**Supplementary Table 1.** Sociodemographic and clinical characteristics as baseline predictors of response at follow-up (n=5915).

|  |  |  |
| --- | --- | --- |
| **Sociodemographic and clinical variables**  | Response at follow-up versus non-responsea,c | Complete response at follow-up versus partial responseb,c |
|  | aOR (95% CI) | aOR (95% CI) |
| Sex at birth (female) | **1.5 (1.4-1.7)** | **1.5 (1.2-1.8)** |
| Age at college entrance |  |  |
| 18 years or younger | (ref) | (ref) |
| 19 years | 0.9 (0.8-1.0) | 0.9 (0.7-1.1) |
| 20 years or older | **0.5 (0.4-0.6)** | 0.6 (0.4-1.1) |
| F (df) [p value]d | 14.89 (2) [<.001] | 1.62 (2) [.197] |
| Full-time student | 1.2 (0.8-1.7) | 1.2 (0.6-2.2) |
| Non-Belgian nationality | 1.1 (0.8-1.5) | 1.1 (0.7-1.7) |
| Parents’ financial situation difficult | 0.9 (0.8-1.0) | **0.7 (0.6-1.0)** |
| Parental educational levele |  |  |
| Both parents high education  | (ref) | (ref) |
| One parent high education  | 0.9 (0.8-1.1) | 0.9 (0.8-1.2) |
| Neither parents high education | **0.8 (0.7-0.9)** | 0.9 (0.7-1.2) |
| F (df) [p value]d | 4.10 (2) [.017] | 0.26 (2) [.774] |
| Non-intact family compositionf | 0.9 (0.8-1.0) | 0.9 (0.7-1.1) |
| Area of enrolment |  |  |
| Human Sciences | (ref) | (ref) |
| Science and Technology | **1.6 (1.4-1.9)** | 1.1 (0.9-1.4) |
| Biomedical Sciences | 1.1 (1.0-1.3) | 1.0 (0.8-1.2) |
| F (df) [p value]d | 27.47 (2) [<.001] | 1.05 (2) [.351] |
| Vocational secondary school track  | **0.5 (0.4-0.7)** | **0.4 (0.2-0.7)** |
| Any traumatic experience | 1.1 (1.0-1.3) | 1.1 (0.9-1.3) |
| Any life area with severe stress | 1.0 (0.8-1.1) | 0.9 (0.8-1.1) |
| Any mental disorder  | 1.1 (1.0-1.2) | 1.1 (0.9-1.3) |
| Severe role impairment | 0.9 (0.8-1.1) | 1.1 (0.8-1.4) |
| Lifetime NSSI  | 1.2 (1.0-1.4) | 1.1 (0.8-1.4) |
| NSSI frequency past year: None | (ref) | (ref) |
| 1-4 acts | 0.8 (0.6-1.0) | 1.2 (0.8-1.8) |
| 5+ acts | 0.9 (0.7-1.3) | 1.0 (0.6-1.7) |
| F (df) [p value]d | 1.71 (2) [.181] | 0.70 (2) [.499] |

Note: a Participants with follow-up data (i.e., baseline + follow-up one or follow-up two or follow-up three) versus those without follow-up data (i.e., baseline but non-response at follow-up), b participants with complete follow-up data (i.e., baseline + three follow-up surveys) and partial follow-up data (i.e., baseline + one or two follow-up surveys), c The column of each model displays the result of a separate multivariate model with the covariates shown, dOmnibus F-test to evaluate joint-significance of categorical predictors across 100 imputed datasets, e High educationlevel wasdefined as holding at least a bachelor’s degree, f Defined as parents divorced or separated. OR=Adjusted Odds Ratio. Significant odds ratios are shown in bold (α=.05).

**Supplementary Table 2.** Sociodemographic variables as baseline predictors of NSSI persistence during the first two college years (n=1208).

