Supplementary Figures

Modifiable factors associated with depression in the full sample

Figure S1a. Top hits for Model 0 (adjusted for base factors)
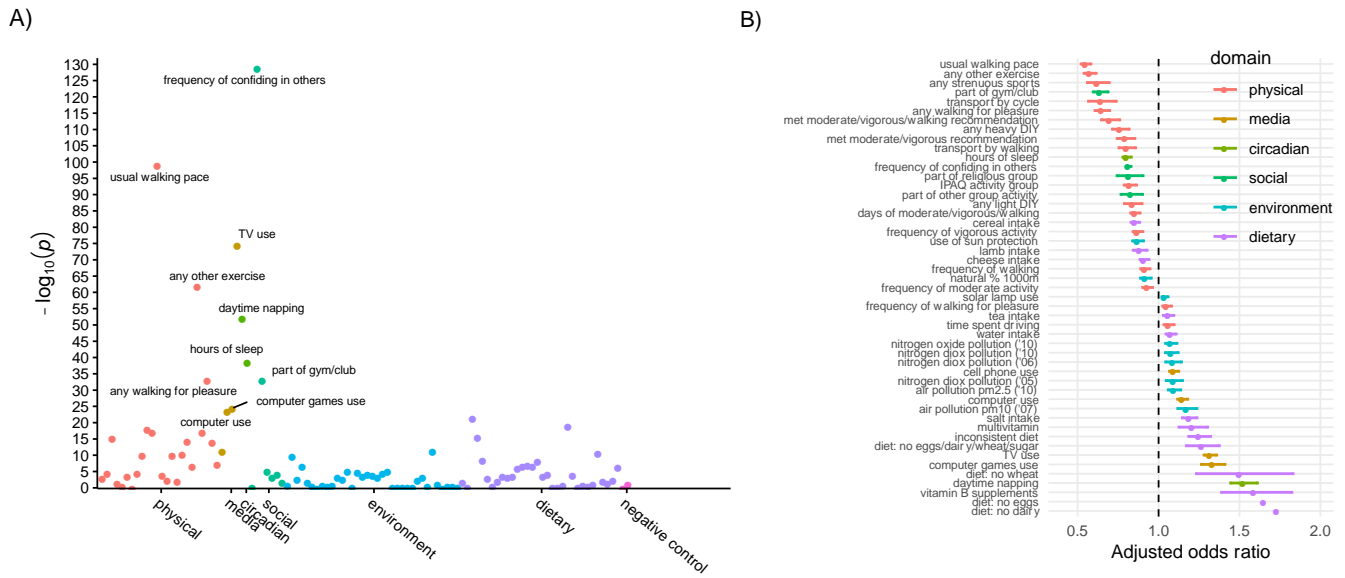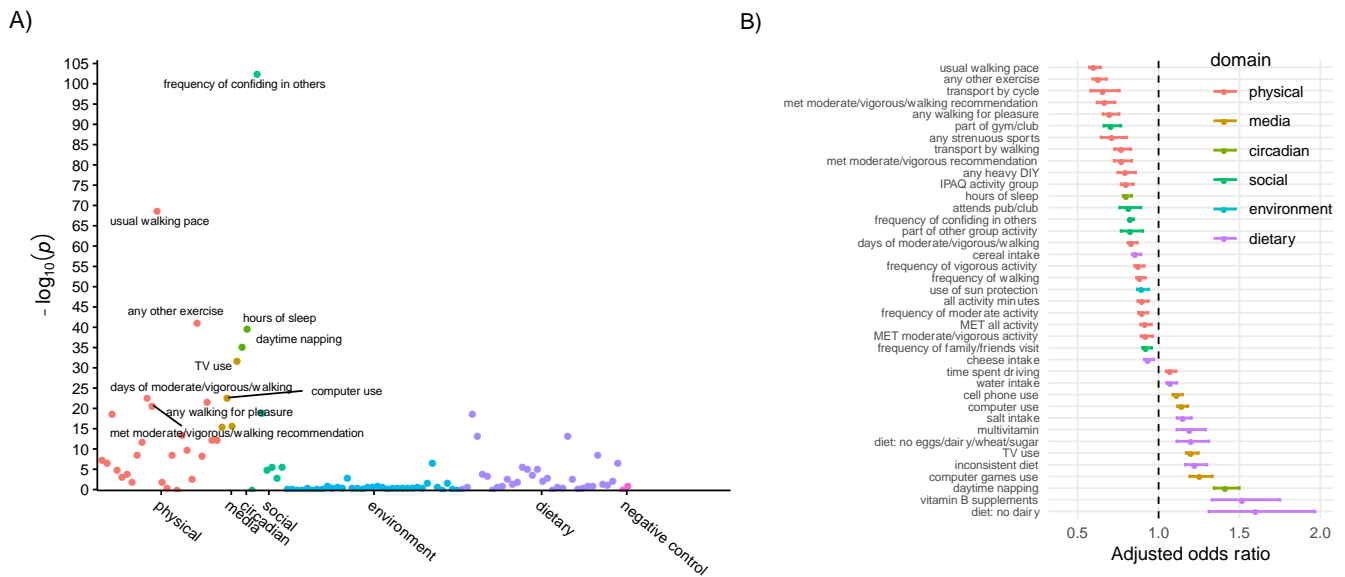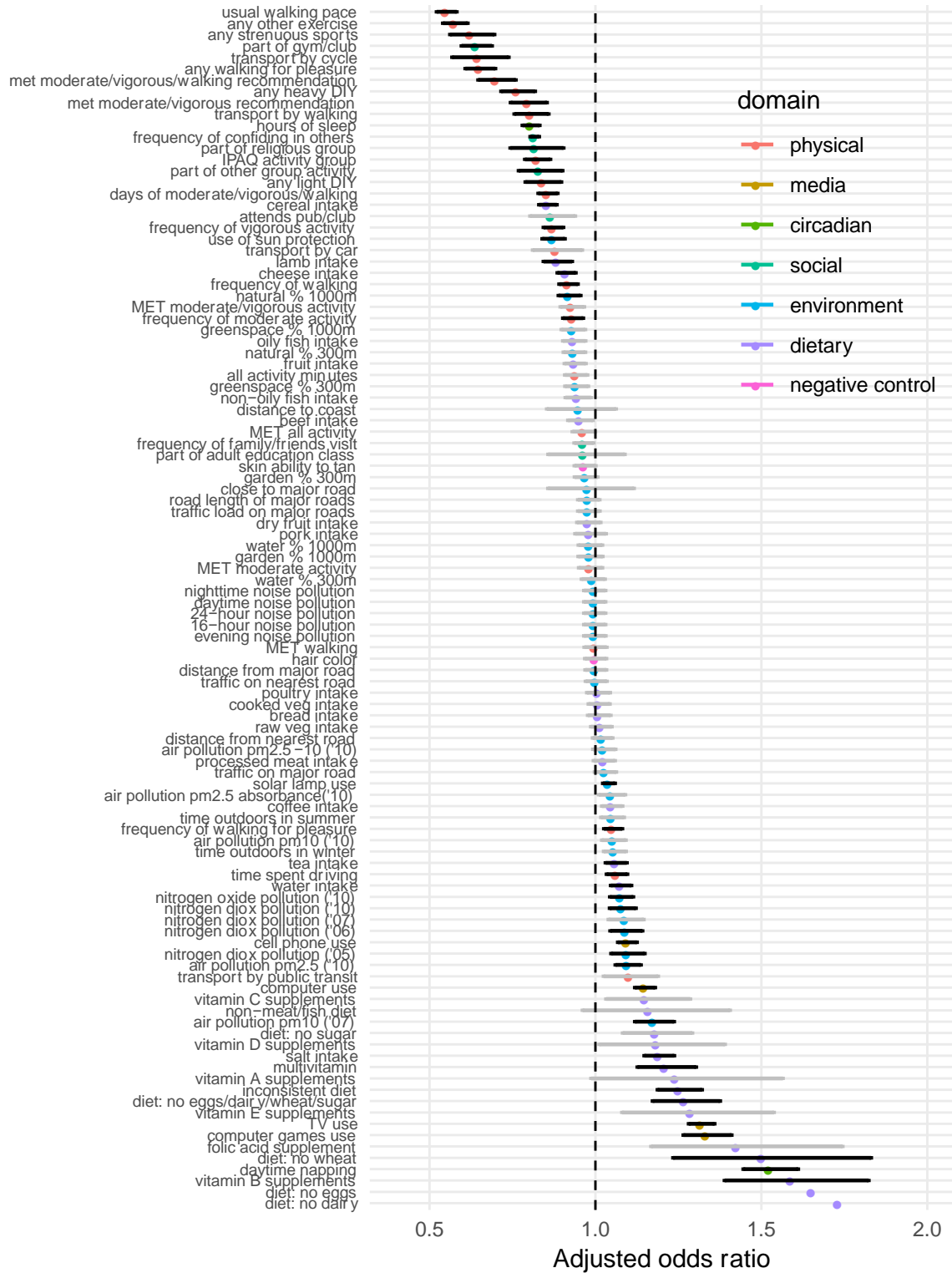

