Psychiatric Symptoms of Veterans Surveyed Through Facebook Ads

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# Read data

**Most of this code was developed in Phase 1.** Results will be suppressed for brevity.

**Use only the REDCap survey data**

Notes on the REDCap identifier variables:

* If [consent] == 1, they started the eligibility survey;
* if == 0 or == NA, they didn't.
* If [consent\_and\_eligibility\_complete] == 2, they finished the screener (whether eligible or ineligible);
* if == 0, they dropped out or never started.
* If [eligible] == 1, they completed the screener and were eligible;
* if == 0, they completed and were ineligible;
* if == NA , they dropped out or never started.
* If [veterans\_and\_social\_media\_use\_co] == 2, they finished the survey;
* if == 0, they dropped out or never started (this includes people who were ineligible or didn't consent).
* If [analytic\_sample] == 0, they completed the survey but were disqualified for data quality reasons;
* if == 1, they completed survey and was not disqualified for data quality reasons;
* if == NA, they didn't complete the survey.

Inclusion criteria

* Respondents who consented
* Eligible, ineligible, or missing eligibility indicator

**Number included: n = 1329**

Cleaning

* Parse out fba into 2 separate variables for image and text
* Assign indicator for survey participation, indSurveyParticipation
* analytic\_sample == 1: Participant completed survey and was not disqualified for data quality reasons
* Assign indicator for eligibility screener participation, indScreenerParticipation
* eligible == 1: Participant completed eligibility screener and was eligible to participate in full survey

## Use of VA health services

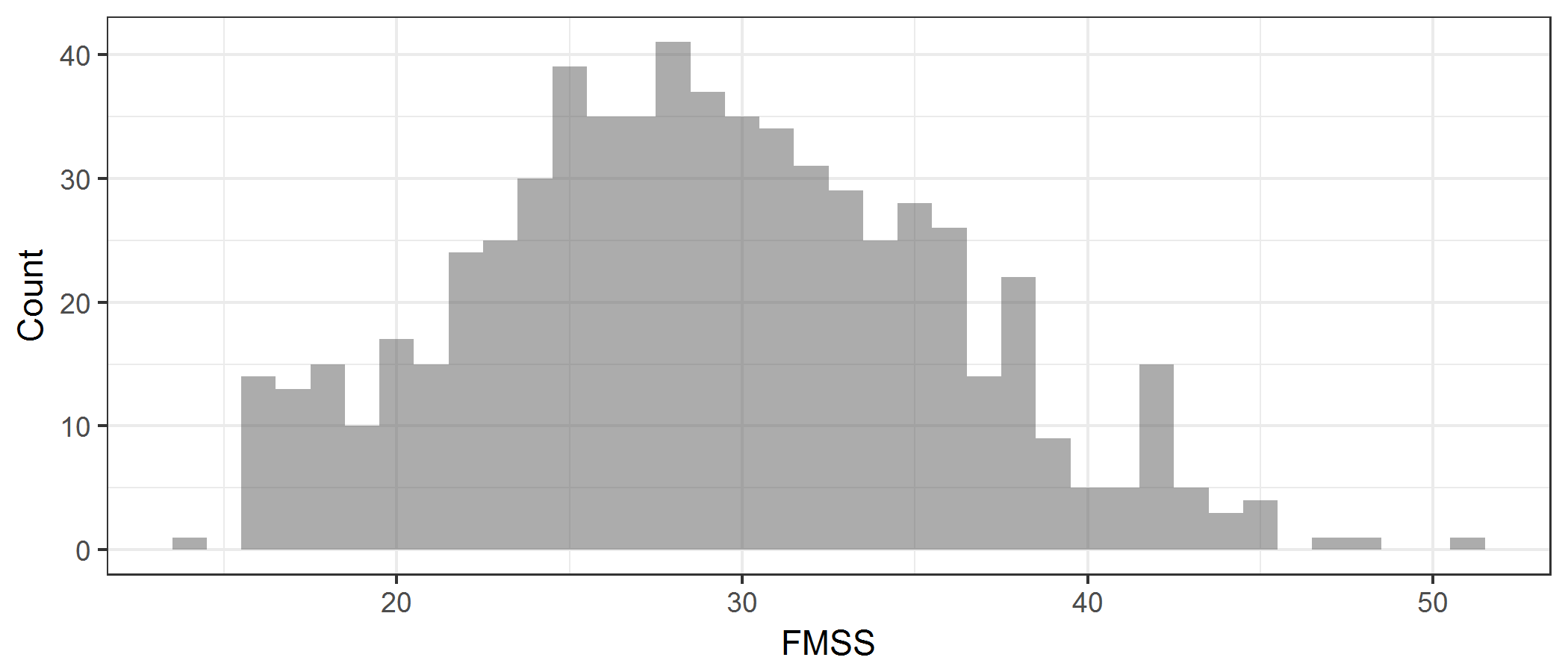
Recoding logic

* Primary analysis will code 9 (not sure) as 0 (No)
* Sensitivity analysis will exclude the 9 values from the analysis
* If va\_ever\_enrolled == FALSE & is.na(va\_use\_12mo), then recode va\_use\_12mo to FALSE
* If va\_use\_12mo == TRUE & va\_ever\_enrolled == FALSE, then recode va\_ever\_enrolled to TRUE
* Code indicators indVANeverEnrolled and indVANotUse12mo as the logical opposites of va\_ever\_enrolled and va\_use\_12mo

## Independent variables

* Score the Modified Facebook Measure of Social Support (FMSS)
* Reverse-scored items are fmss\_r7 through fmss\_r10

Check.



plot of chunk histogramFMSS

## Dependent variables

### Psychiatric symptoms (RQ1)

Code indicators for psychiatric disorder screening scales

* PTSD
* Name of scale: PC-PTSD
* Positive screen: ptsd\_intrusive + ptsd\_avoidant + ptsd\_guarded + ptsd\_numb + ptsd\_guilty 3
* Major depression
* Name of scale: PHQ-2
* Positive screen: phq\_interest + phq\_mood 3
* Alcohol misuse
* Name of scale: AUDIT-C
* Positive screen: auditc\_freq + auditc\_amount + auditc\_binge 4 for men, 3 for women

Presence of suicidality is defined as DSI-SS score 2. This cut-off score was chosen based on recommendations for population-based samples noted in [von Glischinski M Clin Psychol Psychotherapy 2015](http://onlinelibrary.wiley.com/doi/10.1002/cpp.2007/full)

* Score the DSI-SS inventory
* See [Joiner 2002](http://www.sciencedirect.com/science/article/pii/S0005796701000171)
* *Scores on each item range from 0 to 3 and, for the inventory, from 0 to 12, with higher scores reflecting greater severity of suicidal ideation.*

Check.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| yvariable | indPTSD | mean | sd | min | max | n | freq |
| ptsd | FALSE | 0.9 | 0.9 | 0 | 2 | 255 | 47.9% |
| ptsd | TRUE | 4.2 | 0.8 | 3 | 5 | 277 | 52.1% |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| yvariable | indPHQ | mean | sd | min | max | n | freq |
| phq | FALSE | 0.9 | 0.9 | 0 | 2 | 448 | 72.3% |
| phq | TRUE | 4.5 | 1.2 | 3 | 6 | 172 | 27.7% |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| yvariable | indAuditC | mean | sd | min | max | n | freq |
| auditc | FALSE | 1.8 | 0.8 | 1 | 3 | 246 | 49.0% |
| auditc | TRUE | 5.8 | 2.1 | 3 | 12 | 256 | 51.0% |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| yvariable | indDSISS | mean | sd | min | max | n | freq |
| dsiss | FALSE | 0.1 | 0.3 | 0 | 1 | 482 | 78.2% |
| dsiss | TRUE | 3.9 | 1.6 | 2 | 9 | 134 | 21.8% |

### Social media use (RQ2)

* Spending more time on Facebook?
* Frequency of Facebook use: fb\_freq
* Active use of Facebook: comm\_facebook
* Sharing more personal or health-related information on social media?
* sm\_emot\_support
* sm\_med\_info
* sm\_med\_advice
* sm\_med\_questions
* sm\_share\_sympt
* sm\_share\_health
* sm\_share\_suicide

Mutate variables to factors.

## Covariates

* Social media platforms used: sm\_used\_\_\_1, ..., sm\_used\_\_\_7, sm\_used\_\_\_99, sm\_used\_other
* Recode the following sm\_used\_other values such that sm\_used\_\_\_99 = 0
  + I use Wikipedia to read about illnesses I don't have; it's a curiosity/hobby thing.
  + just in person
  + Just plain internet search
  + TV/phone conversations, veterans group meetings
  + google; bing
  + aol
  + e-mail
  + Web MD
  + webmd
* Offline social contact: comm\_inperson
* History of suicidal ideation and suicide attempts
* suicide\_considered\_ever
* suicide\_considered\_12mo
* suicide\_attempts

Check.