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | **Sporadic course: NSSI in one college year** | **Repetitive course: NSSI in both college years** |
| **Risk factor domain:** **sociodemographic variables** | Prevalencea | Relapse pattern: NSSI only in year 2b  | Desist pattern: NSSI only in year 1b | Low-frequency pattern: NSSI yearly, but not repetitively ≥ 5 NSSI actsb | High-frequency pattern: ≥ 5 actsyearlyb |
| w(n) | w(%) | SE | aOR (95% CI) | aOR (95% CI) | aOR (95% CI) | aOR (95% CI) |
|  Sex at birth (female) | 758 | 62.7 | 1.4 | 1.3 (0.8-2.2) | 1.2 (0.7-1.9) | **1.7 (1.0-3.0)** | **2.1 (1.3-3.3)** |
| Age at college entrance |  |  |  |  |  |  |  |
| 18 years or younger | 818 | 67.7 | 1.4 | (ref) | (ref) | (ref) | (ref) |
| 19 years | 293 | 24.3 | 1.2 | 1.2 (0.7-2.1) | 1.0 (0.6-1.8) | 1.3 (0.8-2.2) | 1.3 (0.8-2.2) |
| 20 years or older | 97 | 8.0 | 0.8 | 1.3 (0.5-3.4) | 1.5 (0.6-3.8) | 1.2 (0.5-3.3) | 1.2 (0.5-2.9) |
| F (df) [p value]c |  |  |  | 0.53 (2) [.589] | 0.63 (2) [.533] | 0.77 (2) [.461] | 0.86 (2) [.425] |
| Full-time student | 1166 | 96.5 | 0.5 | 0.7 (0.2-2.2) | 1.4 (0.3-6.0) | 1.0 (0.3-3.6) | 0.9 (0.3-2.9) |
| Non-Belgian nationality | 67 | 5.6 | 0.7 | 1.5 (0.5-4.3) | 1.9 (0.7-4.9) | 1.3 (0.4-4.0) | 1.5 (0.6-3.7) |
| Parents’ financial situation difficult | 266 | 22.0 | 1.2 | 1.3 (0.7-2.4) | 0.9 (0.5-1.7) | 1.4 (0.8-2.4) | 1.5 (0.9-2.4) |
| Parental educational leveld |  |  |  |  |  |  |  |
| Both parents high education  | 713 | 59.0 | 1.4 | (ref) | (ref) | (ref) | (ref) |
| One parent high education  | 289 | 23.9 | 1.2 | 1.1 (0.7-2.0) | 1.2 (0.7-2.0) | 1.1 (0.6-2.0) | 1.1 (0.7-1.9) |
| Neither parents high education | 206 | 17.0 | 1.4 | 1.2 (0.6-2.4) | 1.1 (0.6-1.6) | 1.4 (0.7-2.7) | 1.3 (0.7-2.3) |
| F (df) [p value]c |  |  |  | 0.45 (2) [.640] | 0.43 (2) [.648] | 0.70 (2) [.496] | 0.54 (2) [.584] |
| Non-intact family compositione | 356 | 29.4 | 1.4 | 1.3 (0.8-2.2) | 0.9 (0.6-1.6) | 1.2 (0.7-2.0) | 1.1 (0.7-1.7) |
| Area of enrolment |  |  |  |  |  |  |  |
| Human Sciences | 732 | 60.6 | 1.4 | (ref) | (ref) | (ref) | (ref) |
| Science and Technology | 289 | 24.0 | 1.2 | 0.9 (1.5-1.5) | 0.9 (0.5-1.5) | 0.7 (0.4-1.2) | 0.7 (0.4-1.1) |
| Biomedical Sciences | 187 | 15.5 | 1.0 | 0.8 (0.4-1.7) | 0.8 (0.4-1.7) | 0.9 (0.5-1.6) | 0.6 (0.3-1.2) |
| F (df) [p value]c |  |  |  | 0.44 (2) [.644] | 0.43 (2) [.650] | 0.94 (2) [.391] | 1.97 (2) [.139] |
| Vocational high school track  | 100 | 8.3 | 0.8 | 1.5 (0.6-3.9) | 1.3 (0.5-3.3) | 1.6 (0.7-3.8) | 1.8 (0.8-3.8) |

Note: a Prevalence estimates of candidate risk factors at college entrance among 1208 students with a history of NSSI at college entrance, b Each cell displays the result of a separate bivariate model, including the variable specified in the row as a predictor, with the ceased course without NSSI in college as the reference group, c Omnibus F-test to evaluate joint-significance of categorical predictors across 100 imputed datasets, d High educationlevel wasdefined as holding at least a bachelor’s degree, e Defined as parents divorced or separated. w(n)=weighted number of cases, w(%)=weighted proportion, OR=Adjusted Odds Ratio. Significant odds ratios are shown in bold (α=.05).

**Supplementary Table 3.** Perceived stress and lack of social support in the first year of college as predictors of relapse and desistance of NSSI in the second college year (n=1208).

|  |  |  |  |
| --- | --- | --- | --- |
| **Risk factor domain: perceived stress and lack of social support at follow-up 1** | Prevalencea | Relapse pattern versus cessationb | Desist pattern versus repetitive persistencec |
| w(n) | w(%) | SE | aOR (95% CI) | aOR (95% CI) |
| Life areas with severe stress:  |  |  |  |  |  |
| Financial situation | 181 | 15.0 | 1.6 | 1.6 (0.8-3.1) | 0.6 (0.3-1.2) |
| Own health | 215 | 17.8 | 1.7 | 1.8 (0.9-3.4) | 0.6 (0.3-1.1) |
| Love life | 387 | 32.0 | 2.2 | 1.5 (0.9-2.6) | **0.5 (0.3-0.9)** |
| Relationship with family | 283 | 23.5 | 1.8 | 1.6 (0.9-2.9) | **0.5 (0.3-0.9)** |
| Relationships at work/school | 263 | 21.8 | 2.0 | 1.6 (0.8-3.1) | 0.6 (0.3-1.0) |
| Health of loved ones | 246 | 20.4 | 1.8 | 1.4 (0.8-2.5) | 0.6 (0.3-1.1) |
| Other problems loved ones | 266 | 22.0 | 1.9 | 1.4 (0.8-2.7) | **0.5 (0.3-0.9)** |
| Number of life areas: None | 456 | 37.8 | 2.0 | (ref) | (ref) |
| Exactly 1 | 272 | 22.5 | 1.6 | 1.4 (0.7-2.5) | 0.6 (0.3-1.2) |
| Exactly 2 | 179 | 14.8 | 1.4 | 1.5 (0.7-3.3) | 0.5 (0.2-1.2) |
| Exactly 3 | 125 | 10.3 | 1.2 | 1.9 (0.8-4.6) | **0.3 (0.1-0.7)** |
| 3+ | 177 | 14.6 | 1.6 | 2.4 (1.1-5.3) | **0.3 (0.1-0.6)** |
| F (df) [p value]d | 181 | 15.0 | 1.6 | 1.37 (4) [.244]  | 3.68 (4) [.006] |
| Severe stress in life overall | 352 | 29.1 | 1.9 | **2.2 (1.2-4.0)** | **0.4 (0.2-0.7)** |
| Lack of social support:  |  |  |  |  |  |
| family | 431 | 35.6 | 2.2 | 1.6 (0.9-2.7) | **0.5 (0.3-0.9)** |
| friends | 516 | 42.7 | 2.2 | 1.4 (0.8-2.4) | 0.6 (0.4-1.0) |