Figure S1b. Top hits for Model 1 (adjusted for sociodemographic factors)
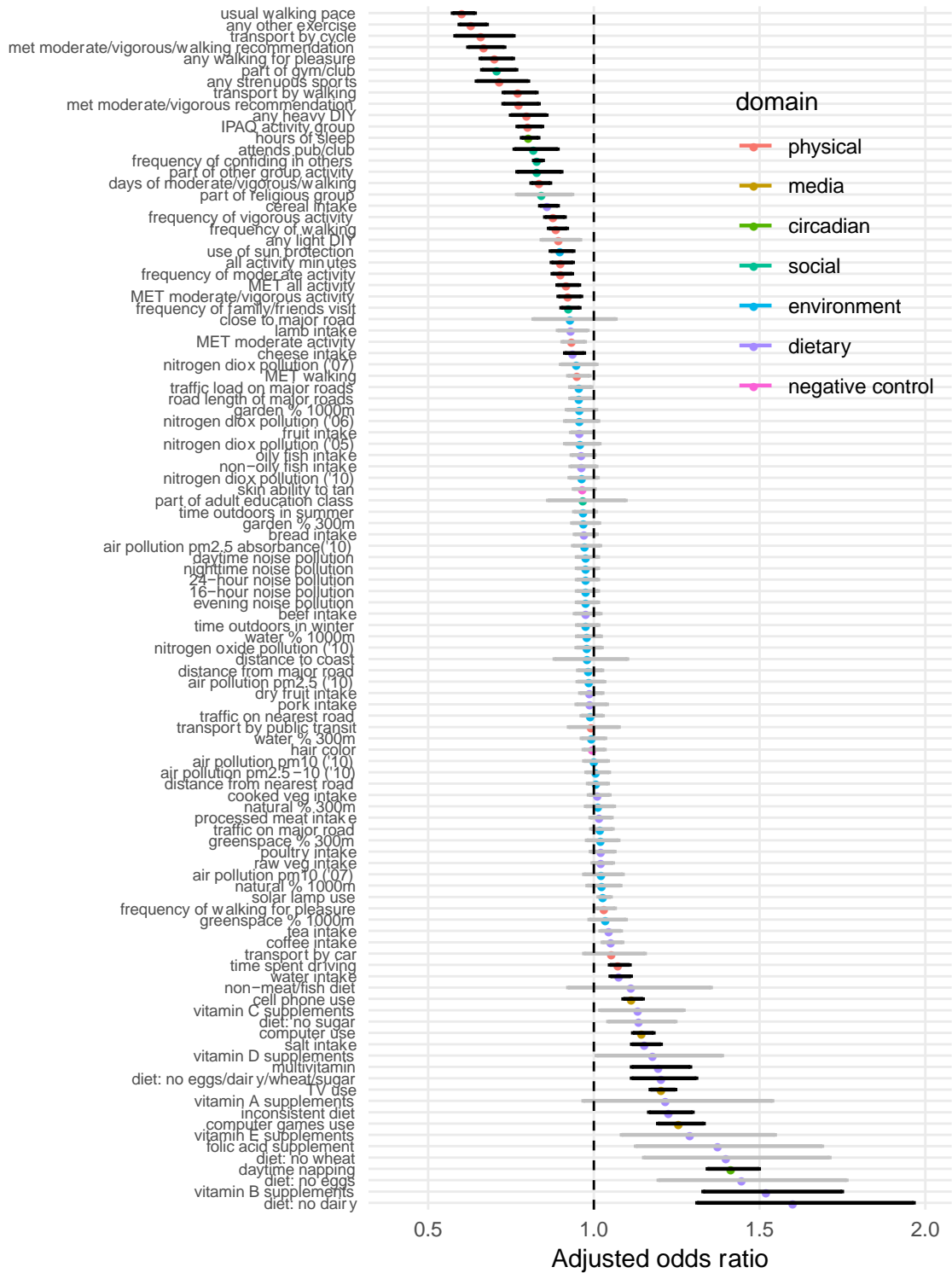

Top hits for Model 2 (further adjusted for sociodemographic and health factors)

Shown in main manuscript

Figure S1c. All results for Model 0 (adjusted for base factors)

Figure S1d. All results for Model 1 (further adjusted for sociodemographic factors)
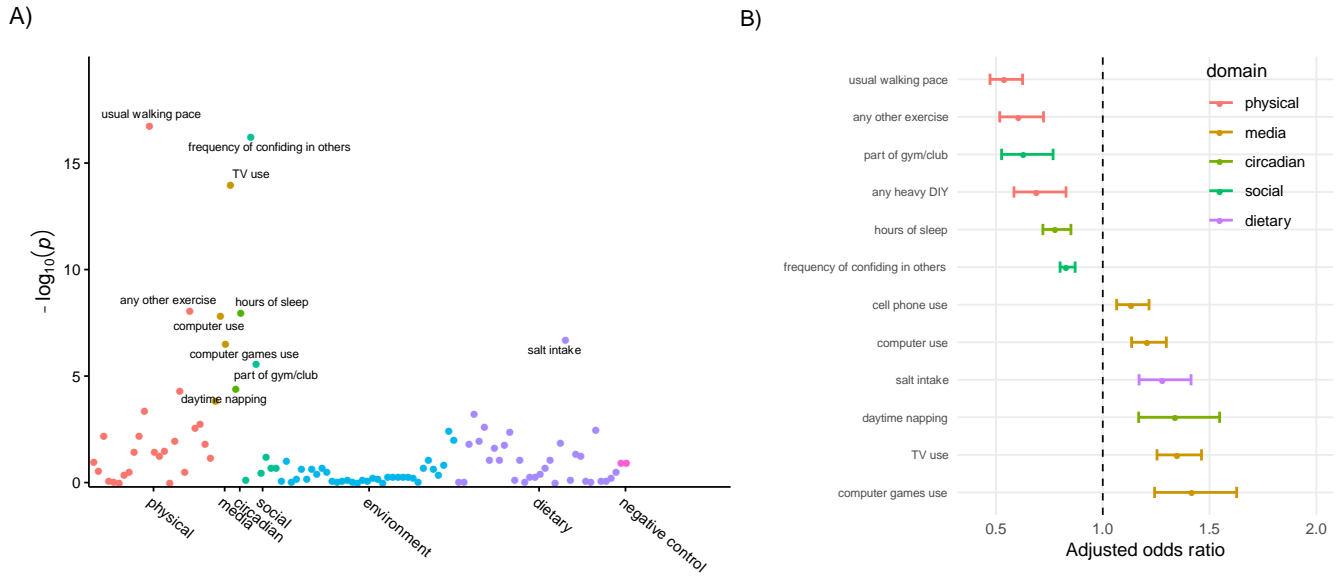
Figure S1e. All results for Model 2 (further adjusted for sociodemographic & health factors)