|  |  |  |
| --- | --- | --- |
| smOther | sm\_used\_other | n |
| FALSE |  | 1289 |
| FALSE | aol | 1 |
| FALSE | e-mail | 1 |
| FALSE | google; bing | 1 |
| FALSE | I use Wikipedia to read about illnesses I don't have; it's a curiosity/hobby thing. | 1 |
| FALSE | just in person | 1 |
| FALSE | Just plain internet search | 1 |
| FALSE | TV/phone conversations, veterans group meetings | 1 |
| FALSE | Web MD, | 1 |
| FALSE | webmd | 1 |
| TRUE | 4chan | 2 |
| TRUE | Gmail Hangouts; Reddit.com | 1 |
| TRUE | Google+ | 2 |
| TRUE | I used LiveJournal for the majority of my service as well as my deployment to Iraq | 1 |
| TRUE | light fighter | 1 |
| TRUE | Linked In | 1 |
| TRUE | LinkedIn, Snapchat | 1 |
| TRUE | LiveJournal | 1 |
| TRUE | MIL.MIL | 1 |
| TRUE | Ravelry Forums | 1 |
| TRUE | reddit | 4 |
| TRUE | Reddit | 5 |
| TRUE | Reddit, 4Chan | 1 |
| TRUE | Snao Chat | 1 |
| TRUE | snapchat | 3 |
| TRUE | Snapchat | 1 |
| TRUE | SnapChat | 1 |
| TRUE | vetsprevail,patients like me | 1 |
| TRUE | webmd, mayoclinic,wikipedia, va | 1 |
| TRUE | www.coping-with-epilepsy.com | 1 |

|  |  |
| --- | --- |
| countSocialMediaExclFB | n |
| 0 | 1059 |
| 1 | 154 |
| 2 | 80 |
| 3 | 22 |
| 4 | 12 |
| 5 | 2 |

|  |  |
| --- | --- |
| comm\_inperson | n |
| Several times a day | 202 |
| Once a day | 74 |
| A few times a week | 135 |
| Once a week | 80 |
| Every few weeks or less often | 209 |
| NA | 629 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| indSuicideConsideredEver | indSuicideConsidered12mo | indSuicideAttempt | countSuicideAttempts | n |
| NA | NA | NA | NaN | 713 |
| FALSE | FALSE | FALSE | 0 | 350 |
| TRUE | FALSE | FALSE | 0 | 144 |
| TRUE | FALSE | TRUE | 1 | 34 |
| TRUE | TRUE | FALSE | 0 | 29 |
| TRUE | FALSE | TRUE | 2 | 19 |
| TRUE | TRUE | TRUE | 1 | 11 |
| TRUE | FALSE | TRUE | 3 | 9 |
| TRUE | TRUE | TRUE | 3 | 8 |
| TRUE | TRUE | TRUE | 2 | 7 |
| TRUE | FALSE | TRUE | 4 | 2 |
| TRUE | FALSE | TRUE | 5 | 2 |
| TRUE | TRUE | TRUE | 5 | 1 |

# Research Question 1

Is perceived social support received from Facebook (FMSS) associated with lower rates of

* Positive screens for psychiatric disorders
* PC-PTSD
* PHQ-2
* AUDIT-C
* Positive screen for suicidality?
* DSI-SS

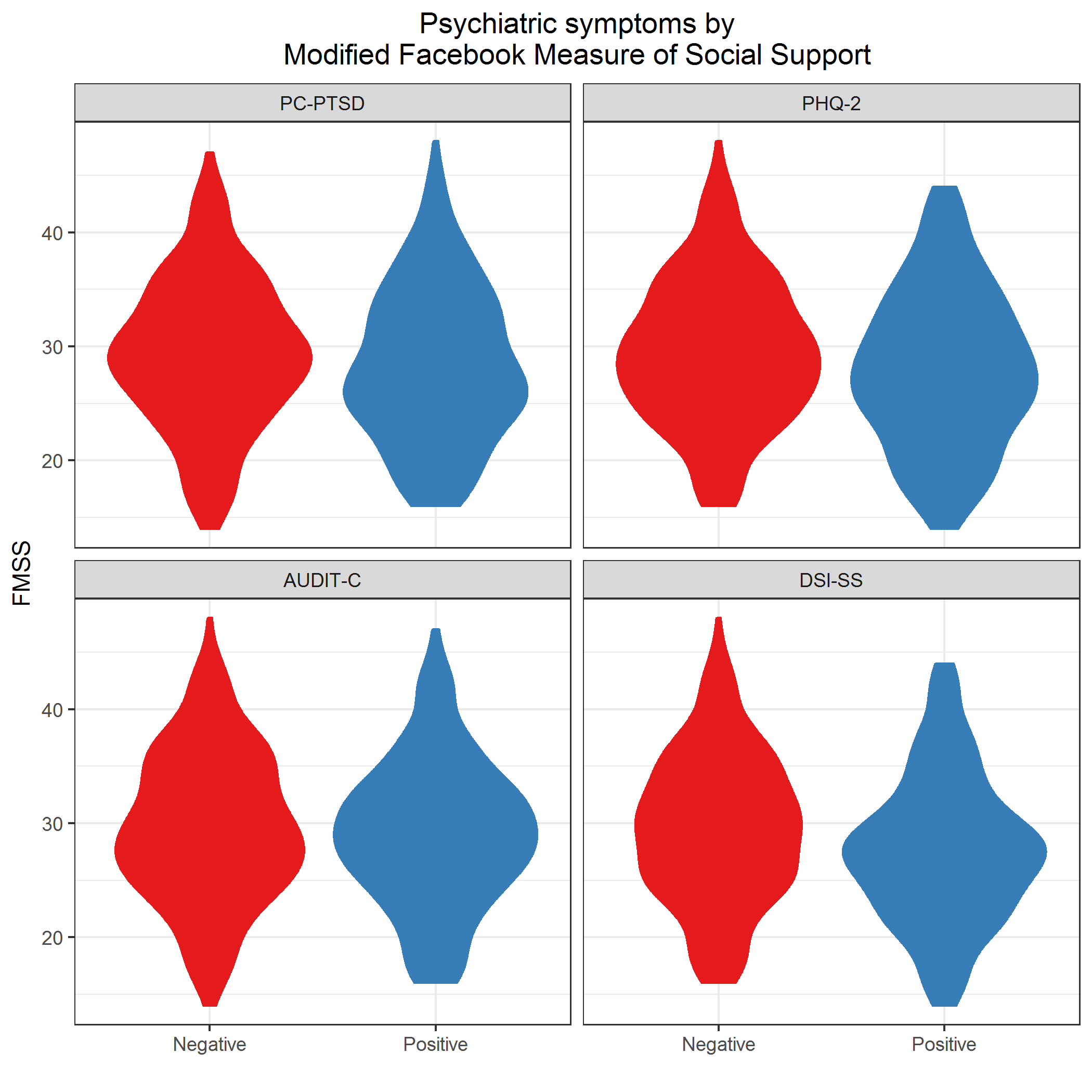
## Unadjusted comparisons

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| yvariable | indPTSD | mean | sd | min | max | n | freq |
| fmss | FALSE | 29.4 | 6.6 | 14 | 47 | 245 | 47.4% |
| fmss | TRUE | 28.4 | 6.8 | 16 | 48 | 272 | 52.6% |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| yvariable | indPHQ | mean | sd | min | max | n | freq |
| fmss | FALSE | 29.5 | 6.4 | 16 | 48 | 436 | 72.3% |
| fmss | TRUE | 28.0 | 6.8 | 14 | 44 | 167 | 27.7% |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| yvariable | indAuditC | mean | sd | min | max | n | freq |
| fmss | FALSE | 29.7 | 6.6 | 14 | 48 | 241 | 49.4% |
| fmss | TRUE | 29.1 | 6.4 | 16 | 47 | 247 | 50.6% |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| yvariable | indDSISS | mean | sd | min | max | n | freq |
| fmss | FALSE | 29.5 | 6.6 | 16 | 48 | 469 | 78.3% |
| fmss | TRUE | 27.6 | 6.4 | 14 | 44 | 130 | 21.7% |



plot of chunk plot2GroupsRQ1

## Adjusted comparisons

Filter subjects with missing covariates.

### PC-PTSD

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| model | term | oddsratio | std.error | statistic | p.value |
| Unadjusted | (Intercept) | 2.092 | 0.395 | 1.870 | 0.062 |
| Unadjusted | fmss | 0.978 | 0.013 | -1.664 | 0.096 |
| Adjusted | (Intercept) | 0.743 | 0.464 | -0.642 | 0.521 |
| Adjusted | fmss | 0.981 | 0.015 | -1.307 | 0.191 |
| Adjusted | countSocialMediaExclFB | 1.027 | 0.097 | 0.270 | 0.787 |
| Adjusted | comm\_inpersonOnce a day | 1.419 | 0.348 | 1.006 | 0.315 |
| Adjusted | comm\_inpersonA few times a week | 1.321 | 0.274 | 1.015 | 0.310 |
| Adjusted | comm\_inpersonOnce a week | 1.918 | 0.333 | 1.956 | 0.050 |
| Adjusted | comm\_inpersonEvery few weeks or less often | 2.770 | 0.251 | 4.060 | 0.000 |
| Adjusted | indSuicideConsideredEverTRUE | 2.085 | 0.211 | 3.484 | 0.000 |
| Adjusted | countSuicideAttempts | 1.675 | 0.175 | 2.952 | 0.003 |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| model | null.deviance | df.null | logLik | AIC | BIC | deviance | df.residual |
| Unadjusted | 704.395 | 508 | -350.803 | 705.606 | 714.071 | 701.606 | 507 |
| Adjusted | 704.395 | 508 | -318.709 | 655.418 | 693.510 | 637.418 | 500 |

### PHQ-2

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| model | term | oddsratio | std.error | statistic | p.value |
| Unadjusted | (Intercept) | 1.147 | 0.416 | 0.330 | 0.741 |
| Unadjusted | fmss | 0.963 | 0.014 | -2.672 | 0.008 |
| Adjusted | (Intercept) | 0.330 | 0.489 | -2.268 | 0.023 |
| Adjusted | fmss | 0.970 | 0.015 | -2.005 | 0.045 |
| Adjusted | countSocialMediaExclFB | 0.972 | 0.103 | -0.278 | 0.781 |
| Adjusted | comm\_inpersonOnce a day | 0.999 | 0.410 | -0.003 | 0.998 |
| Adjusted | comm\_inpersonA few times a week | 0.985 | 0.314 | -0.048 | 0.961 |
| Adjusted | comm\_inpersonOnce a week | 2.073 | 0.329 | 2.216 | 0.027 |
| Adjusted | comm\_inpersonEvery few weeks or less often | 2.642 | 0.259 | 3.752 | 0.000 |
| Adjusted | indSuicideConsideredEverTRUE | 2.969 | 0.218 | 4.998 | 0.000 |
| Adjusted | countSuicideAttempts | 1.232 | 0.123 | 1.699 | 0.089 |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| model | null.deviance | df.null | logLik | AIC | BIC | deviance | df.residual |
| Unadjusted | 703.22 | 595 | -347.957 | 699.914 | 708.694 | 695.914 | 594 |
| Adjusted | 703.22 | 595 | -312.064 | 642.127 | 681.639 | 624.127 | 587 |