Note a Prevalence estimates of candidate risk factors at follow-up one among 1208 students with a history of NSSI at college entrance, b Each cell displays the result of a separate bivariate model, including the variable specified in the row as a predictor and controlling for sex assigned at birth, with NSSI relapse in the second college year as the predicted outcome, with the ceased course without NSSI in college as the reference group, c Each cell displays the result of a separate bivariate model, including the variable specified in the row as a predictor and controlling for sex assigned at birth, with the desist pattern (NSSI only in the first college year) as the predicted outcome and the repetitive course with NSSI in both college years as the reference group, d Omnibus F-test to evaluate joint-significance of the number of life areas with severe stress across 100 imputed datasets. w(n)=weighted number of cases, w(%)=weighted proportion, OR=Adjusted Odds Ratio, df=degrees of freedom. Significant odds ratios are shown in bold (α=.05).

**Supplementary Table 4.** Twelve-month mental disorders and role impairment in the first year of college as predictors of relapse and desistance of NSSI in the second college year (n=1208).

|  |  |  |  |
| --- | --- | --- | --- |
| **Risk factor domain: mental disorders and associated impairment at follow-up 1** | Prevalencea | Relapse pattern versus cessationb | Desist pattern versus repetitive persistencec |
| w(n) | w(%) | SE | aOR (95% CI) | aOR (95% CI) |
| Major depressive disorder | 204 | 16.9 | 1.2 | 2.0 (0.9-4.3) | **0.5 (0.2-0.9)** |
| Generalized anxiety disorder  | 307 | 25.4 | 1.7 | 1.7 (0.9-3.3) | **0.5 (0.3-0.8)** |
| Panic disorder | 167 | 13.8 | 1.6 | 1.1 (0.3-4.0) | 0.7 (0.3-1.3) |
| Bipolar disorder | 54 | 4.5 | 0.6 | 5.0 (0.6-39.2) | 0.4 (0.1-1.3) |
| Alcohol use disorder | 140 | 11.6 | 1.5 | 2.0 (0.9-4.5) | 0.5 (0.2-1.2) |
| Intermittent explosive disorder screen | 386 | 31.9 | 2.2 | 1.6 (0.9-2.8) | 0.6 (0.3-1.0) |
| Post-traumatic stress disorder screen | 620 | 51.3 | 2.2 | 1.5 (0.9-2.5) | **0.6 (0.4-1.0)** |
| Eating disorder screen | 256 | 21.2 | 1.9 | 1.5 (0.8-2.9) | **0.5 (0.3-0.9)** |
| Psychotic disorder screen | 190 | 15.7 | 2.5 | 1.5 (0.6-3.3) | 0.7 (0.4-1.5) |
| Any disorder | 912 | 75.5 | 1.7 | 1.8 (1.0-3.2) | **0.4 (0.2-0.9)** |
| Number of mental disorders: None | 296 | 24.5 | 1.7 | (ref) | (ref) |
| Exactly 1 | 317 | 26.3 | 1.7 | 1.3 (0.7-2.6) | 0.8 (0.3-1.8) |
| Exactly 2 | 220 | 18.2 | 1.5 | 1.8 (0.9-3.6) | 0.5 (0.2-1.2) |
| Exactly 3 | 144 | 12.0 | 1.3 | 2.3 (0.9-5.5) | **0.4 (0.2-0.9)** |
| 3+ | 231 | 19.1 | 1.6 | 3.2 (1.2-8.5) | **0.3 (0.1-0.6)** |
| F (df) [p value]d |  |  |  | 1.94(4) [.103] | 3.80(4) [.005] |
| Role impairment: |  |  |  |  |  |
| Home management | 125 | 10.3 | 1.3 | 2.2 (0.8-6.0) | 0.5 (0.2-1.0) |
| College-related and other work | 259 | 21.4 | 1.7 | 1.8 (0.9-3.5) | **0.4 (0.2-0.8)** |
| Close personal relationships | 268 | 22.2 | 1.7 | **2.0 (1.0-4.0)** | **0.4 (0.2-0.7)** |
| Social life  | 286 | 23.7 | 1.7 | 1.8 (1.0-3.4) | **0.5 (0.3-0.9)** |
| Any domain | 446 | 36.9 | 1.9 | **1.9 (1.1-3.3)** | **0.4 (0.2-0.6)** |

Note a Prevalence estimates of candidate risk factors at follow-up one among 1208 students with a history of NSSI at college entrance, b Each cell displays the result of a separate bivariate model, including the variable specified in the row as a predictor and controlling for sex assigned at birth, with NSSI relapse in the second college year as the predicted outcome, with the ceased course without NSSI in college as the reference group, c Each cell displays the result of a separate bivariate model, including the variable specified in the row as a predictor and controlling for sex assigned at birth, with the desist pattern (NSSI only in the first college year) as the predicted outcome and the repetitive course with NSSI in both college years as the reference group, d Omnibus F-test to evaluate joint-significance of number of mental disorders across 100 imputed datasets. w(n)=weighted number of cases, w(%)=weighted proportion, OR=Adjusted Odds Ratio, df=degrees of freedom. Significant odds ratios are shown in bold (α=.05).

**Supplementary Table 5.** Bayesian information criterion of multivariate models across risk factor domains at college entrance (n=1208).

