Table S1. *Estimates of fixed effects when controlling for smoking status.*

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Model 1 (Insomnia vs. Hypersomnia/Mixed Participants) | | | | | | |
| Parameter | *B* | *SE* | *df* | *t* | *p* | 95% CI |
| Intercept | -.006 | .08 | 47.39 | -.08 | .94 | -.16, .15 |
| Smoker | .06 | .07 | 47.39 | .79 | .44 | -.09, .20 |
| Insomnia | -.02 | .08 | 47.39 | -.25 | .81 | -.18, .14 |
| Linear Time | .31 | .05 | 55.97 | 6.10 | < .001 | .21, .41 |
| Quadratic Time | -.001 | < .0001 | 9897 | -13.72 | < .001 | -.001, -.0008 |
| Smoker \* Linear Time | -.06 | .04 | 55.97 | -1.36 | .18 | -.16, .03 |
| Smoker \* Quadratic Time | .0001 | 6.80 | 9897 | 1.82 | .07 | < -.0001, .0002 |
| Insomnia \* Linear Time | -.19 | .05 | 55.97 | -3.58 | .001 | -.30, -.08 |
| Insomnia \* Quadratic Time | .0008 | < .0001 | 9897 | 10.12 | < .001 | .0006, .0009 |
| Model 2 (Insomnia Symptom Severity)   |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | | Parameter | *B* | *SE* | *df* | *t* | *p* | 95% CI | | Intercept | -.02 | .05 | 47.38 | -.40 | .69 | -.12, .08 | | Smoker | -.002 | .07 | 47.38 | .73 | .47 | -.10, .21 | | Insomnia | -.002 | .05 | 47.38 | -.05 | .95 | -.09, .09 | | Linear Time | .19 | .03 | 56.00 | 5.48 | < .001 | .12, .25 | | Quadratic Time | -.0005 | < .0001 | 9897 | -10.09 | < .001 | < .0001, < .0001 | | Smoker \* Linear Time | -.10 | .04 | 56.00 | -2.09 | .04 | -.20, -.004 | | Smoker \* Quadratic Time | .0003 | < .0001 | 9897 | 3.86 | < .001 | .0001, .0004 | | Insomnia \* Linear Time | -.07 | .03 | 56.00 | -2.50 | .02 | -.13, -.01 | | Insomnia \*  Quadratic Time | .0002 | < .0001 | 9897 | 6.62 | < .001 | .0002, .0004 | | | | | | | |

*Note*. Across models, smoking status reference group = smoker; in Model 1, insomnia reference group = Insomnia participants; in Model 2, insomnia = composite measure of insomnia symptom severity.

Table S2. *Estimates of fixed effects when controlling for gender.*

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Model 1 (Insomnia vs. Hypersomnia/Mixed Participants) | | | | | | |
| Parameter | *B* | *SE* | *df* | *t* | *p* | 95% CI |
| Intercept | .003 | .12 | 47.38 | .02 | .98 | -.23, .24 |
| Gender | .02 | .10 | 47.38 | .18 | .86 | -.19, .23 |
| Insomnia | -.02 | .08 | 47.38 | -.19 | .85 | -.18, .15 |
| Linear Time | .42 | .08 | 55.78 | 5.27 | < .001 | .26, .57 |
| Quadratic Time | -.002 | .0001 | 9897 | -14.16 | < .001 | -.002, -.001 |
| Gender \* Linear Time | -.14 | .07 | 55.78 | -2.09 | .04 | -.28, -.006 |
| Gender \* Quadratic Time | .0007 | < .0001 | 9897 | 7.04 | < .001 | .0005, .0009 |
| Insomnia \* Linear Time | -.21 | .05 | 55.78 | -3.82 | < .001 | -.32, -.10 |
| Insomnia \* Quadratic Time | -.14 | .07 | 55.78 | -2.09 | .04 | -.28, -.006 |
| Model 2 (Insomnia Symptom Severity)   |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | | Parameter | *B* | *SE* | *df* | *t* | *p* | 95% CI | | Intercept | -.09 | .10 | 34.29 | -.83 | .41 | -.30, .13 | | Gender | .10 | .11 | 34.29 | .88 | .38 | -.13, .33 | | Insomnia | .03 | .07 | 34.29 | .35 | .73 | -.13, .18 | | Linear Time | .29 | .07 | 40.38 | 4.11 | < .001 | .15, .43 | | Quadratic Time | -.001 | < .0001 | 7323 | -9.77 | < .001 | -.001, -.0007 | | Gender \* Linear Time | -.22 | .08 | 40.38 | -2.86 | .007 | -.36, -.06 | | Gender \* Quadratic Time | .0009 | .0001 | 7323 | 8.25 | < .001 | .0007, .001 | | Insomnia \* Linear Time | -.10 | .05 | 40.38 | -1.98 | .05 | -.20, .002 | | Insomnia \* Quadratic Time | .0003 | < .0001 | 7323 | 8.25 | < .001 | .0007, .001 | | | | | | | |

