alcohol consumption | **0.96 (0.94, 0.99)** | 🗸 | 999 (99.9) | 999 (99.9) | 1.04 (0.96) |
| Recent Life events | **1.14 (1.07, 1.21)** | x | - | - | 1.30 (0.77) |
| Adverse Childhood Events (0-4) | **1.08 (1.01, 1.16)** | x | - | - | 1.48 (0.67) |
| Adverse Childhood Events 4+ | 0.97 (0.91, 1.03) | x | - | - | 1.42 (0.70) |
| Serving status (ref: serving) | Ex-serving: 0.99 (0.83, 1.18) | x | - | - | 1.58 (0.63) |
| *\*For categorical variables, the largest RRR is recorded.*  *\*\*For categorical variables, the largest VIF is recorded.* | | | | | |

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| **Female Sample** | | | | | |
| **Variables** | **Strong effect size (>1.25 or <0.80) in univariate multinomial logistic regression** | | **Bootstrapping Inclusion Frequency (BIF) Scores Model 1 (%)** | **Bootstrapping Inclusion Frequency (BIF) Scores Model 2 (%)** | **Variance Inflation Factor (Tolerance)**  **Global model\*** |
| Rank (ref: NCO) | 0.66 (0.24, 1.83) | | 766 (76.6) | - | 5.31 (0.18) |
| Service (ref: Army) | **0.44 (0.23, 0.83)** | | 311 (31.1) | - | 1.27 (0.78) |
| Reservist status (ref: Regular) | 1.64 (0.91, 2.93) | | 799 (79.9) | 868 (86.8) | 1.43 (0.70) |
| Deployment (ref: Iraq only) | 1.45 (0.76, 2.76) | | 207 (20.7) | - | 3.42 (0.29) |
| Combat role (ref: combat service support) | Not included for multivariable analysis (Females not deployed in combat role until 2018) | |  |  | 2.59 (0.38) |
| Belief of being in serious danger (ref: never) | **Many times: 6.07 (2.46, 14.97)** | | 620 (62.0) | - | 2.43 (0.41) |
| Length of time in hostile area (ref: not at all) | **More than a month: 4.85 (2.16, 10.89)** | | 492 (49.2) | - | 1.96 (0.51) |
| General health (ref: very good/excellent) | Fair/Poor: 0.56 (0.27, 1.15) | | 708 (70.8) | - | 1.50 (0.66) |
| Rank (ref: NCO) | **Officer: 0.55 (0.32, 0.93)** | | 860 (86.0) | 948 (94.8) | 1.15 (0.86) |
| Service (ref: Army) | **RAF: 0.44 (0.23, 0.83)** | | 969 (96.9) | 1000 (100) | 1.90 (0.52) |
| Reservist status (ref: Regular) | 1.63 (0.99, 2.71) | | 679 (67.9) | 803 (80.3) | 1.77 (0.56) |
|  | **Strong evidence base** | |  |  |  |
| Age | **0.96 (0.94, 0.99)** | | 828 (82.8) | 966 (96.6) | 2.03 (0.49) |
| PTSD symptoms (PCL non case) | **1.03 (1.00, 1.06)** | | 930 (93.0) | 955 (95.5) | 2.28 (0.43) |
| PTSD symptoms (PCL case) | Not included for multivariable analysis (N too small) | | - | - | - |
| CMD (GHQ case) | 0.76 (0.43, 1.37) | | 936 (93.6) | 984 (98.4) | 1.78 (0.56) |
|  | **Subject to best subset variable selection** | **Selected through best subset variable selection (Lowest Bayesian Information Criterion score)** |  |  |  |
| Years since last deployment | 1.02 (0.96, 1.08) | x | - | - | 4.32 (0.23) |
| Smoking behaviour | Not included for multivariable analysis (N too small) | x | - | - | - |
| Alcohol consumption | 0.94 (0.86, 1.03) | x | - | - | 1.08 (0.92) |
| Recent Life events | 1.16 (0.94, 1.43) | 🗸 | 440 (44) | - | 1.26 (0.79) |
| Adverse Childhood Events (0-4) | 1.08 (0.88, 1.32) | x | - | - | 1.69 (0.59) |
| Adverse Childhood Events 4+ | 0.94 (0.73, 1.20) | x | - | - | 1.59 (0.63) |
| *\*For categorical variables, the largest RRR is recorded.*  *\*\*For categorical variables, the largest VIF is recorded.* | | | | | |