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Sporadic versus ceased course** | **Repetitive versus****ceased course** | **Sporadic****versus ceased course** | **Repetitive****versus ceased course** | **Sporadic versus repetitive course** |
| **Risk factor domain:**  | **Relapse pattern** | **Desist pattern** | **Low repetitive pattern** | **High repetitive pattern** |
| **Childhood-adolescent traumatic experiences:** |  |  |  |
| Model 1: type of traumatic experiences | 790 | 771 | 724 | 764 | 1160 | 1101 | 934 |
| Model 2: number of traumatic experiences | **781** | **766** | **716** | **760** | **1153** | **1096** | **928** |
| Model 3 type and number of traumatic experiences | 801 | 783 | 735 | 775 | 1170 | 1110 | 945 |
| **Perceived stress and lack of social support:** |  |  |  |
| Model 1: severe stress in life overall | 771 | **755** | 710 | 752 | 1141 | 1093 | 925 |
| Model 2: lack of social support | 773 | 760 | 716 | 768 | 1146 | 1107 | 929 |
| Model 3: severe stress life overall, lack of social support | **770** | 757 | **704** | **731** | **1139** | **1069** | **922** |
| Model 4: severe stress life overall, type of life areas with severe stress | 789 | 776 | 726 | 766 | 1159 | 1104 | 940 |
| Model 5: severe stress life overall, number of life areas with severe stress | 784 | 769 | 720 | 763 | 1154 | 1103 | 934 |
| Model 6: severe stress life overall, type and number of life areas with severe stress  | 801 | 789 | 737 | 779 | 1171 | 1116 | 951 |
| **Mental disorders and associated impairment:** |  |  |  |
| Model 1 type of mental disorders  | 793 | 769 | 714 | 746 | 1157 | 1076 | 935 |
| Model 2: number of mental disorders  | 782 | 758 | 712 | 760 | 1147 | 1092 | 931 |
| Model 3: type and number of mental disorders | 808 | 783 | 728 | 758 | 1170 | 1088 | 946 |
| Model 4: role impairment any | **774** | **754** | 713 | 755 | **1143** | 1097 | **926** |
| Model 5: role impairment any, type of mental disorders  | 793 | 770 | 714 | **735** | 1156 | **1068** | 936 |
| Model 6: role impairment any, number of mental disorders  | 782 | 758 | **709** | 740 | 1145 | 1075 | 929 |
| Model 7: role impairment any, type and number of mental disorders | 808 | 784 | 728 | 748 | 1169 | 1081 | 947 |
| Model 8: role impairment type | 785 | 764 | 725 | 765 | 1153 | 1107 | 934 |
| Model 9: role impairment type, type of mental disorders  | 804 | 781 | 726 | 747 | 1166 | 1079 | 944 |
| Model 10: role impairment type, number of mental disorders  | 793 | 767 | 720 | 749 | 1154 | 1084 | 937 |
| Model 11: role impairment type, type and number of mental disorders | 815 | 791 | 737 | 756 | 1176 | 1088 | 952 |
| **Non-suicidal self-injury characteristics:** |  |  |  |
| Model 1: frequency past-year | **770** | 741 | 679 | 648 | 1129 | 993 | 893 |
| Model 2: frequency past-year, thoughts frequency past year | 776 | **713** | 642 | 563 | **1114** | 901 | 870 |
| Model 3: frequency past-year, thoughts frequency past year, lifetime frequency | 786 | 721 | 645 | 554 | 1122 | 893 | 867 |
| Model 4: frequency past-year, thoughts frequency past year, lifetime frequency, number of methods | 791 | 727 | 641 | **548** | 1124 | 879 | 868 |
| Model 5: frequency past-year, thoughts frequency past year, number of methods | 781 | 717 | **632** | 548 | 1115 | 877 | 866 |
| Model 6: frequency past-year, thoughts frequency past year, number of methods, onset | 781 | 723 | 638 | 552 | 1119 | 881 | 869 |
| Model 7: frequency past-year, thoughts frequency past year, number of methods, perceived likelihood of future NSSI  | 787 | 722 | 636 | 554 | 1120 | 880 | 870 |
| Model 8: frequency past-year, thoughts frequency past year, number of methods, functions | 790 | 728 | 643 | 556 | 1125 | 883 | 873 |
| Model 9: frequency past-year, thoughts frequency past year, number of methods, urge | 784 | 720 | 635 | 548 | 1119 | **877** | **866** |
| Model 10: frequency past-year, thoughts frequency past year, number of methods, medical treatment for NSSI | 785 | 719 | 636 | 549 | 1118 | 878 | 869 |
| Model 11: frequency past-year, thoughts frequency past year, number of methods, NSSI disorder | 787 | 722 | 638 | 553 | 1121 | 882 | 868 |
| Model 12: all NSSI characteristics at college entrance | 822 | 760 | 675 | 582 | 1154 | 908 | 895 |

Note: all models include sex assigned at birth as a covariate. The best fitting model across risk factor domains is shown in bold.

**Supplementary Table 6.** Perceived stress and lack of social support as baseline predictors of NSSI persistence during the first two college years (n=1208).

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Sporadic course: NSSI in one year** | **Repetitive course: NSSI in both college years** | **Sporadic versus ceased course**b | **Repetitive****versus ceased course**b | **Sporadic versus repetitive course**b |
| **Risk factor domain: perceived stress and lack of social support** | Relapse pattern: NSSI only in year 2a  | Desist pattern: NSSI only in year 1a | Low-frequency pattern: NSSI yearly, but not repetitively ≥ 5 NSSI actsa | High-frequency pattern: ≥ 5 actsyearlya |
|  | aOR (95% CI) | aOR (95% CI) | aOR (95% CI) | aOR (95% CI) | aOR (95% CI) | aOR (95% CI) | aOR (95% CI) |
| Severe stress in life overall | 1.7 (1.0-2.9) | **1.8 (1.1-3.1)** | **2.3 (1.3-4.0)** | **3.5 (2.1-5.7)** | **1.7 (1.1-2.6)** | **2.9 (1.9-4.4)** | **1.7 (1.1-2.6)** |
| Lack of social support:  |  |  |  |  |  |  |  |
| family | 1.5 (0.9-2.6) | / | **1.8 (1.1-3.0)** | **2.2 (1.3-3.7)** | 1.4 (0.9-2.1) | **2.0 (1.3-3.0)** | 1.4 (0.9-2.3) |
| friends | 1.2 (0.7-1.9) | / | 1.3 (0.8-2.1) | 1.5 (0.9-2.4) | 1.2 (0.8-1.8) | 1.4 (0.9-2.1) | 1.2 (0.8-1.8) |