### AUDIT-C

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| model | term | oddsratio | std.error | statistic | p.value |
| Unadjusted | (Intercept) | 1.535 | 0.421 | 1.018 | 0.309 |
| Unadjusted | fmss | 0.987 | 0.014 | -0.962 | 0.336 |
| Adjusted | (Intercept) | 0.897 | 0.472 | -0.231 | 0.818 |
| Adjusted | fmss | 0.990 | 0.014 | -0.701 | 0.484 |
| Adjusted | countSocialMediaExclFB | 1.061 | 0.095 | 0.616 | 0.538 |
| Adjusted | comm\_inpersonOnce a day | 1.268 | 0.338 | 0.704 | 0.482 |
| Adjusted | comm\_inpersonA few times a week | 1.150 | 0.263 | 0.532 | 0.595 |
| Adjusted | comm\_inpersonOnce a week | 1.828 | 0.327 | 1.846 | 0.065 |
| Adjusted | comm\_inpersonEvery few weeks or less often | 1.656 | 0.247 | 2.041 | 0.041 |
| Adjusted | indSuicideConsideredEverTRUE | 1.481 | 0.210 | 1.876 | 0.061 |
| Adjusted | countSuicideAttempts | 0.876 | 0.131 | -1.009 | 0.313 |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| model | null.deviance | df.null | logLik | AIC | BIC | deviance | df.residual |
| Unadjusted | 670.834 | 483 | -334.953 | 673.906 | 682.270 | 669.906 | 482 |
| Adjusted | 670.834 | 483 | -329.692 | 677.384 | 715.023 | 659.384 | 475 |

### DSI-SS

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| model | term | oddsratio | std.error | statistic | p.value |
| Unadjusted | (Intercept) | 1.025 | 0.450 | 0.056 | 0.956 |
| Unadjusted | fmss | 0.955 | 0.016 | -2.933 | 0.003 |
| Adjusted | (Intercept) | 0.250 | 0.547 | -2.533 | 0.011 |
| Adjusted | fmss | 0.958 | 0.017 | -2.544 | 0.011 |
| Adjusted | countSocialMediaExclFB | 1.056 | 0.109 | 0.501 | 0.616 |
| Adjusted | comm\_inpersonOnce a day | 0.950 | 0.463 | -0.111 | 0.911 |
| Adjusted | comm\_inpersonA few times a week | 1.097 | 0.333 | 0.277 | 0.782 |
| Adjusted | comm\_inpersonOnce a week | 1.432 | 0.358 | 1.004 | 0.315 |
| Adjusted | comm\_inpersonEvery few weeks or less often | 1.572 | 0.290 | 1.557 | 0.119 |
| Adjusted | indSuicideConsideredEverTRUE | 5.764 | 0.254 | 6.898 | 0.000 |
| Adjusted | countSuicideAttempts | 1.258 | 0.121 | 1.893 | 0.058 |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| model | null.deviance | df.null | logLik | AIC | BIC | deviance | df.residual |
| Unadjusted | 622.664 | 595 | -306.892 | 617.784 | 626.565 | 613.784 | 594 |
| Adjusted | 622.664 | 595 | -262.037 | 542.074 | 581.586 | 524.074 | 587 |