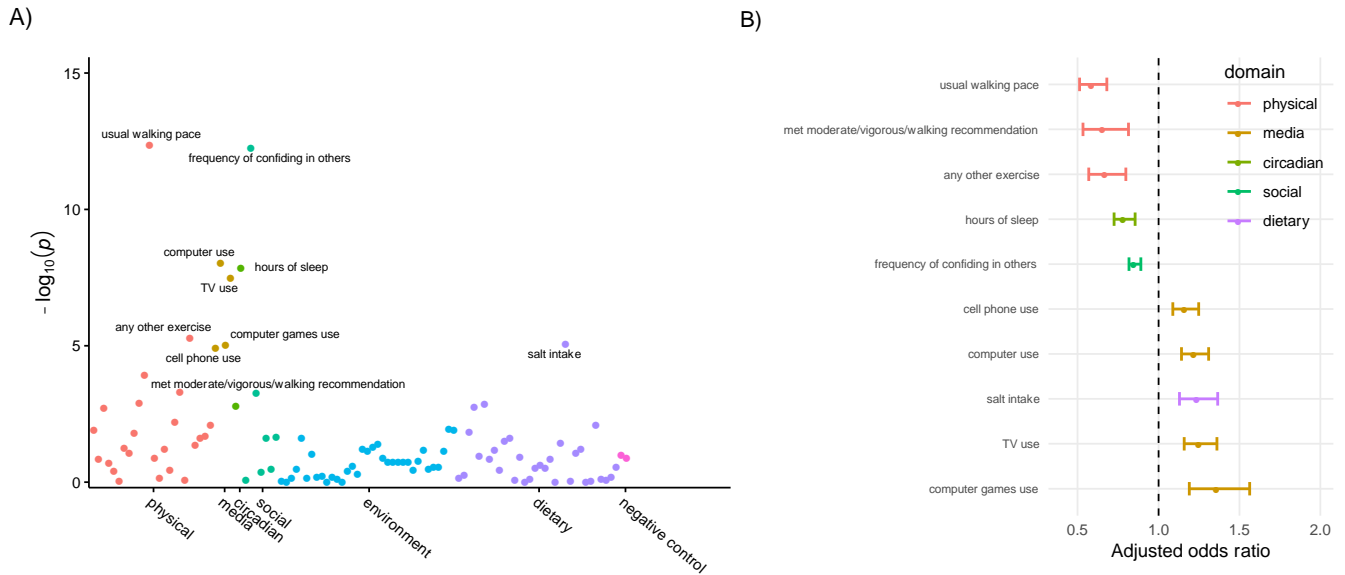# Factors associated with depression among at-risk individuals (based on polygenic risk)

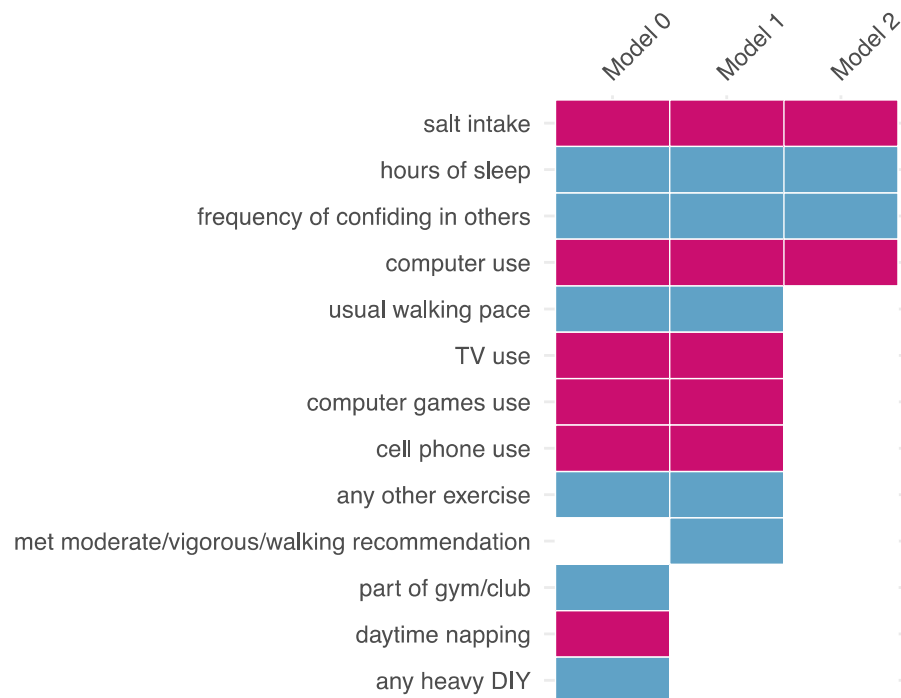## Figure S2a. Top hits for Model 0 (adjusted for base factors)