Note: a The column of each model displays the result of a separate multivariate model controlling for sex assigned at birth and the covariates shown, with the ceased course without NSSI in college as the reference group, b The column of each model displays the result of a separate multivariate model controlling for sex assigned at birth and the covariates shown with the predicted outcome mentioned first and the reference group second. OR= Adjusted Odds Ratio, / =not included in the final integrative model based on Bayesian Information Criterion (see supplementary table 5). Significant odds ratios are shown in bold (α=.05).

**Supplementary Table 7.** Twelve-month month disorders and role impairment as predictors of NSSI persistence during the first two college years (n=1208).

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Sporadic course: NSSI in one year** | **Repetitive course: NSSI in both college years** | **Sporadic versus ceased course**b | **Repetitive****versus ceased course**b | **Sporadic versus repetitive course**b |
| **Risk factor domain: mental disorders and associated impairment** | Relapse pattern: NSSI only in year 2a  | Desist pattern: NSSI only in year 1a | Low-frequency pattern: NSSI yearly, but not repetitively ≥ 5 NSSI actsa | High-frequency pattern: ≥ 5 actsyearlya |
|  | aOR (95% CI) | aOR (95% CI) | aOR (95% CI) | aOR (95% CI) | aOR (95% CI) | aOR (95% CI) | aOR (95% CI) |
| Major depressive disorder | / | / | / | 1.7 (0.9-2.9) | / | **1.8 (1.1-2.8)** | / |
| Generalized anxiety disorder  | / | / | / | 1.7 (0.9-3.0) | / | 1.5 (0.9-2.4) | / |
| Panic disorder | / | / | / | 1.6 (0.7-3.7) | / | 1.3 (0.6-2.7) | / |
| Bipolar disorder | / | / | / | **5.5 (1.7-17.1)** | / | **4.6 (1.6-12.9)** | / |
| Alcohol use disorder | / | / | / | 1.3 (0.5-3.5) | / | 1.5 (0.7-3.4) | / |
| Intermittent explosive disorder screen | / | / | / | 1.1 (0.7-1.9) | / | 1.1 (0.8-1.7) | / |
| Post-traumatic stress disorder screen | / | / | / | 1.1 (0.6-1.8) | / | 1.1 (0.7-1.6) | / |
| Eating disorder screen | / | / | / | 0.9 (0.5-1.6) | / | 0.9 (0.6-1.5) | / |
| Psychotic disorder screen | / | / | / | 1.4 (0.7-2.9) | / | 1.3 (0.7-2.4) | / |
| Borderline personality disorder | / | / | / | 1.4 (0.7-2.8) | / | 1.4 (0.8-2.6) | / |
| F (df) [p value]c |  |  |  | 3.44 (10) [<.001] |  | 3.77 (10) [<.001] |  |
| Number of mental disorders: None | (ref) | (ref) | (ref) | (ref) | (ref) | (ref) | (ref) |
| Exactly 1 | / | / | 1.4 (0.6-3.4) | / | / | / | / |
| Exactly 2 | / | / | 1.6 (0.7-4.0) | / | / | / | / |
| Exactly 3 | / | / | 2.5 (1.0-6.2) | / | / | / | / |
| 3+ | / | / | **3.3 (1.4-7.8)** | / | / | / | / |
| F (df) [p value]d |  |  | 2.62 (4) [.034] |  |  |  |  |
| Role impairment of any domain | 1.6 (0.9-2.9) | **1.9 (1.1-3.2)** | 1.7 (1.0-3.0) | **2.2 (1.3-3.8)** | **1.7 (1.1-2.7)** | **1.8 (1.2-2.8)** | **1.8 (1.2-2.8)** |

Note: a The column of each model displays the result of a separate multivariate model controlling for sex assigned at birth and the covariates shown, with the ceased course without NSSI in college as the reference group, b The column of each model displays the result of a separate multivariate model controlling for sex assigned at birth and the covariates shown with the predicted outcome mentioned first and the reference group second, c Omnibus F-test to evaluate the joint significance of 10 types of mental disorders across 100 imputed datasets, d Omnibus F-test to evaluate joint-significance of number of mental disorders across 100 imputed datasets. OR= Adjusted Odds Ratio, / =not included in the final integrative model based on Bayesian Information Criterion (see supplementary table 5). Significant odds ratios are shown in bold (α=.05).

**Supplementary Table 8.** Non-suicidal self-injury characteristics as predictors of NSSI persistence during the first two college years (n=1,208).