# Research Question 2

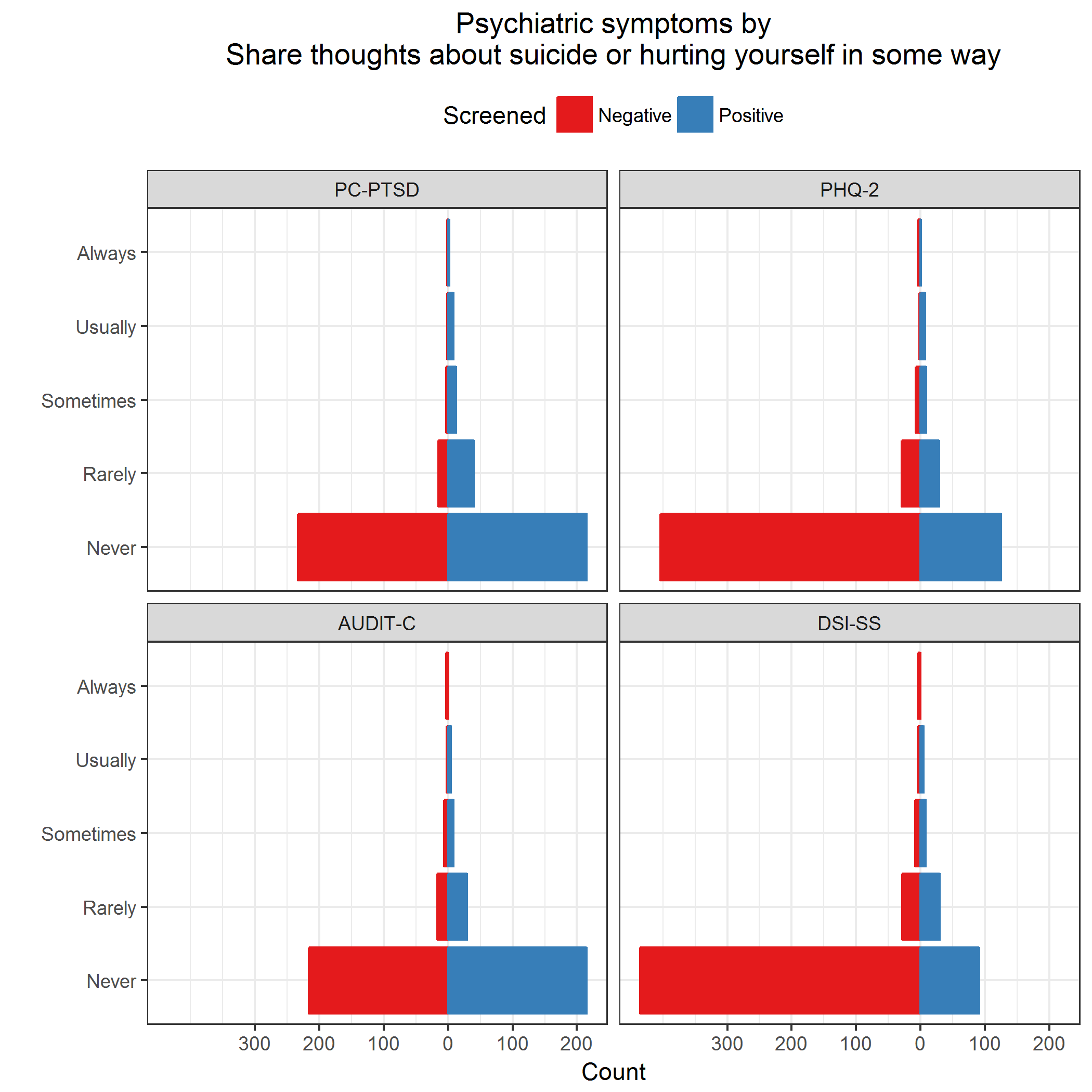
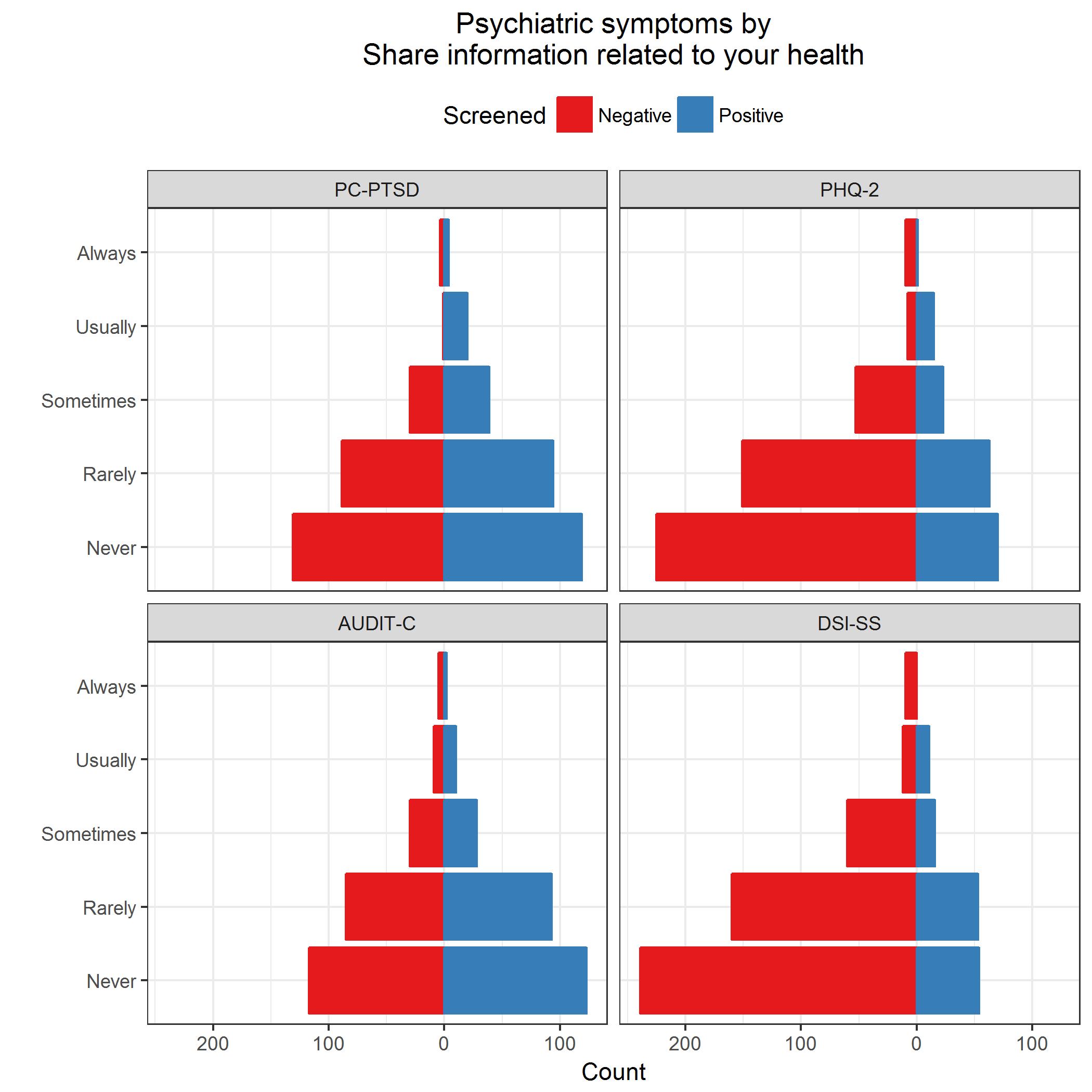
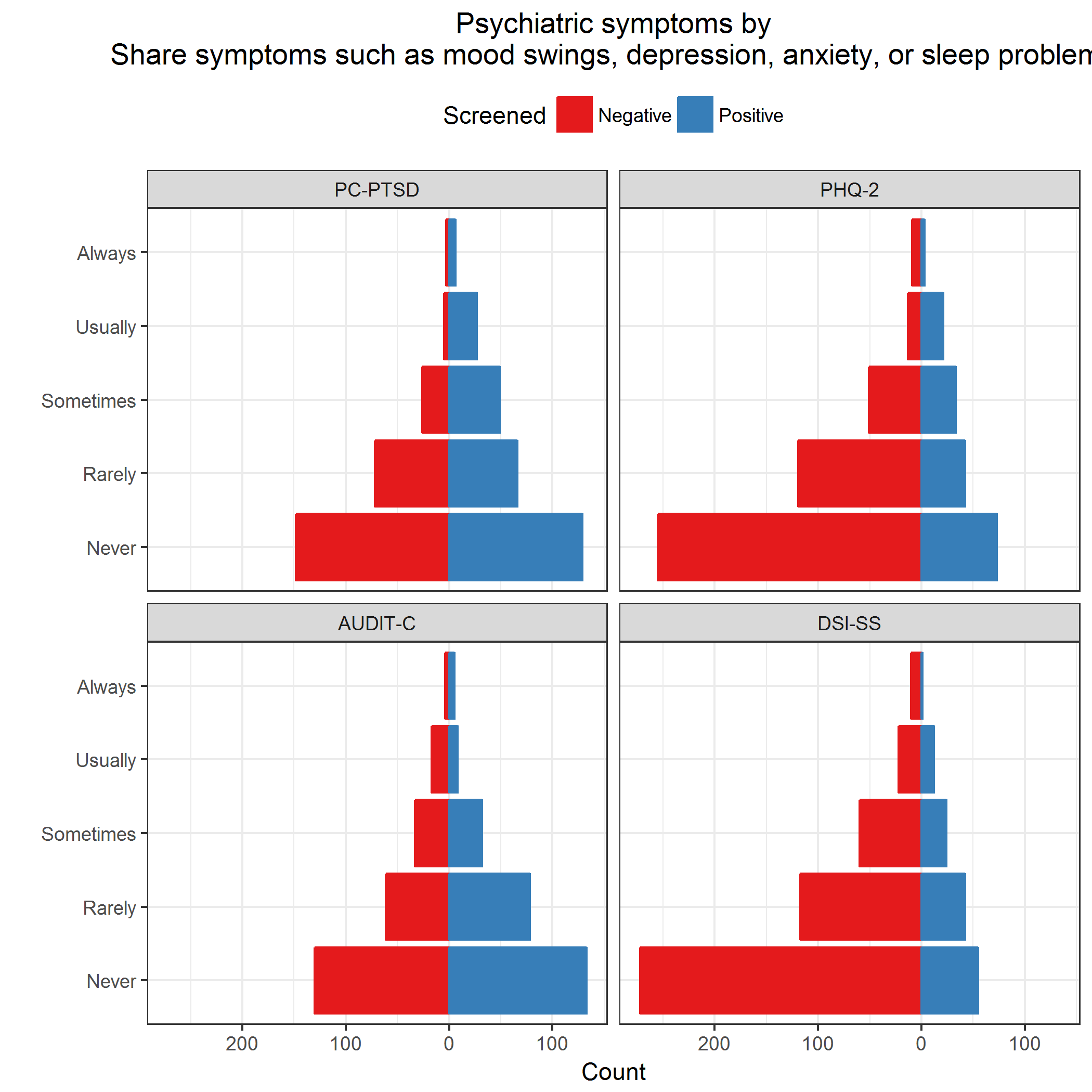
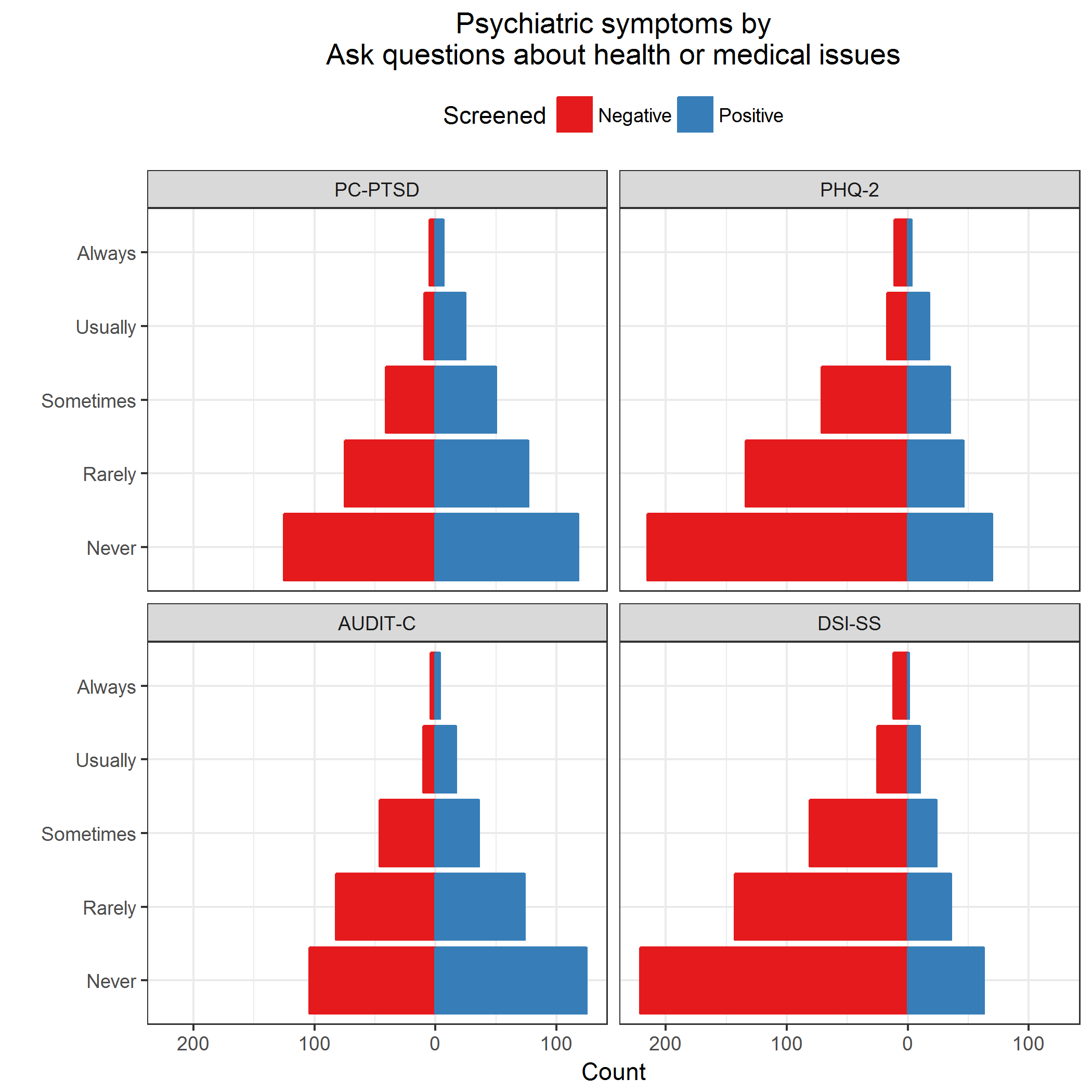
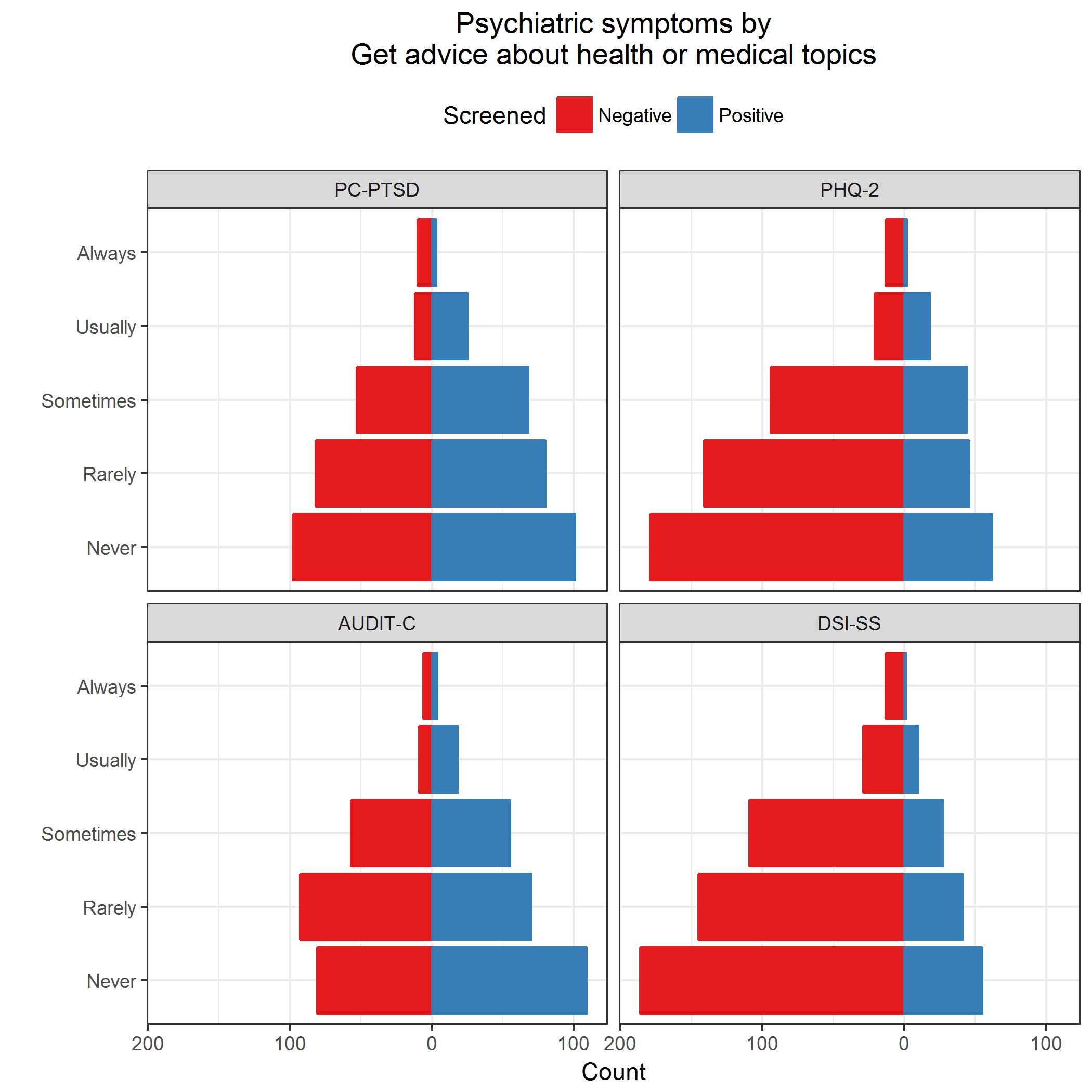
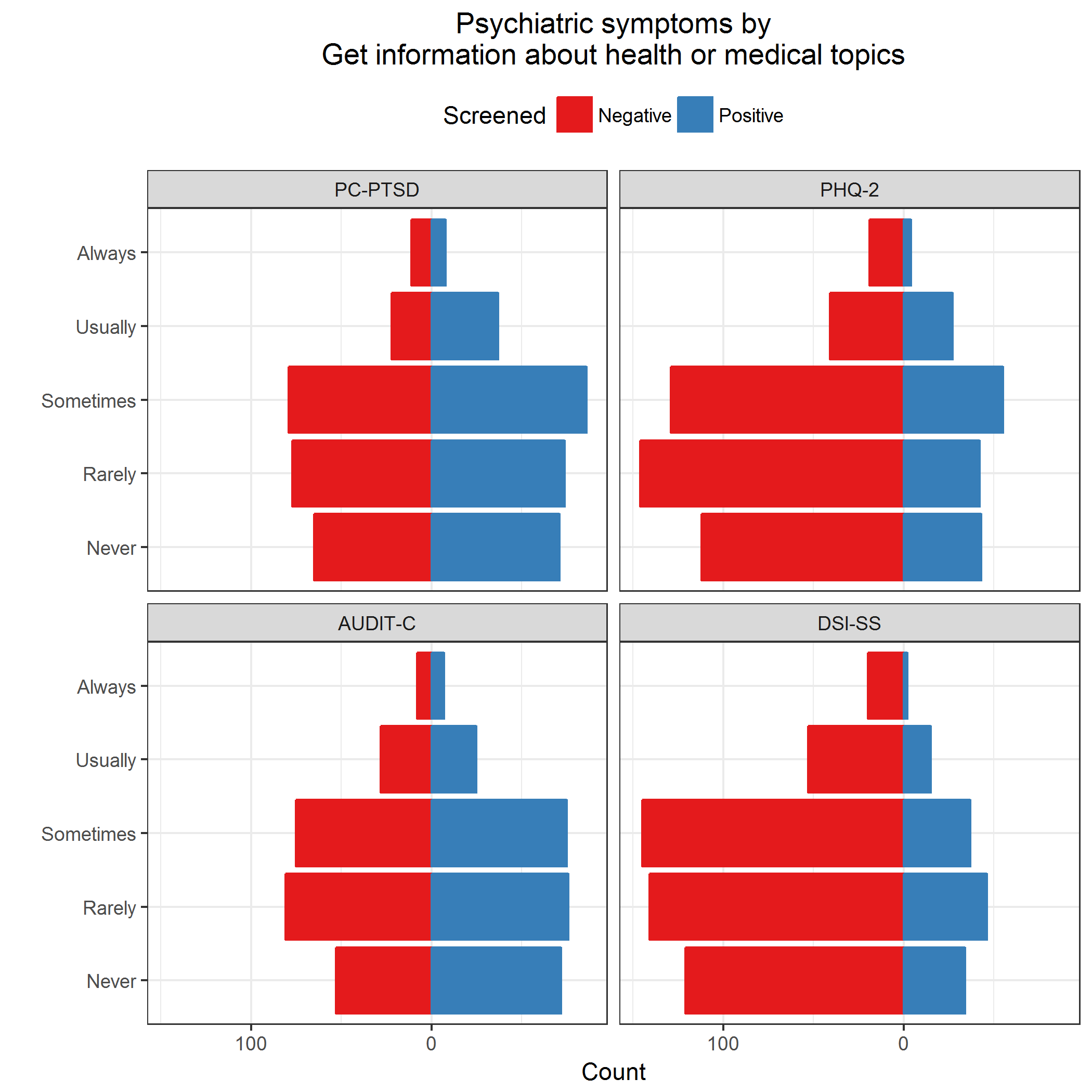