Figure S2b. Top hits for Model 1 (further adjusted for sociodemographic factors)
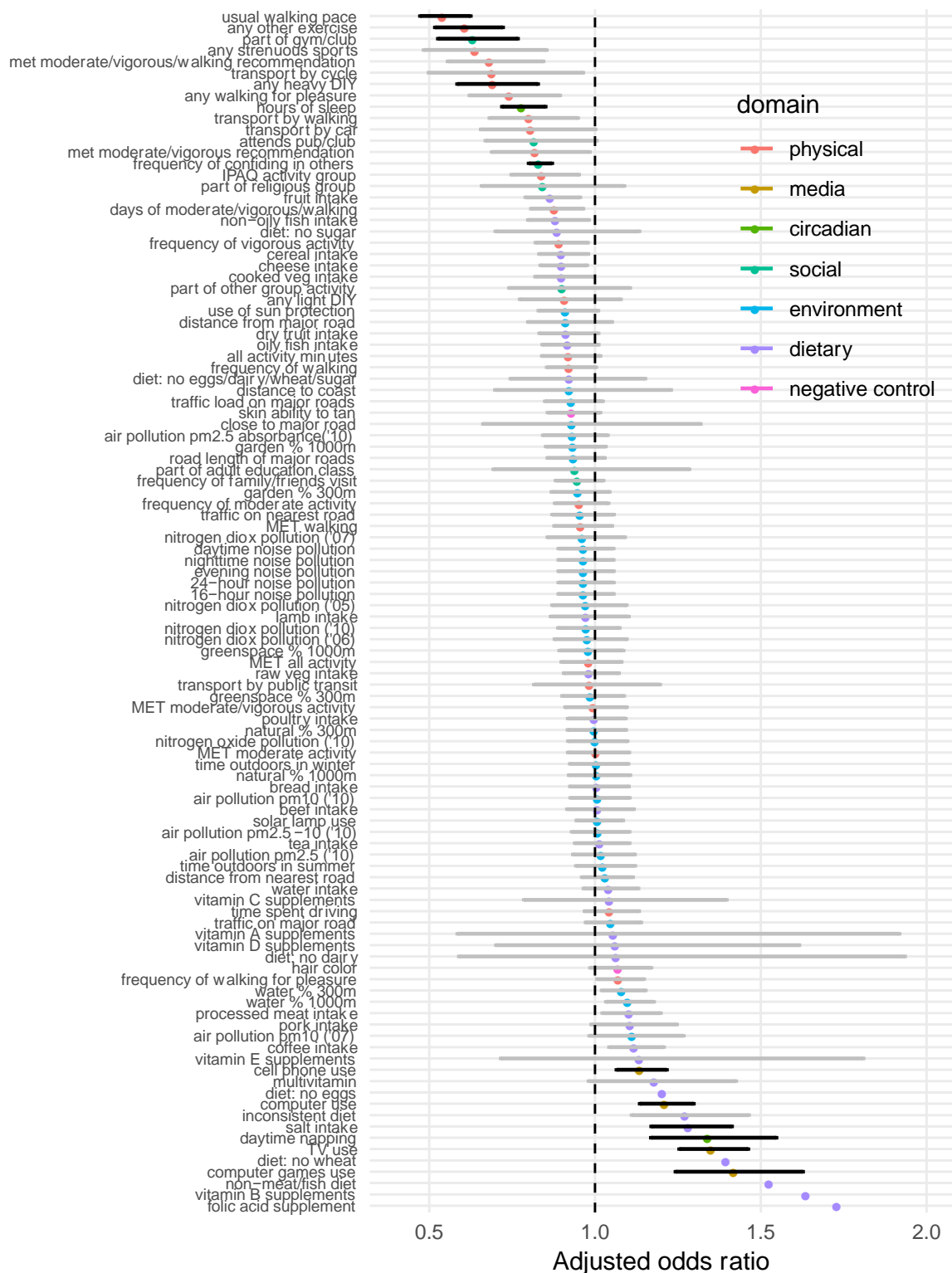
Figure S2c. Top hits for Model 2 (further adjusted for sociodemographic & health factors). Note: p-value for TV use factor was equivalent to the adjusted p-value threshold (not shown).
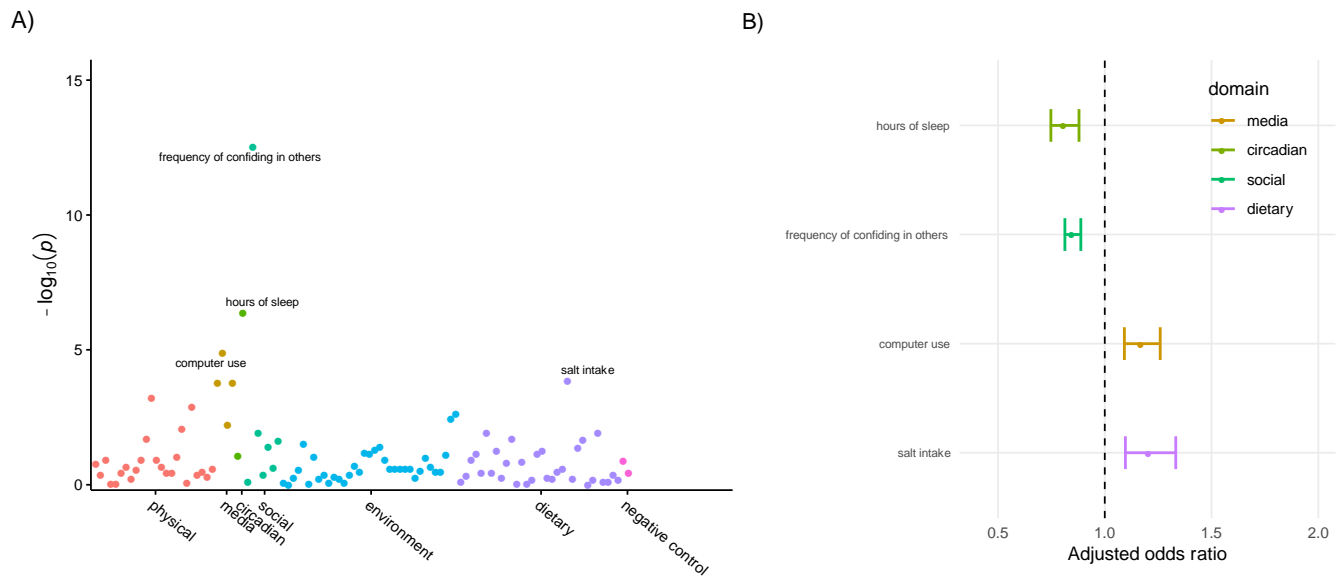
Figure S2d. Consistency of associated factors across levels of covariate adjustment. Shown in order of consistency patterns across three, two, or one models, in descending alphabetical order within each pattern. Blue = protective direction of association; red = risk-increasing direction of association.
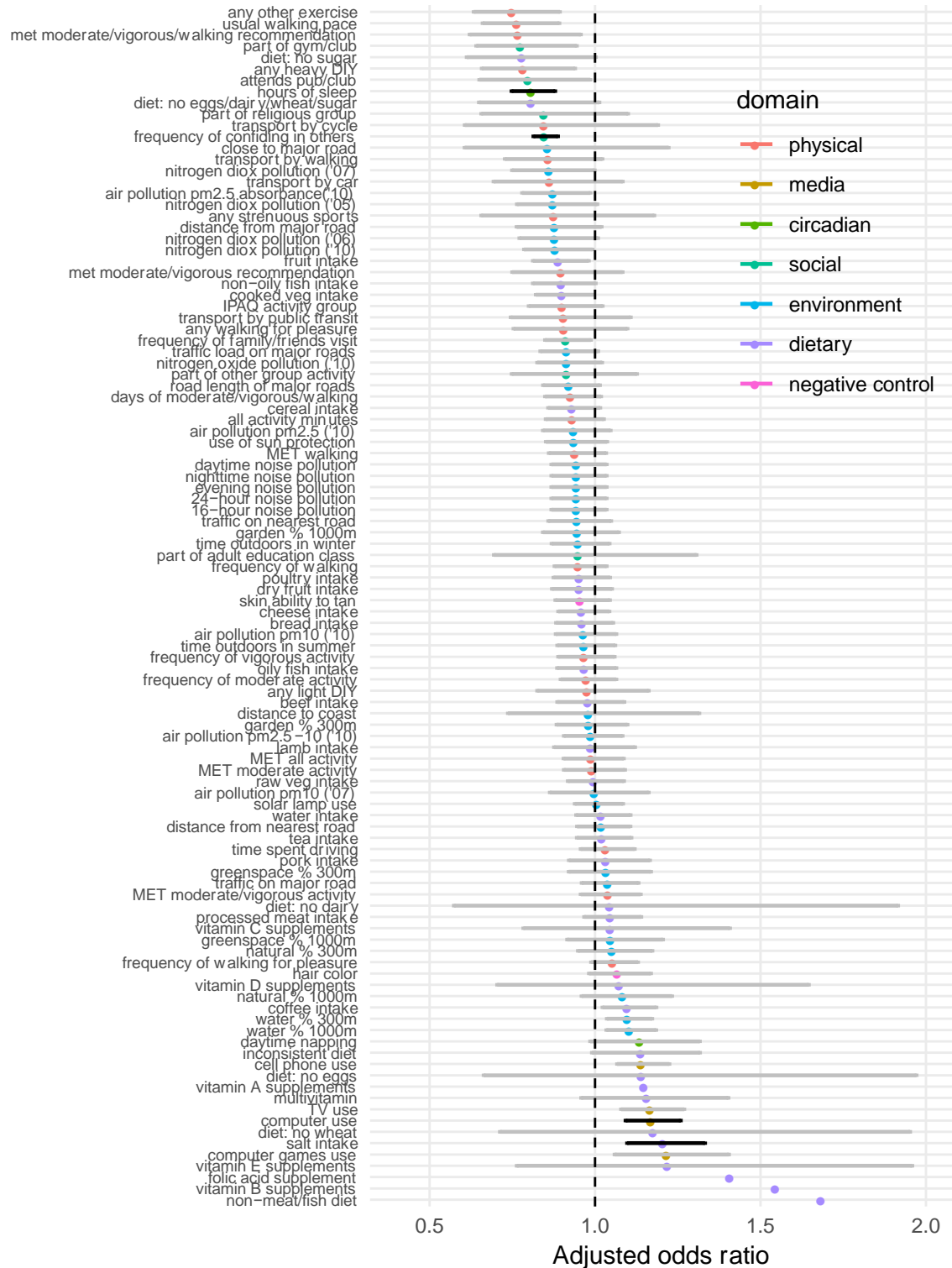
Figure S2e. All results for Model 0 (adjusted for base factors). Note: Missing bars for some factors reflect intervals that extended beyond the x-axis range, but values can be viewed in Tables S3.