*Note*. Across models, gender reference group = female participants; in Model 1, insomnia reference group = Insomnia participants; in Model 2, insomnia = composite measure of insomnia symptom severity.

Table S3. *Estimates of fixed effects when controlling for self-identified race.*

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Model 1 (Insomnia vs. Hypersomnia/Mixed Participants) | | | | | | |
| Parameter | *B* | *SE* | *df* | *t* | *p* | 95% CI |
| Intercept | .09 | .11 | 47.38 | .69 | .49 | -.16, .32 |
| Race | -.07 | .11 | 47.38 | -.66 | .52 | -.30, .15 |
| Insomnia | -.01 | .08 | 47.38 | -.17 | .87 | -.18, .15 |
| Linear Time | .19 | .08 | 55.86 | 2.44 | .02 | .03, .34 |
| Quadratic Time | -.0006 | .0001 | 9897 | -5.74 | < .001 | -.0009, -.0004 |
| Race \* Linear Time | .11 | .07 | 55.86 | 1.52 | .14 | -.04, .26 |
| Race \* Quadratic Time | -.0004 | .0001 | 9897 | -3.59 | < .001 | -.0006, -.0002 |
| Insomnia \* Linear Time | -.20 | .05 | 55.86 | -3.72 | < .001 | -.31, -.09 |
| Insomnia \* Quadratic Time | .0008 | < .0001 | 9897 | 10.42 | < .001 | .0007, .001 |
| Model 2 (Insomnia Symptom Severity)   |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | | Parameter | *B* | *SE* | *df* | *t* | *p* | 95% CI | | Intercept | .18 | .13 | 34.30 | 1.37 | .18 | -.09, .44 | | Race | -.20 | .13 | 34.30 | -1.47 | .15 | -.47, .08 | | Insomnia | .0007 | .08 | 34.30 | .01 | .99 | -.15, .15 | | Linear Time | -.12 | .09 | 40.65 | -1.32 | .19 | -.29, .06 | | Quadratic Time | .0004 | .0001 | 7323 | 3.12 | .002 | .0001, .0006 | | Race \* Linear Time | .24 | .09 | 40.65 | 2.68 | .01 | .06, .42 | | Race \* Quadratic Time | -.0007 | .0001 | 7323 | -5.21 | < .001 | -.0009, -.0004 | | Insomnia \* Linear Time | -.07 | .05 | 40.65 | -1.33 | .19 | -.17, .03 | | Insomnia \* Quadratic Time | .0002 | < .0001 | 7323 | 3.36 | .001 | .0001, .0003 | | | | | | | |

*Note*. Across models, race reference group = participants who did not self-identify as white; in Model 1, insomnia reference group = Insomnia participants; in Model 2, insomnia = composite measure of insomnia symptom severity.

Table S4. *Estimates of fixed effects when controlling for non-sleep-related depression symptoms using the BDI-II.*