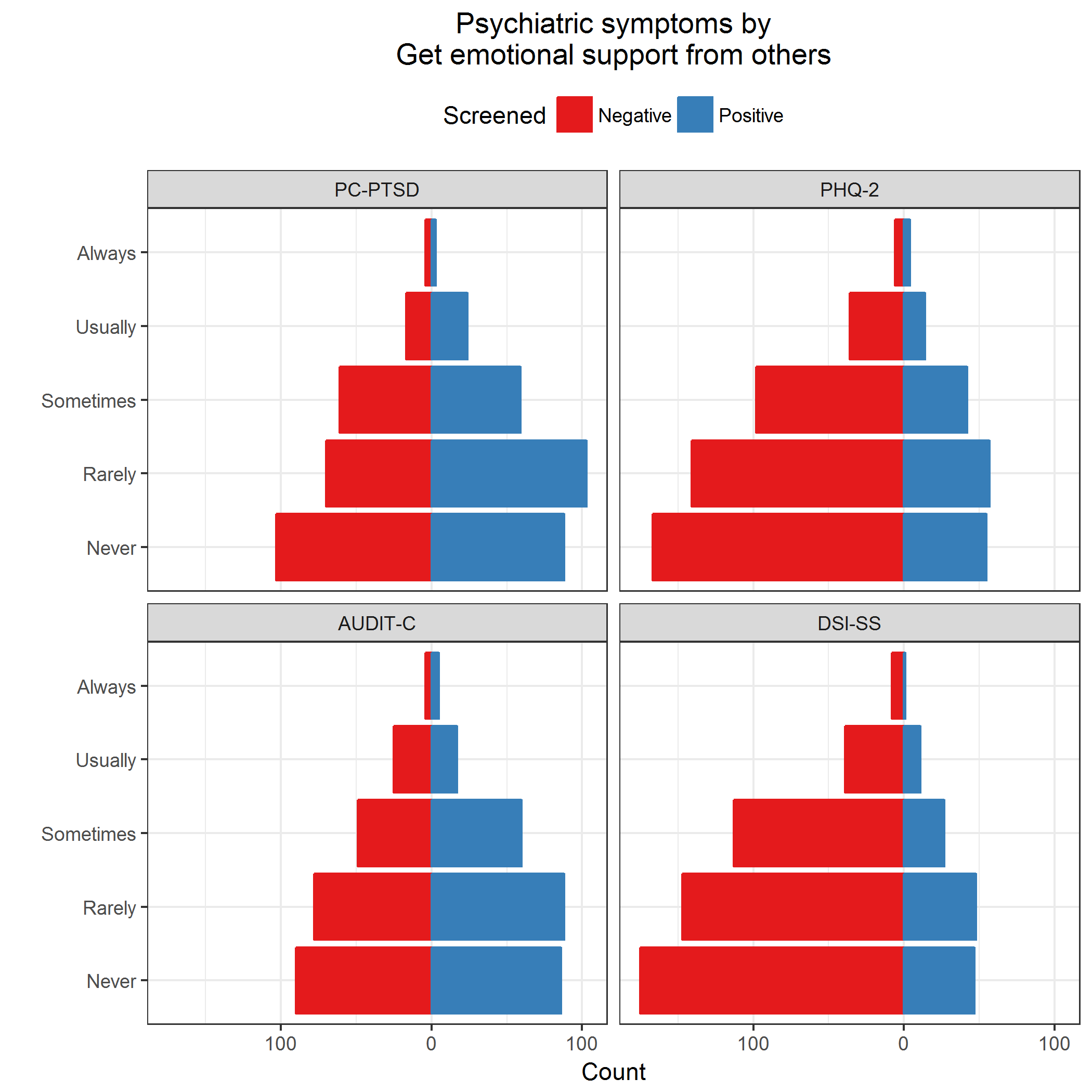
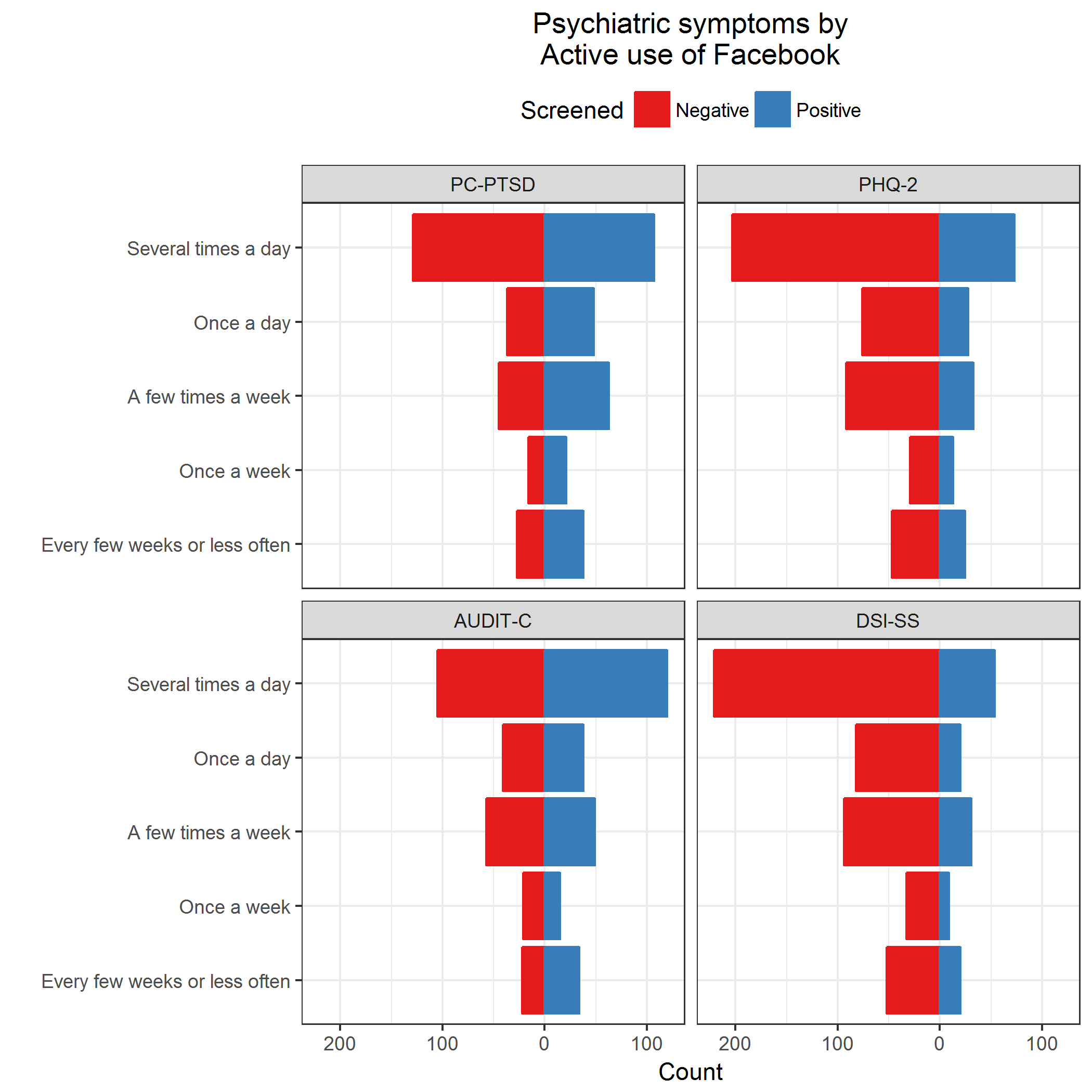
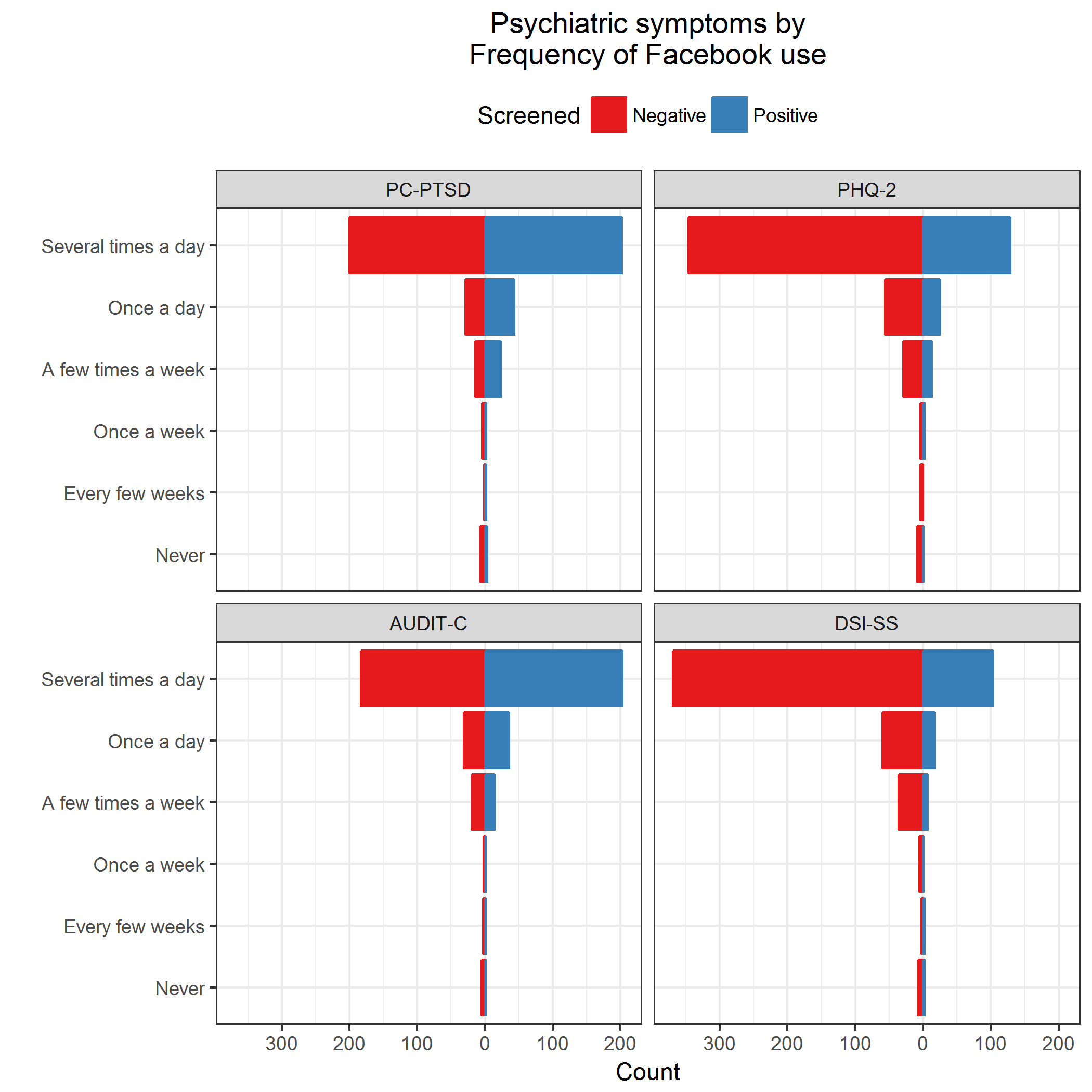
Are certains features of social media use are associated with positive screens for psychiatric disorders or a positive screen for suicidality?