Figure S2f. All results for Model 1 (further adjusted for sociodemographic factors). Note: Missing bars for some factors reflect intervals that extended beyond the x-axis range, but can be viewed in Tables S3.
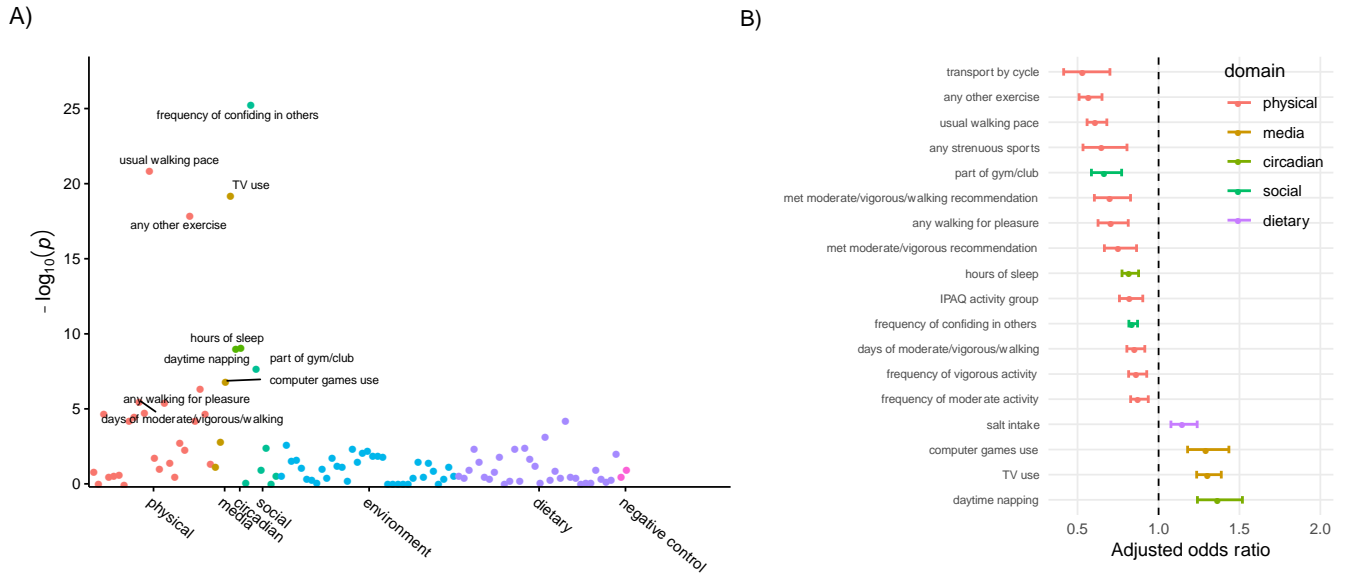
Figure S2g. All results for Model 2 (further adjusted for sociodemographic and health factors).
Note: Missing bars for some factors reflect intervals that extended beyond the x-axis range, but can be viewed in Tables S3.
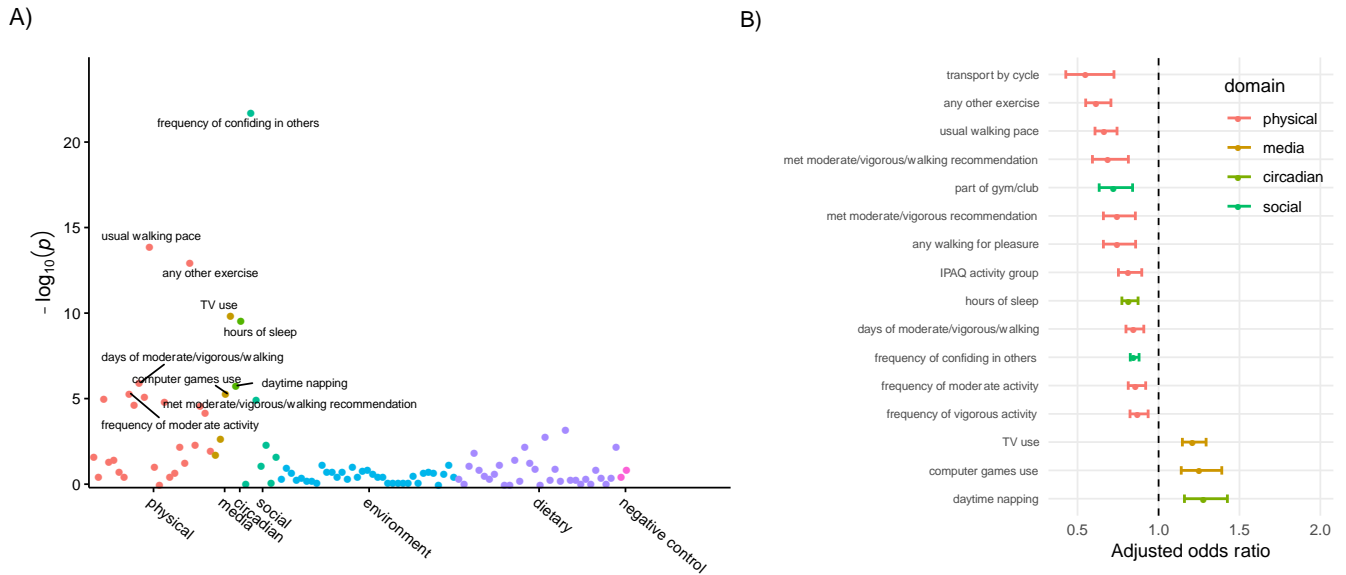
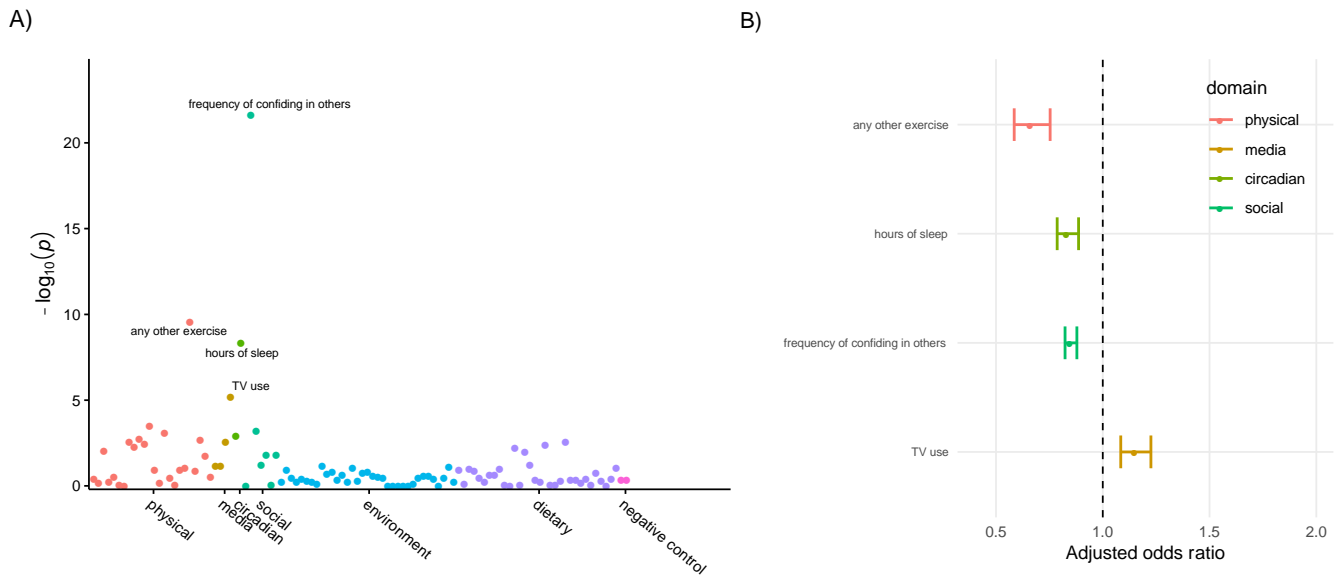# Factors associated with depression among at-risk individuals (based on traumatic life events)