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Model 1 (Insomnia vs. Hypersomnia/Mixed Participants) | | | | | | |
| Parameter | *B* | *SE* | *df* | *t* | *p* | 95% CI |
| Intercept | .12 | .15 | 46.40 | .82 | .42 | -.18, .42 |
| BDI-II | -.003 | .004 | 46.40 | -.78 | .44 | -.01, .005 |
| Insomnia | -.05 | .08 | 46.40 | -.58 | .56 | -.21, .12 |
| Linear Time | .27 | .10 | 55.24 | 2.75 | .008 | .07, .46 |
| Quadratic Time | -.001 | .0001 | 9699 | -7.20 | < .001 | -.001, -.0007 |
| BDI-II \* Linear Time | .0004 | .003 | 55.24 | .18 | .86 | -.004, .006 |
| BDI-II \* Quadratic Time | < .0001 | < .0001 | 9699 | .62 | .53 | < .0001, < .0001 |
| Insomnia \* Linear Time | -.18 | .06 | 55.24 | -3.18 | .002 | -.29, -.07 |
| Insomnia \*  Quadratic Time | .0008 | < .0001 | 9699 | 9.30 | < .001 | .0006, .0009 |
| Model 2 (Insomnia Symptom Severity)   |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | | Parameter | *B* | *SE* | *df* | *t* | *p* | 95% CI | | Intercept | .21 | .14 | 33.31 | 1.50 | .14 | -.07, .49 | | BDI-II | -.008 | .005 | 33.31 | -1.68 | .10 | -.02, .001 | | Insomnia | .04 | .07 | 33.31 | .49 | .63 | -.12, .19 | | Linear Time | -.12 | .09 | 39.93 | -1.25 | .22 | -.30, .07 | | Quadratic Time | .0005 | .0001 | 7125 | 3.36 | .001 | .0002, .0007 | | BDI-II \* Linear Time | .009 | .003 | 39.93 | 2.65 | .01 | .002, .02 | | BDI-II \* Quadratic Time | < .0001 | < .0001 | 7125 | -5.50 | < .001 | < .0001, < .0001 | | Insomnia \* Linear Time | -.11 | .05 | 39.93 | -2.12 | .04 | -.21, -.004 | | Insomnia \*  Quadratic Time | .0004 | < .0001 | 7125 | 4.91 | < .001 | .0002, .0005 | | | | | | | |

*Note*. Non-sleep-related depression was assessed via the BDI-II (Beck Depression Inventory-II) total score excluding item 16, which assesses sleep. In Model 1, insomnia reference group = Insomnia participants; in Model 2, insomnia = composite measure of insomnia symptom severity.

Table S5. *Estimates of fixed effects for each of the three insomnia symptom severity items (i.e., Item 7 of the MNWS, Item 16 of the BDI-II, and Item 13 of the PCL-C).*

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Item 7 of MNWS | | | | | | |
| Parameter | *B* | *SE* | *df* | *t* | *p* | 95% CI |
| Intercept | .0004 | .09 | 47.40 | .004 | .997 | -.18, .18 |
| Insomnia | -.002 | .03 | 47.04 | -.05 | .96 | -.06, .06 |
| Linear Time | .24 | .05 | 56.25 | 4.13 | < .001 | .12, .36 |
| Quadratic Time | -.0007 | < .0001 | 9700 | -8.60 | < .001 | -.0009, -.0005 |
| Insomnia \* Linear Time | -.04 | .02 | 56.25 | -1.72 | .09 | -.08, .006 |
| Insomnia \* Quadratic Time | .0001 | < .0001 | 9700 | 4.17 | < .001 | < .0001, .0002 |
| Item 16 of the BDI-II   |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | | Parameter | *B* | *SE* | *df* | *t* | *p* | 95% CI | | Intercept | .0003 | .04 | 48.39 | .008 | .99 | -.08, .08 | | Insomnia | -.009 | .02 | 48.39 | -.50 | .62 | -.05, .03 | | Linear Time | .17 | .03 | 57.09 | 6.61 | < .001 | .12, .22 | | Quadratic Time | -.0005 | < .0001 | 9898 | -13.99 | < .001 | -.0005, -.0004 | | Insomnia \* Linear Time | .04 | .01 | 57.09 | 3.37 | .001 | .02, .07 | | Insomnia \* Quadratic Time | -.0002 | < .0001 | 9898 | -11.14 | < .001 | -.0002, -.0001 | | Item 13 of the PCL-C | | | | | | | | Parameter | *B* | *SE* | *df* | *t* | *p* | 95% CI | | Intercept | .17 | .12 | 48.42 | 1.47 | .15 | -.06, .40 | | Insomnia | -.04 | .03 | 48.42 | -1.48 | .15 | -.10, .02 | | Linear Time | .11 | .08 | 57.23 | 1.37 | .18 | -.05, .26 | | Quadratic Time | -.0003 | .0001 | 9898 | -2.99 | .003 | -.0005, -.0001 | | Insomnia \* Linear Time | .008 | .02 | 557.23 | .42 | .68 | -.03, .05 | | Insomnia \*  Quadratic Time | < .0001 | < .0001 | 9898 | -.30 | .77 | < -.0001,  < .00001 | | | | | | | |

*Note*. MNWS = Minnesota Nicotine Withdrawal Scale; BDI-II = Beck Depression Inventory-II; PCL-C = Posttraumatic Stress Disorder Checklist - Civilian Version.