* Spending more time on Facebook?
* Frequency of Facebook use: fb\_freq
* Active use of Facebook: comm\_facebook
* Sharing more personal or health-related information on social media?
* sm\_emot\_support
* sm\_med\_info
* sm\_med\_advice
* sm\_med\_questions
* sm\_share\_sympt
* sm\_share\_health
* sm\_share\_suicide

## Association between frequency of Facebook use and active use of Facebook

Correlation (Spearman) between frequency of Facebook use and active use of Facebook is 0.446

## Unadjusted comparisons



## Adjusted comparisons

Filter subjects with missing covariates.

Relabel factors; replace spaces with underscores.

Define linear function for general hypothesis testing.

### PC-PTSD vs Frequency of Facebook use

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| model | F | df1 | df2 | pValue |
| Unadjusted | 1.204 | 5 | 516 | 0.306 |
| Adjusted | 1.215 | 5 | 509 | 0.301 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| model | term | oddsratio | std.error | statistic | p.value |
| Unadjusted | (Intercept) | 0.429 | 0.690 | -1.228 | 0.220 |
| Unadjusted | fb\_freqEvery\_few\_weeks | 4.667 | 1.406 | 1.096 | 0.273 |
| Unadjusted | fb\_freqOnce\_a\_week | 1.167 | 1.107 | 0.139 | 0.889 |
| Unadjusted | fb\_freqA\_few\_times\_a\_week | 3.667 | 0.770 | 1.687 | 0.092 |
| Unadjusted | fb\_freqOnce\_a\_day | 3.417 | 0.732 | 1.678 | 0.093 |
| Unadjusted | fb\_freqSeveral\_times\_a\_day | 2.357 | 0.697 | 1.230 | 0.219 |
| Adjusted | (Intercept) | 0.204 | 0.732 | -2.170 | 0.030 |
| Adjusted | fb\_freqEvery\_few\_weeks | 3.570 | 1.488 | 0.855 | 0.392 |
| Adjusted | fb\_freqOnce\_a\_week | 0.845 | 1.130 | -0.149 | 0.881 |
| Adjusted | fb\_freqA\_few\_times\_a\_week | 3.662 | 0.791 | 1.641 | 0.101 |
| Adjusted | fb\_freqOnce\_a\_day | 2.870 | 0.754 | 1.399 | 0.162 |
| Adjusted | fb\_freqSeveral\_times\_a\_day | 2.040 | 0.714 | 0.998 | 0.318 |
| Adjusted | countSocialMediaExclFB | 1.031 | 0.095 | 0.326 | 0.744 |
| Adjusted | comm\_inpersonOnce a day | 1.216 | 0.341 | 0.572 | 0.568 |
| Adjusted | comm\_inpersonA few times a week | 1.210 | 0.272 | 0.699 | 0.485 |
| Adjusted | comm\_inpersonOnce a week | 1.855 | 0.326 | 1.895 | 0.058 |
| Adjusted | comm\_inpersonEvery few weeks or less often | 2.674 | 0.249 | 3.956 | 0.000 |
| Adjusted | indSuicideConsideredEverTRUE | 2.002 | 0.208 | 3.333 | 0.001 |
| Adjusted | countSuicideAttempts | 1.706 | 0.179 | 2.988 | 0.003 |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| model | null.deviance | df.null | logLik | AIC | BIC | deviance | df.residual |
| Unadjusted | 723.025 | 521 | -358.357 | 728.714 | 754.260 | 716.714 | 516 |
| Adjusted | 723.025 | 521 | -326.258 | 678.516 | 733.866 | 652.516 | 509 |