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Sporadic course: NSSI in one year** | **Repetitive course: NSSI in both college years** | **Sporadic versus ceased course**b | **Repetitive****versus ceased course**b | **Sporadic versus repetitive course**b |
| **Risk factor domain: NSSI characteristics** | Relapse pattern: NSSI only in year 2a  | Desist pattern: NSSI only in year 1a | Low-frequency pattern: NSSI yearly, but not repetitively ≥ 5 NSSI actsa | High-frequency pattern: ≥ 5 actsyearlya |
|  | aOR (95% CI) | aOR (95% CI) | aOR (95% CI) | aOR (95% CI) | aOR (95% CI) | aOR (95% CI) | aOR (95% CI) |
| Lifetime NSSI: 1-4 acts | (ref) | (ref) | (ref) | (ref) | (ref) | (ref) | (ref) |
| 5-20 acts  | / | / | / | 1.5 (0.8-3.0) | / | / | / |
| 21-50 acts | / | / | / | 2.1 (0.7-6.1) | / | / | / |
| 51+ acts | / | / | / | 4.3 (1.5-12.5) | / | / | / |
| F (df) [p value]c |  |  |  |  2.60 (2) [.051] |  |  |  |
| NSSI thoughts past year: None | (ref) | (ref) | (ref) | (ref) | (ref) | (ref) | (ref) |
| 1-4 times | / | **1.9 (1.1-3.5)** | **2.2 (1.2-4.1)** | **3.0 (1.5-6.1)** | 1.4 (0.9-2.3) | **2.4 (1.4-4.0)** | 1.7 (1.0-3.0) |
| 5+ times | / | **7.8 (3.0-20.2)** | **6.0 (2.2-16.2)** | **11.6 (4.3-31.5)** | **4.2 (1.8-10.1)** | **7.7 (3.2-18.7)** | 2.0 (1.0-4.0) |
| F (df) [p value]c |  | 10.83 (2) [<.001] | 8.10 (2) [<.001] |  14.85 (2) [<.001] | 6.59 (2) [.001] | 14.87 (2) [<.001] | 2.87 (2) [.058] |
| NSSI past year: None | (ref) | (ref) | (ref) | (ref) | (ref) | (ref) | (ref) |
| 1-4 acts | 1.5 (0.9-2.5) | 1.4 (0.8-2.5) | **1.9 (1.1-3.3)** | 1.7 (0.9-3.4) | 1.5 (1.0-2.2) | **1.9 (1.2-3.1)** | 1.4 (0.9-2.3) |
| 5+ acts | **2.9 (1.2-7.1)** | 2.8 (1.1-7.3) | **5.0 (2.0-12.2)** | **6.3 (2.3-17.3)** | **2.7 (1.3-5.7)** | **8.3 (4.1-17.0)** | **3.0 (1.6-5.7)** |
| F (df) [p value]c | 3.75 (2) [.024] | 2.53 (2) [.081] | 6.79 (2) [.001] | 6.58 (2) [.001] | 4.37 (2) [.013] | 19.34 (2) [<.001] | 5.63 (2) [.004] |
| Number of NSSI methods: Exactly 1 | (ref) | (ref) | (ref) | (ref) | (ref) | (ref) | (ref) |
| Exactly 2 | / | / | 1.6 (0.8-3.2) | 1.7 (0.8-3.6) | / | 1.7 (1.0-2.9) | 1.4 (0.8-2.5) |
| Exactly 3 | / | / | 1.7 (0.8-3.8) | 1.9 (0.8-4.8) | / | 1.8 (0.9-3.5) | 1.3 (0.7-2.5) |
|  3+ | / | / | **3.5 (1.7-7.1)** | **3.7 (1.6-8.4)** | / | **3.7 (2.0-6.9)** | 2.2 (1.2-4.0) |
| F (df) [p value]c |  |  | 4.19 (3) [.006] | 3.46 (3) [.016] |  | 6.04 (3) [<.001] | 2.11 (3) [.098] |
| Uncontrollable urges before NSSI  | / | / | / | / | / | 1.5 (0.9-2.7) | 1.4 (0.8-2.4) |

Note: a The column of each model displays the result of a separate multivariate model controlling for sex assigned at birth and the covariates shown, with the ceased course without NSSI in college as the reference group, b The column of each model displays the result of a separate multivariate model controlling for sex assigned at birth and the covariates shown with the predicted outcome mentioned first and the reference group second, c Omnibus F-test to evaluate joint-significance of categorical predictors across 100 imputed datasets. OR= Adjusted Odds Ratio, / =not included in the final integrative model based on Bayesian Information Criterion (see supplementary table 5). Significant odds ratios are shown in bold (α=.05).