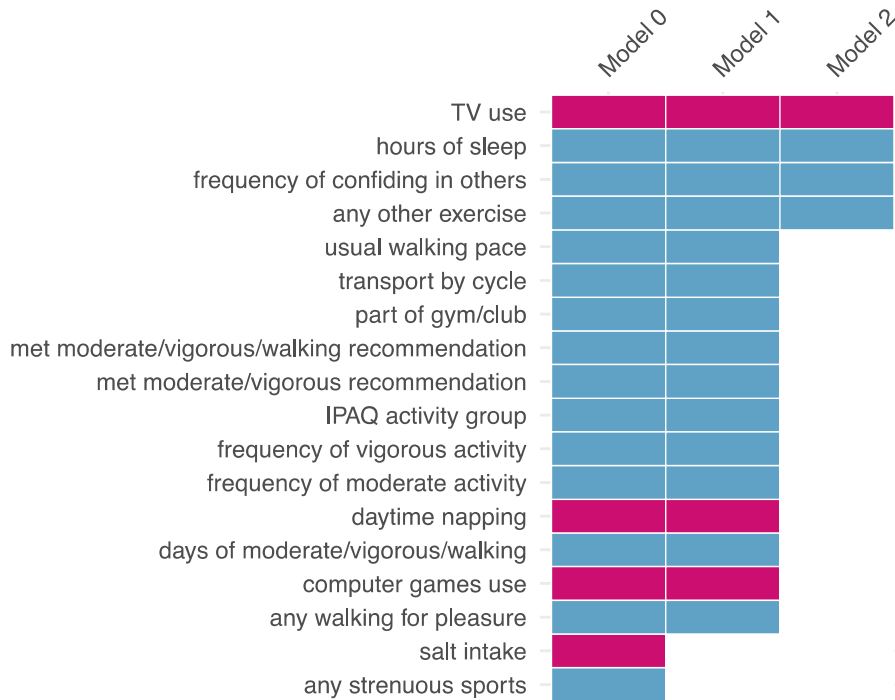## Figure S3a. Top hits for Model 0 (adjusted for base factors)

Figure S3b. Top hits for Model 1 (further adjusted for sociodemographic factors)

Figure S3c. Top hits for Model 2 (further adjusted for sociodemographic and health factors)

A)

B)

Figure S3d. Consistency of associated factors across levels of covariate adjustment. Shown in order of consistency patterns across three, two, or one models, in descending alphabetical order within each pattern. Blue = protective direction of association; red = risk-increasing direction of association.

Figure S3e. All results for Model 0 (adjusted for base factors). Note: Missing bars for some factors reflect intervals that extended beyond the x-axis range, but values can be viewed in Tables S3.