### PC-PTSD vs Active use of Facebook

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| model | F | df1 | df2 | pValue |
| Unadjusted | 1.859 | 4 | 519 | 0.116 |
| Adjusted | 1.592 | 4 | 512 | 0.175 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| model | term | oddsratio | std.error | statistic | p.value |
| Unadjusted | (Intercept) | 1.407 | 0.252 | 1.358 | 0.175 |
| Unadjusted | comm\_facebookOnce\_a\_week | 0.933 | 0.416 | -0.168 | 0.867 |
| Unadjusted | comm\_facebookA\_few\_times\_a\_week | 0.963 | 0.319 | -0.118 | 0.906 |
| Unadjusted | comm\_facebookOnce\_a\_day | 0.903 | 0.334 | -0.307 | 0.759 |
| Unadjusted | comm\_facebookSeveral\_times\_a\_day | 0.587 | 0.284 | -1.872 | 0.061 |
| Adjusted | (Intercept) | 0.568 | 0.332 | -1.702 | 0.089 |
| Adjusted | comm\_facebookOnce\_a\_week | 0.944 | 0.446 | -0.128 | 0.898 |
| Adjusted | comm\_facebookA\_few\_times\_a\_week | 0.994 | 0.340 | -0.019 | 0.985 |
| Adjusted | comm\_facebookOnce\_a\_day | 1.067 | 0.358 | 0.182 | 0.855 |
| Adjusted | comm\_facebookSeveral\_times\_a\_day | 0.621 | 0.310 | -1.533 | 0.125 |
| Adjusted | countSocialMediaExclFB | 1.060 | 0.096 | 0.608 | 0.543 |
| Adjusted | comm\_inpersonOnce a day | 1.142 | 0.345 | 0.385 | 0.700 |
| Adjusted | comm\_inpersonA few times a week | 1.146 | 0.274 | 0.499 | 0.617 |
| Adjusted | comm\_inpersonOnce a week | 1.645 | 0.329 | 1.511 | 0.131 |
| Adjusted | comm\_inpersonEvery few weeks or less often | 2.397 | 0.253 | 3.460 | 0.001 |
| Adjusted | indSuicideConsideredEverTRUE | 1.983 | 0.209 | 3.276 | 0.001 |
| Adjusted | countSuicideAttempts | 1.792 | 0.180 | 3.246 | 0.001 |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| model | null.deviance | df.null | logLik | AIC | BIC | deviance | df.residual |
| Unadjusted | 725.655 | 523 | -359.081 | 728.163 | 749.470 | 718.163 | 519 |
| Adjusted | 725.655 | 523 | -327.005 | 678.009 | 729.147 | 654.009 | 512 |

### PHQ-2 vs Frequency of Facebook use

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| model | F | df1 | df2 | pValue |
| Unadjusted | 0.497 | 5 | 605 | 0.778 |
| Adjusted | 0.415 | 5 | 598 | 0.838 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| model | term | oddsratio | std.error | statistic | p.value |
| Unadjusted | (Intercept) | 0.111 | 1.054 | -2.084 | 0.037 |
| Unadjusted | fb\_freqEvery\_few\_weeks | 0.000 | 441.373 | -0.028 | 0.978 |
| Unadjusted | fb\_freqOnce\_a\_week | 4.500 | 1.364 | 1.103 | 0.270 |
| Unadjusted | fb\_freqA\_few\_times\_a\_week | 3.724 | 1.109 | 1.186 | 0.236 |
| Unadjusted | fb\_freqOnce\_a\_day | 4.327 | 1.082 | 1.354 | 0.176 |
| Unadjusted | fb\_freqSeveral\_times\_a\_day | 3.339 | 1.059 | 1.138 | 0.255 |
| Adjusted | (Intercept) | 0.045 | 1.097 | -2.827 | 0.005 |
| Adjusted | fb\_freqEvery\_few\_weeks | 0.000 | 652.539 | -0.021 | 0.983 |
| Adjusted | fb\_freqOnce\_a\_week | 3.416 | 1.391 | 0.883 | 0.377 |
| Adjusted | fb\_freqA\_few\_times\_a\_week | 3.811 | 1.135 | 1.179 | 0.238 |
| Adjusted | fb\_freqOnce\_a\_day | 3.841 | 1.106 | 1.217 | 0.224 |
| Adjusted | fb\_freqSeveral\_times\_a\_day | 3.042 | 1.080 | 1.030 | 0.303 |
| Adjusted | countSocialMediaExclFB | 0.914 | 0.103 | -0.879 | 0.379 |
| Adjusted | comm\_inpersonOnce a day | 1.106 | 0.395 | 0.255 | 0.798 |
| Adjusted | comm\_inpersonA few times a week | 0.912 | 0.318 | -0.291 | 0.771 |
| Adjusted | comm\_inpersonOnce a week | 2.296 | 0.324 | 2.570 | 0.010 |
| Adjusted | comm\_inpersonEvery few weeks or less often | 2.762 | 0.255 | 3.983 | 0.000 |
| Adjusted | indSuicideConsideredEverTRUE | 2.992 | 0.215 | 5.087 | 0.000 |
| Adjusted | countSuicideAttempts | 1.212 | 0.125 | 1.541 | 0.123 |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| model | null.deviance | df.null | logLik | AIC | BIC | deviance | df.residual |
| Unadjusted | 718.694 | 610 | -356.562 | 725.124 | 751.614 | 713.124 | 605 |
| Adjusted | 718.694 | 610 | -317.866 | 661.732 | 719.128 | 635.732 | 598 |

### PHQ-2 vs Active use of Facebook

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| model | F | df1 | df2 | pValue |
| Unadjusted | 0.601 | 4 | 608 | 0.662 |
| Adjusted | 0.477 | 4 | 601 | 0.753 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| model | term | oddsratio | std.error | statistic | p.value |
| Unadjusted | (Intercept) | 0.532 | 0.248 | -2.550 | 0.011 |
| Unadjusted | comm\_facebookOnce\_a\_week | 0.843 | 0.416 | -0.412 | 0.681 |
| Unadjusted | comm\_facebookA\_few\_times\_a\_week | 0.661 | 0.322 | -1.286 | 0.198 |
| Unadjusted | comm\_facebookOnce\_a\_day | 0.702 | 0.332 | -1.066 | 0.287 |
| Unadjusted | comm\_facebookSeveral\_times\_a\_day | 0.673 | 0.283 | -1.397 | 0.163 |
| Adjusted | (Intercept) | 0.184 | 0.353 | -4.797 | 0.000 |
| Adjusted | comm\_facebookOnce\_a\_week | 0.886 | 0.453 | -0.267 | 0.790 |
| Adjusted | comm\_facebookA\_few\_times\_a\_week | 0.639 | 0.349 | -1.283 | 0.200 |
| Adjusted | comm\_facebookOnce\_a\_day | 0.804 | 0.364 | -0.601 | 0.548 |
| Adjusted | comm\_facebookSeveral\_times\_a\_day | 0.733 | 0.315 | -0.987 | 0.324 |
| Adjusted | countSocialMediaExclFB | 0.929 | 0.102 | -0.720 | 0.471 |
| Adjusted | comm\_inpersonOnce a day | 1.033 | 0.396 | 0.081 | 0.936 |
| Adjusted | comm\_inpersonA few times a week | 0.966 | 0.313 | -0.112 | 0.911 |
| Adjusted | comm\_inpersonOnce a week | 2.184 | 0.326 | 2.396 | 0.017 |
| Adjusted | comm\_inpersonEvery few weeks or less often | 2.581 | 0.261 | 3.639 | 0.000 |
| Adjusted | indSuicideConsideredEverTRUE | 3.113 | 0.216 | 5.258 | 0.000 |
| Adjusted | countSuicideAttempts | 1.230 | 0.124 | 1.668 | 0.095 |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| model | null.deviance | df.null | logLik | AIC | BIC | deviance | df.residual |
| Unadjusted | 723.841 | 612 | -360.750 | 731.499 | 753.591 | 721.499 | 608 |
| Adjusted | 723.841 | 612 | -321.877 | 667.754 | 720.775 | 643.754 | 601 |