**Supplementary Table 9.** Final integrative risk prediction models of NSSI persistence patterns (n=1,208).

|  |  |  |
| --- | --- | --- |
|  | **Sporadic course: NSSI in one year** | **Repetitive course: NSSI in both college years** |
| **Baseline Predictors (college entrance)** | Relapse pattern: NSSI only in year 2a | Relapse pattern: NSSI only in year 2a,b  | Desist pattern: NSSI only in year 1a | Low-frequency pattern: NSSI yearly, but not repetitively ≥ 5 NSSI actsa | High-frequency pattern: ≥ 5 actsyearlya |
|  | OR (95% CI) | OR (95% CI) | OR (95% CI) | OR (95% CI) | OR (95% CI) |
| Sex assigned at birth (female) | 1.4 (0.8-2.3) | 1.3 (0.8-2.3) | 1.0 (0.6-1.6) | 1.3 (0.7-2.5) | 1.3 (0.6-2.6) |
| Number of traumatic experiences: None | (ref) | (ref) | (ref) | (ref) | (ref) |
| Exactly 1 | 1.0 (0.5-1.9) | 0.9 (0.5-1.8) | 1.2 (0.6-2.4) | 1.2 (0.6-2.5) | 1.7 (0.7-4.3) |
| Exactly 2 | 0.9 (0.4-1.9) | 0.9 (0.4-1.8) | 1.4 (0.7-2.8) | 1.1 (0.5-2.6) | 1.7 (0.7-4.4) |
| Exactly 3 | 1.2 (0.5-2.9) | 1.1 (0.5-2.7) | 1.4 (0.6-3.2) | 1.4 (0.5-3.7) | 2.2 (0.8-6.4) |
| 3+  | 1.6 (0.6-3.9) | 1.4 (0.5-3.4) | 1.7 (0.6-4.6) | 2.1 (0.8-5.5) | 3.3 (1.0-11.0) |
| F (df) [p value]c |  0.48 (4) [.749]  |  0.39 (4) [.815] |  0.46 (4) [.763] |  0.81 (4) [.520] | 1.23 (4) [.296] |
| Severe stress in life overall | 1.4 (0.8-2.5) | 1.2 (0.7-2.2) | 1.2 (0.6-2.2) | 1.5 (0.8-2.9) | 1.6 (0.8-3.5) |
| Lack of social support:  |  |  |  |  |  |
| family | 1.4 (0.8-2.6) | 1.4 (0.8-2.6) | / | 1.4 (0.7-2.5) | 1.4 (0.7-2.9) |
| friends | 1.1 (0.7-1.9) | 1.1 (0.6-1.9) | / | 1.1 (0.6-2.0) | 1.5 (0.8-3.0) |
| Twelve-month mental disorders: |  |  |  |  |  |
| Major depressive disorder | / | / | / | / | 0.8 (0.4-1.8) |
| Generalized anxiety disorder  | / | / | / | / | 1.2 (0.5-3.0) |
| Panic disorder | / | / | / | / | 1.5 (0.4-4.8) |
| Bipolar disorder | / | / | / | / | 2.2 (0.4-11.4) |
| Alcohol use disorder | / | / | / | / | 1.2 (0.3-4.7) |
| Intermittent explosive disorder screen | / | / | / | / | 1.0 (0.5-2.1) |
| Post-traumatic stress disorder screen | / | / | / | / | 0.8 (0.4-1.6) |
| Eating disorder screen | / | / | / | / | 0.8 (0.4-1.8) |
| Psychotic disorder screen | / | / | / | / | 1.1 (0.4-3.1) |
| Borderline personality disorder | / | / | / | / | 1.0 (0.4-2.9) |
| Number of mental disorders: None | (ref) | (ref) | (ref) | (ref) | (ref) |
| Exactly 1 | / | / | / | 1.2 (0.5-3.0) | / |
| Exactly 2 | / | / | / | 1.0 (0.4-2.7) | / |
| Exactly 3 | / | / | / | 1.3 (0.4-3.7) | / |
| 3+ | / | / | / | 1.2 (0.4-3.4) | / |
| F (df) [p value]c |  |  |  |  0.28 (4) [.894] |  |
| Role impairment of any domain | 1.2 (0.7-2.3) | 1.1 (0.6-2.1) | 1.2 (0.7-2.2) | 1.1 (0.5-2.2) | 1.3 (0.6-2.8) |
| Lifetime NSSI: 1-4 times | (ref) | (ref) | (ref) | (ref) | (ref) |
| 5-20 times  | / | / | / | / | 1.4 (0.7-2.9) |
| 21-50 times | / | / | / | / | 1.9 (0.6-5.9) |
| 51+ times | / | / | / | / | **4.8 (1.5-15.1)** |
| F (df) [p value]c |  |  |  |  |  2.73 (3) [.043] |
| NSSI thoughts past year: None | (ref) | (ref) | (ref) | (ref) | (ref) |
| 1-4 times | / | / | 1.8 (1.0-3.3) | **2.0 (1.0-3.8)** | **2.9 (1.4-6.3)** |
| 5+ times | / | / | **6.9 (2.6-18.4)** | **5.0 (1.8-14.3)** | **8.5 (2.6-28.1)** |
| F (df) [p value]c |  |  | 8.49 (2) [<.001] | 5.41 (2) [.005] |  8.50 (2) [<.001]  |
| NSSI past year: None | (ref) | (ref) | (ref) | (ref) | (ref) |
| 1-4 acts | 1.5 (0.9-2.5) | 1.5 (0.9-2.5) | 1.5 (0.9-2.5) | **1.9 (1.0-3.5)** | 1.7 (0.8-3.6) |
| 5+ acts | **2.7 (1.1-6.9)** | 2.6 (1.0-6.8) | 2.7 (1.0-7.0) | **4.8 (1.9-12.4)** | **5.9 (2.0-17.2)** |
| F (df) [p value]c | 3.10 (2) [.046] | 2.73 (2) [.066] | 2.32 (2) [.099] | 6.00 (2) [.003] |  5.49 (2) [.004] |
| Number of NSSI methods: Exactly 1 | (ref) | (ref) | (ref) | (ref) | (ref) |
| Exactly 2 | / | / | / | 1.5 (0.7-3.0) | 1.7 (0.8-3.7) |
| Exactly 3 | / | / | / | 1.6 (0.7-3.6) | 1.6 (0.6-4.2) |
|  Exactly 3+ | / | / | / | **3.0 (1.4-6.3)** | 2.9 (1.1-7.3) |
| F (df) [p value]c |  |  |  |  2.66 (3) [.047] |  1.84 (3) [.140] |
|  |  |  |  |  |  |
| **Follow-up 1 predictors (first college year):** |  |  |  |  |  |
| Severe stress in life overall |  | 1.6 (0.8-3.2) |  |  |  |
| Role impairment close personal relationships |  | 1.4 (0.7-3.1) |  |  |  |
|  |  |  |  |  |  |
| **Model accuracy:** Model-based AUC (SE) | 0.65 (0.03) | 0.67 (0.03) | 0.68 (0.03) | 0.80 (0.03) | 0.91 (0.02) |
| Cross-validated AUC (SE) | 0.60 (0.03) | 0.61 (0.04) | 0.63 (0.04) | 0.76 (0.03) | 0.88 (0.02) |

Note: a The column of each model displays the result of a separate multivariate model controlling for the covariates shown, with the ceased course without NSSI in college as the reference group, b This model includes significant predictors (supplementary tables 3-4) at follow-up 1 in the prediction of relapse in year 2 with the ceased course without NSSI in college as the reference group, c Omnibus F-test to evaluate joint-significance of categorical predictors across 100 imputed datasets. OR=Odds Ratio, df=degrees of freedom, AUC=Area Under the Curve, / =not included in the final integrative model based on Bayesian Information Criterion (see supplementary table 5). Significant odds ratios are shown in bold (α=.05).