Figure S3f. All results for Model 1 (further adjusted for sociodemographic factors). Note: Missing bars for some factors reflect intervals that extended beyond the x-axis range, but values can be viewed in Tables S3.
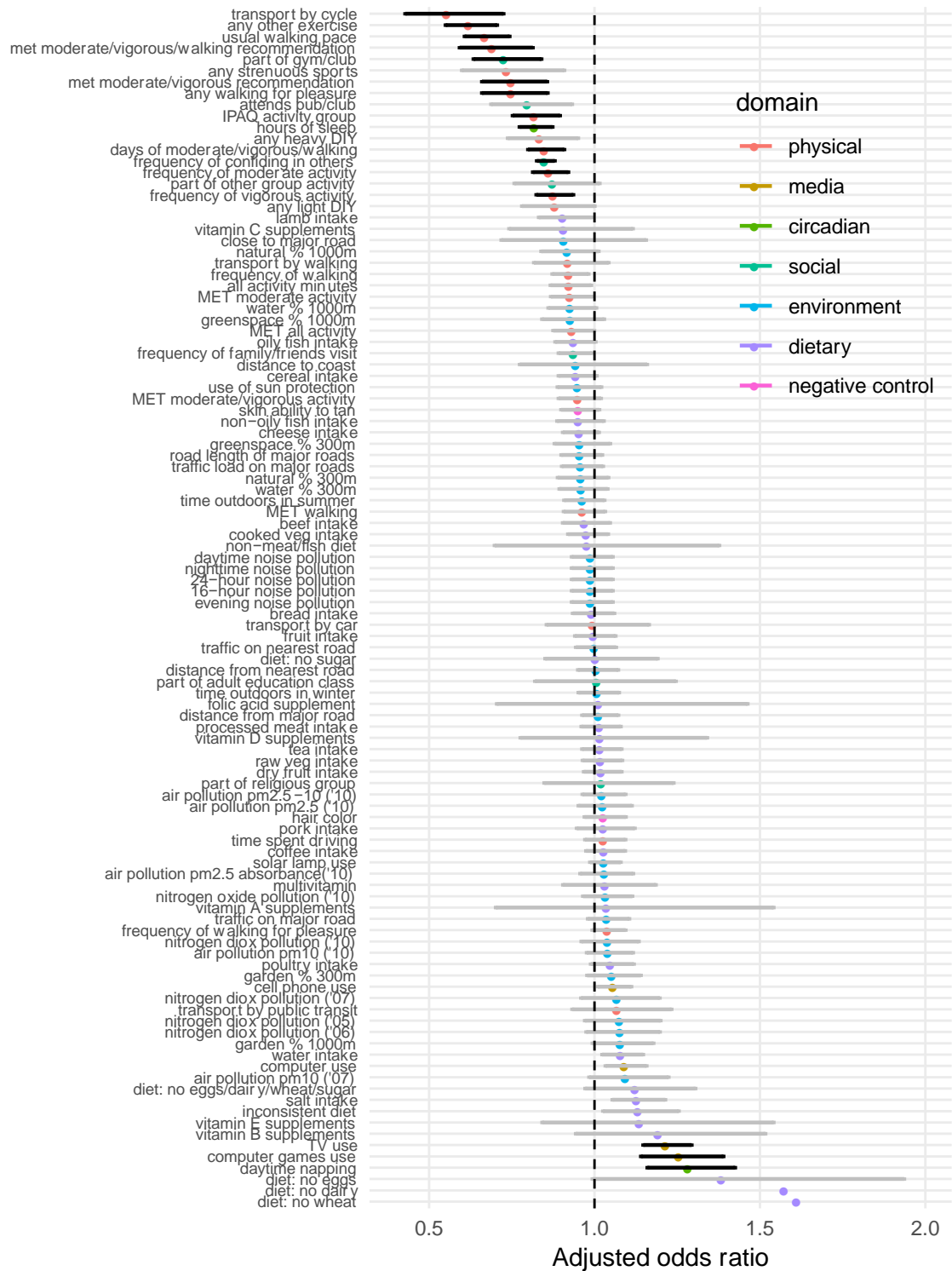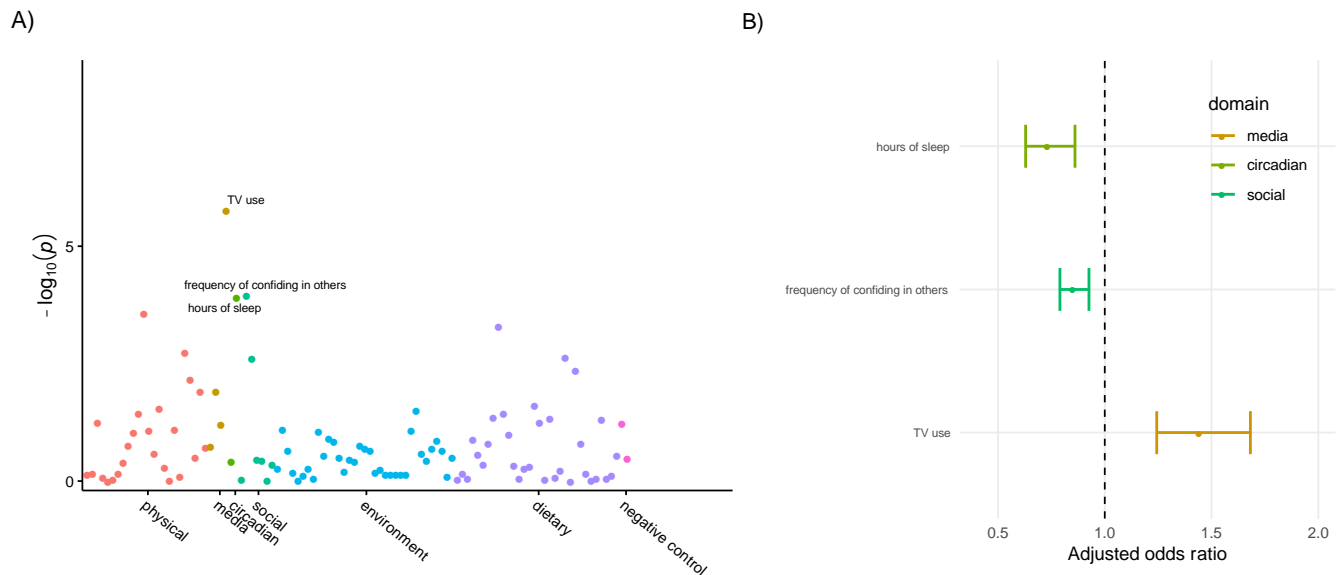
Figure S3g. All results for Model 2 (further adjusted for sociodemographic and health factors).
Note: Missing bars for some factors reflect intervals that extended beyond the x-axis range, but values can be viewed in Tables S3.
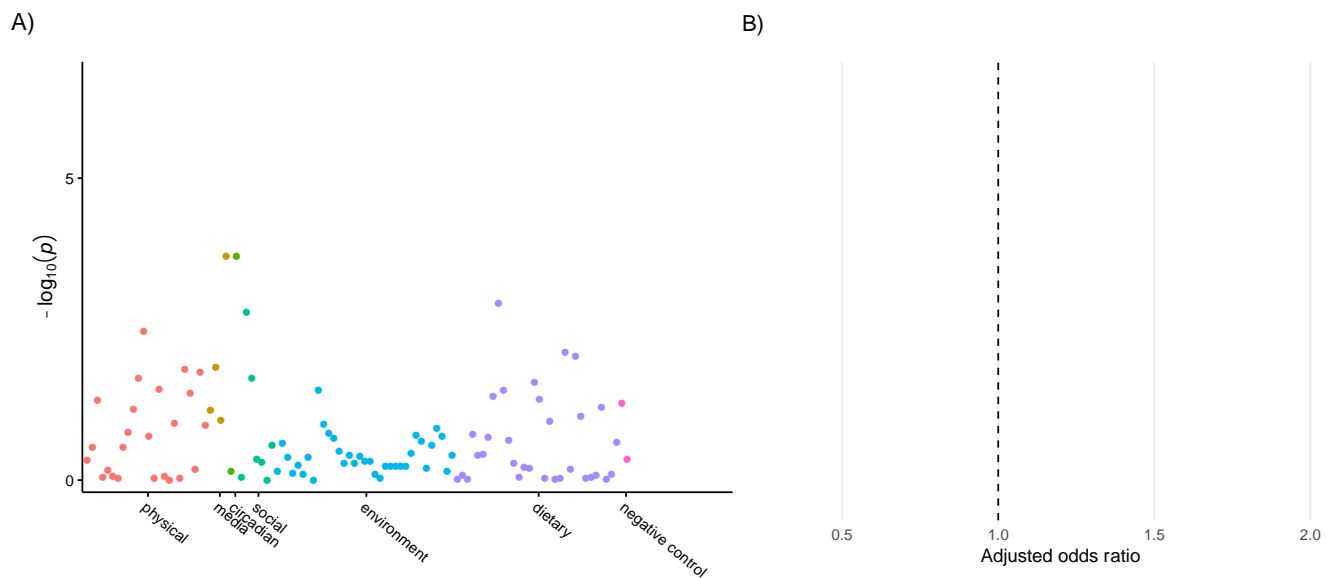
Exploratory factors associated with depression among at-risk individuals (based on being at-risk on both polygenic risk and traumatic life events, maximum n with full covariate data=1,422)
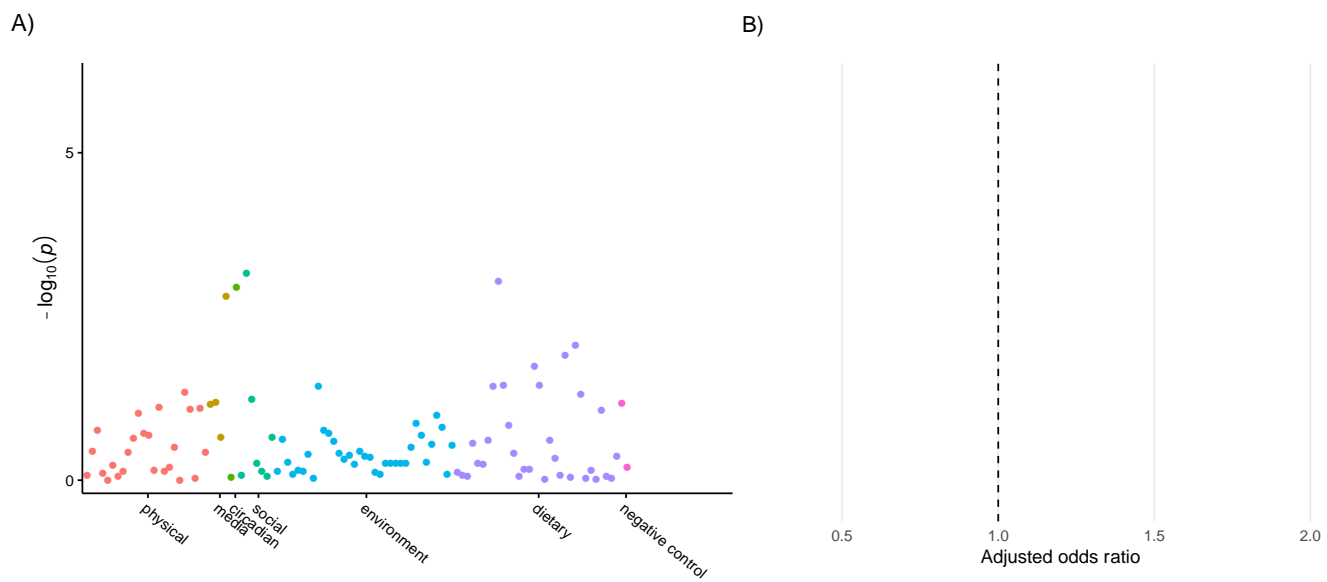
Figure S4a. Top hits for Model 0 (adjusted for base factors)