### AUDIT-C vs Frequency of Facebook use

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| model | F | df1 | df2 | pValue |
| Unadjusted | 1.026 | 5 | 490 | 0.402 |
| Adjusted | 1.082 | 5 | 483 | 0.369 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| model | term | oddsratio | std.error | statistic | p.value |
| Unadjusted | (Intercept) | 0.200 | 1.095 | -1.469 | 0.142 |
| Unadjusted | fb\_freqEvery\_few\_weeks | 1.667 | 1.592 | 0.321 | 0.748 |
| Unadjusted | fb\_freqOnce\_a\_week | 2.500 | 1.643 | 0.558 | 0.577 |
| Unadjusted | fb\_freqA\_few\_times\_a\_week | 3.684 | 1.151 | 1.133 | 0.257 |
| Unadjusted | fb\_freqOnce\_a\_day | 5.645 | 1.123 | 1.541 | 0.123 |
| Unadjusted | fb\_freqSeveral\_times\_a\_day | 5.608 | 1.100 | 1.567 | 0.117 |
| Adjusted | (Intercept) | 0.117 | 1.123 | -1.914 | 0.056 |
| Adjusted | fb\_freqEvery\_few\_weeks | 1.777 | 1.608 | 0.358 | 0.721 |
| Adjusted | fb\_freqOnce\_a\_week | 1.954 | 1.659 | 0.404 | 0.686 |
| Adjusted | fb\_freqA\_few\_times\_a\_week | 4.133 | 1.163 | 1.221 | 0.222 |
| Adjusted | fb\_freqOnce\_a\_day | 6.018 | 1.135 | 1.582 | 0.114 |
| Adjusted | fb\_freqSeveral\_times\_a\_day | 6.078 | 1.112 | 1.623 | 0.105 |
| Adjusted | countSocialMediaExclFB | 1.054 | 0.094 | 0.555 | 0.579 |
| Adjusted | comm\_inpersonOnce a day | 1.259 | 0.333 | 0.690 | 0.490 |
| Adjusted | comm\_inpersonA few times a week | 1.194 | 0.263 | 0.675 | 0.500 |
| Adjusted | comm\_inpersonOnce a week | 1.697 | 0.319 | 1.655 | 0.098 |
| Adjusted | comm\_inpersonEvery few weeks or less often | 1.748 | 0.246 | 2.267 | 0.023 |
| Adjusted | indSuicideConsideredEverTRUE | 1.553 | 0.208 | 2.114 | 0.035 |
| Adjusted | countSuicideAttempts | 0.871 | 0.133 | -1.040 | 0.298 |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| model | null.deviance | df.null | logLik | AIC | BIC | deviance | df.residual |
| Unadjusted | 687.207 | 495 | -340.520 | 693.040 | 718.280 | 681.040 | 490 |
| Adjusted | 687.207 | 495 | -334.743 | 695.486 | 750.171 | 669.486 | 483 |

### AUDIT-C vs Active use of Facebook

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| model | F | df1 | df2 | pValue |
| Unadjusted | 1.234 | 4 | 493 | 0.296 |
| Adjusted | 1.329 | 4 | 486 | 0.258 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| model | term | oddsratio | std.error | statistic | p.value |
| Unadjusted | (Intercept) | 1.545 | 0.274 | 1.591 | 0.112 |
| Unadjusted | comm\_facebookOnce\_a\_week | 0.462 | 0.435 | -1.775 | 0.076 |
| Unadjusted | comm\_facebookA\_few\_times\_a\_week | 0.576 | 0.337 | -1.635 | 0.102 |
| Unadjusted | comm\_facebookOnce\_a\_day | 0.584 | 0.355 | -1.514 | 0.130 |
| Unadjusted | comm\_facebookSeveral\_times\_a\_day | 0.747 | 0.305 | -0.959 | 0.337 |
| Adjusted | (Intercept) | 0.959 | 0.338 | -0.123 | 0.902 |
| Adjusted | comm\_facebookOnce\_a\_week | 0.487 | 0.441 | -1.633 | 0.102 |
| Adjusted | comm\_facebookA\_few\_times\_a\_week | 0.556 | 0.346 | -1.697 | 0.090 |
| Adjusted | comm\_facebookOnce\_a\_day | 0.597 | 0.366 | -1.408 | 0.159 |
| Adjusted | comm\_facebookSeveral\_times\_a\_day | 0.792 | 0.316 | -0.739 | 0.460 |
| Adjusted | countSocialMediaExclFB | 1.036 | 0.095 | 0.370 | 0.711 |
| Adjusted | comm\_inpersonOnce a day | 1.312 | 0.336 | 0.808 | 0.419 |
| Adjusted | comm\_inpersonA few times a week | 1.178 | 0.265 | 0.619 | 0.536 |
| Adjusted | comm\_inpersonOnce a week | 1.722 | 0.323 | 1.681 | 0.093 |
| Adjusted | comm\_inpersonEvery few weeks or less often | 1.673 | 0.251 | 2.052 | 0.040 |
| Adjusted | indSuicideConsideredEverTRUE | 1.604 | 0.210 | 2.245 | 0.025 |
| Adjusted | countSuicideAttempts | 0.857 | 0.132 | -1.170 | 0.242 |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| model | null.deviance | df.null | logLik | AIC | BIC | deviance | df.residual |
| Unadjusted | 690.085 | 497 | -342.542 | 695.083 | 716.136 | 685.083 | 493 |
| Adjusted | 690.085 | 497 | -336.800 | 697.601 | 748.128 | 673.601 | 486 |

### DSI-SS vs Frequency of Facebook use

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| model | F | df1 | df2 | pValue |
| Unadjusted | 0.646 | 5 | 605 | 0.665 |
| Adjusted | 0.784 | 5 | 598 | 0.562 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| model | term | oddsratio | std.error | statistic | p.value |
| Unadjusted | (Intercept) | 0.250 | 0.791 | -1.754 | 0.080 |
| Unadjusted | fb\_freqEvery\_few\_weeks | 4.000 | 1.275 | 1.087 | 0.277 |
| Unadjusted | fb\_freqOnce\_a\_week | 0.800 | 1.351 | -0.165 | 0.869 |
| Unadjusted | fb\_freqA\_few\_times\_a\_week | 0.667 | 0.905 | -0.448 | 0.654 |
| Unadjusted | fb\_freqOnce\_a\_day | 1.220 | 0.835 | 0.238 | 0.812 |
| Unadjusted | fb\_freqSeveral\_times\_a\_day | 1.130 | 0.798 | 0.154 | 0.878 |
| Adjusted | (Intercept) | 0.106 | 0.877 | -2.555 | 0.011 |
| Adjusted | fb\_freqEvery\_few\_weeks | 5.075 | 1.390 | 1.169 | 0.242 |
| Adjusted | fb\_freqOnce\_a\_week | 0.484 | 1.420 | -0.512 | 0.609 |
| Adjusted | fb\_freqA\_few\_times\_a\_week | 0.504 | 0.965 | -0.710 | 0.478 |
| Adjusted | fb\_freqOnce\_a\_day | 0.781 | 0.893 | -0.277 | 0.782 |
| Adjusted | fb\_freqSeveral\_times\_a\_day | 0.751 | 0.852 | -0.336 | 0.737 |
| Adjusted | countSocialMediaExclFB | 0.999 | 0.107 | -0.012 | 0.990 |
| Adjusted | comm\_inpersonOnce a day | 0.911 | 0.444 | -0.209 | 0.834 |
| Adjusted | comm\_inpersonA few times a week | 1.066 | 0.328 | 0.196 | 0.844 |
| Adjusted | comm\_inpersonOnce a week | 1.306 | 0.353 | 0.756 | 0.450 |
| Adjusted | comm\_inpersonEvery few weeks or less often | 1.505 | 0.283 | 1.444 | 0.149 |
| Adjusted | indSuicideConsideredEverTRUE | 5.840 | 0.249 | 7.091 | 0.000 |
| Adjusted | countSuicideAttempts | 1.259 | 0.122 | 1.878 | 0.060 |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| model | null.deviance | df.null | logLik | AIC | BIC | deviance | df.residual |
| Unadjusted | 640.268 | 610 | -318.479 | 648.959 | 675.449 | 636.959 | 605 |
| Adjusted | 640.268 | 610 | -272.314 | 570.627 | 628.024 | 544.627 | 598 |

### DSI-SS vs Active use of Facebook

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| model | F | df1 | df2 | pValue |
| Unadjusted | 0.714 | 4 | 608 | 0.583 |
| Adjusted | 0.986 | 4 | 601 | 0.414 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| model | term | oddsratio | std.error | statistic | p.value |
| Unadjusted | (Intercept) | 0.385 | 0.263 | -3.632 | 0.000 |
| Unadjusted | comm\_facebookOnce\_a\_week | 0.709 | 0.459 | -0.749 | 0.454 |
| Unadjusted | comm\_facebookA\_few\_times\_a\_week | 0.830 | 0.336 | -0.555 | 0.579 |
| Unadjusted | comm\_facebookOnce\_a\_day | 0.634 | 0.363 | -1.256 | 0.209 |
| Unadjusted | comm\_facebookSeveral\_times\_a\_day | 0.641 | 0.304 | -1.463 | 0.143 |
| Adjusted | (Intercept) | 0.136 | 0.390 | -5.115 | 0.000 |
| Adjusted | comm\_facebookOnce\_a\_week | 0.671 | 0.512 | -0.779 | 0.436 |
| Adjusted | comm\_facebookA\_few\_times\_a\_week | 0.656 | 0.377 | -1.118 | 0.263 |
| Adjusted | comm\_facebookOnce\_a\_day | 0.557 | 0.406 | -1.444 | 0.149 |
| Adjusted | comm\_facebookSeveral\_times\_a\_day | 0.512 | 0.348 | -1.923 | 0.054 |
| Adjusted | countSocialMediaExclFB | 1.009 | 0.107 | 0.084 | 0.933 |
| Adjusted | comm\_inpersonOnce a day | 0.922 | 0.440 | -0.184 | 0.854 |
| Adjusted | comm\_inpersonA few times a week | 0.965 | 0.329 | -0.108 | 0.914 |
| Adjusted | comm\_inpersonOnce a week | 1.201 | 0.357 | 0.513 | 0.608 |
| Adjusted | comm\_inpersonEvery few weeks or less often | 1.375 | 0.288 | 1.103 | 0.270 |
| Adjusted | indSuicideConsideredEverTRUE | 5.925 | 0.250 | 7.103 | 0.000 |
| Adjusted | countSuicideAttempts | 1.258 | 0.122 | 1.886 | 0.059 |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| model | null.deviance | df.null | logLik | AIC | BIC | deviance | df.residual |
| Unadjusted | 641.248 | 612 | -319.228 | 648.456 | 670.547 | 638.456 | 608 |
| Adjusted | 641.248 | 612 | -273.282 | 570.564 | 623.584 | 546.564 | 601 |