**Supplementary Table 10.** Final integrative risk prediction models of NSSI persistence patterns (n=1,208).

|  |  |  |  |
| --- | --- | --- | --- |
| **Baseline Predictors (college entrance)** | **Sporadic versus ceased coursea** | **Repetitive versus ceased coursea** | **Repetitive versus sporadic coursea** |
|  | OR (95% CI) | OR (95% CI) | OR (95% CI) |
| Sex assigned at birth (female) | 1.2 (0.8-1.8) | 1.3 (0.8-2.3) | 1.2 (0.7-2.0) |
| Number of traumatic experiences: None | (ref) | (ref) | (ref) |
| Exactly 1 | 1.1 (0.6-1.8) | 1.3 (0.7-2.4) | 1.2 (0.6-2.4) |
| Exactly 2 | 1.1 (0.7-2.0) | 1.4 (0.7-2.6) | 1.3 (0.6-2.6) |
| Exactly 3 | 1.3 (0.7-2.6) | 1.7 (0.8-3.8) | 1.5 (0.7-3.1) |
| 3+  | 1.7 (0.8-3.5) | 2.6 (1.1-5.8) | 2.0 (0.9-4.5) |
| F (df) [p value]b |  0.67 (4) [.614] | 1.54 (4) [.189] |  0.86 (4) [.486] |
| Severe stress in life overall | 1.3 (0.8-2.1) | 1.5 (0.8-2.6) | 1.1 (0.6-1.9) |
| Lack of social support:  |  |  |  |
| family | 1.2 (0.7-1.9) | 1.3 (0.8-2.3) | 1.1 (0.6-1.8) |
| friends | 1.2 (0.8-1.7) | 1.2 (0.8-2.0) | 1.1 (0.7-1.8) |
| Twelve-month mental disorders: |  |  |  |
| Major depressive disorder | / | 1.0 (0.6-1.8) | / |
| Generalized anxiety disorder  | / | 1.2 (0.6-2.4) | / |
| Panic disorder | / | 1.0 (0.4-2.6) | / |
| Bipolar disorder | / | 2.2 (0.6-8.2) | / |
| Alcohol use disorder | / | 1.4 (0.5-3.7) | / |
| Intermittent explosive disorder screen | / | 1.0 (0.6-1.6) | / |
| Post-traumatic stress disorder screen | / | 0.9 (0.5-1.5) | / |
| Eating disorder screen | / | 0.8 (0.5-1.5) | / |
| Psychotic disorder screen | / | 1.1 (0.5-2.4) | / |
| Borderline personality disorder | / | 1.0 (0.5-2.1) | / |
| Role impairment of any domain | 1.2 (0.8-2.0) | 1.2 (0.7-2.1) | 1.1 (0.7-1.8) |
| NSSI thoughts past year: None | (ref) | (ref) | (ref) |
| 1-4 times | 1.3 (0.8-2.1) | **2.3 (1.3-3.9)** | 1.6 (0.9-2.8) |
| 5+ times | **3.5 (1.4-8.7)** | **6.1 (2.3-16.1)** | 1.8 (0.9-3.7) |
| F (df) [p value]b |  4.31 (2) [.014]  | 9.08 (2) [<.001] |  1.98 (2) [.139] |
| NSSI past year: None | (ref) | (ref) | (ref) |
| 1-4 acts | 1.5 (1.0-2.2) | **2.0 (1.2-3.2)** | 1.5 (0.9-2.4) |
| 5+ acts | **2.6 (1.2-5.5)** | **8.0 (3.8-16.8)** | **3.0 (1.5-5.8)** |
| F (df) [p value]b |  3.93 (2) [.020] | 16.75 (2) [<.001] |  5.38 (2) [.005] |
| Number of NSSI methods: Exactly 1 | (ref) | (ref) | (ref) |
| Exactly 2 | / | 1.6 (0.9-2.8) | 1.4 (0.8-2.4) |
| Exactly 3 | / | 1.6 (0.8-3.2) | 1.3 (0.6-2.5) |
|  Exactly 3+ | / | **3.0 (1.6-6.0)** | 2.0 (1.1-3.8) |
| F (df) [p value]b |  |  3.50 (3) [.015] |  1.65 (3) [.177]  |
| Uncontrollable urges before NSSI  | / | 1.4 (0.8-2.5) | 1.3 (0.8-2.3) |
|  |  |  |  |
| **Model accuracy:** Model-based AUC (SE) | 0.66 (0.02) | 0.85 (0.02) | 0.74 (0.02) |
| Cross-validated AUC (SE) | 0.62 (0.03) | 0.83 (0.02) | 0.70 (0.03) |

Note: a The column of each model displays the result of a separate multivariate model controlling for the covariates shown with the predicted outcome mentioned first and the reference group second, b Omnibus F-test to evaluate joint-significance of categorical predictors across 100 imputed datasets. OR=Odds Ratio, df=degrees of freedom, AUC=Area Under the Curve, / =not included in the final integrative model based on Bayesian Information Criterion (see supplementary table 5). Significant odds ratios are shown in bold (α=.05).