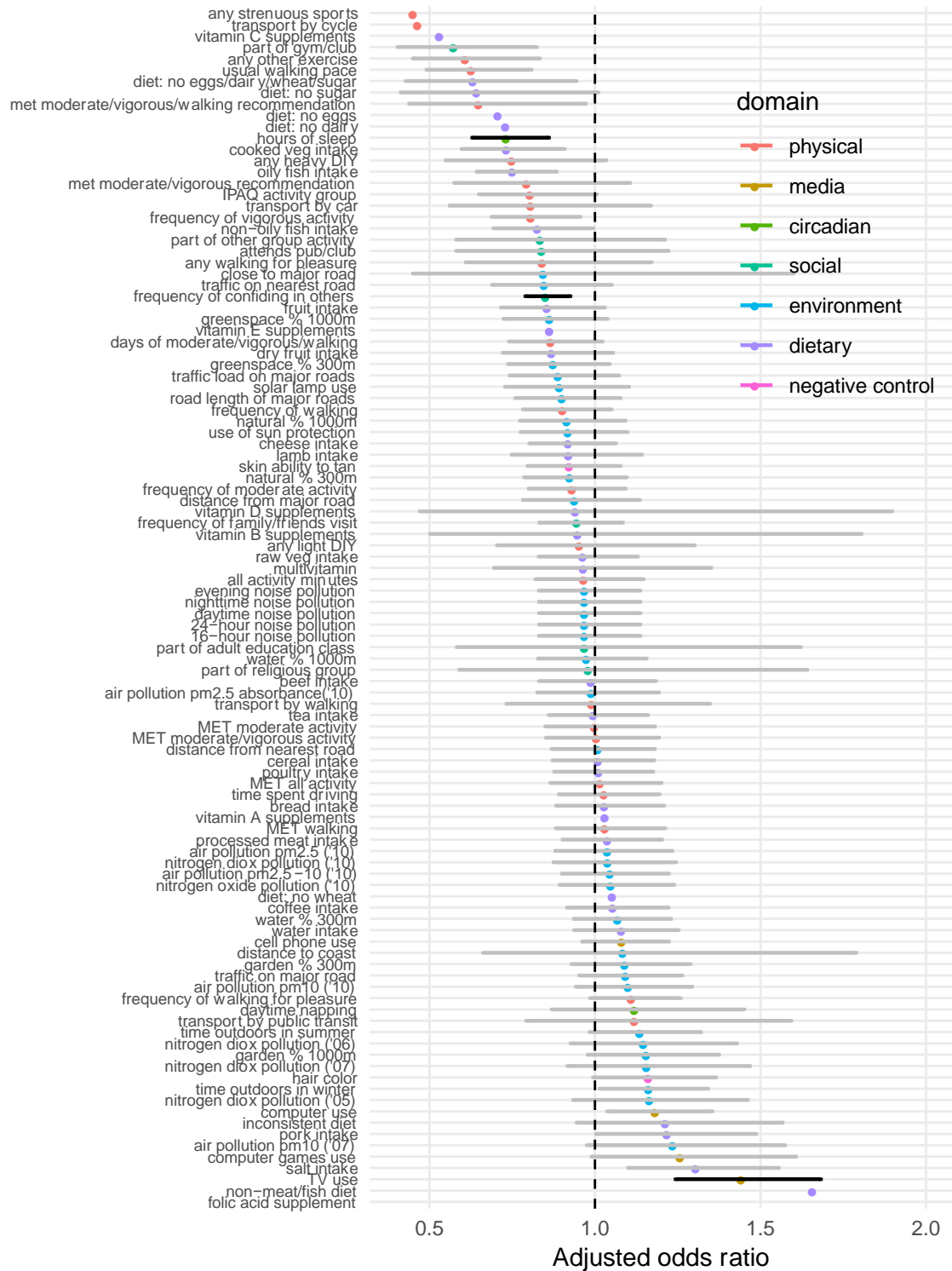## Figure S4b. Top hits for Model 1 (further adjusted for sociodemographic factors)

Figure S4c. Top hits for Model 2 (further adjusted for sociodemographic and health factors)
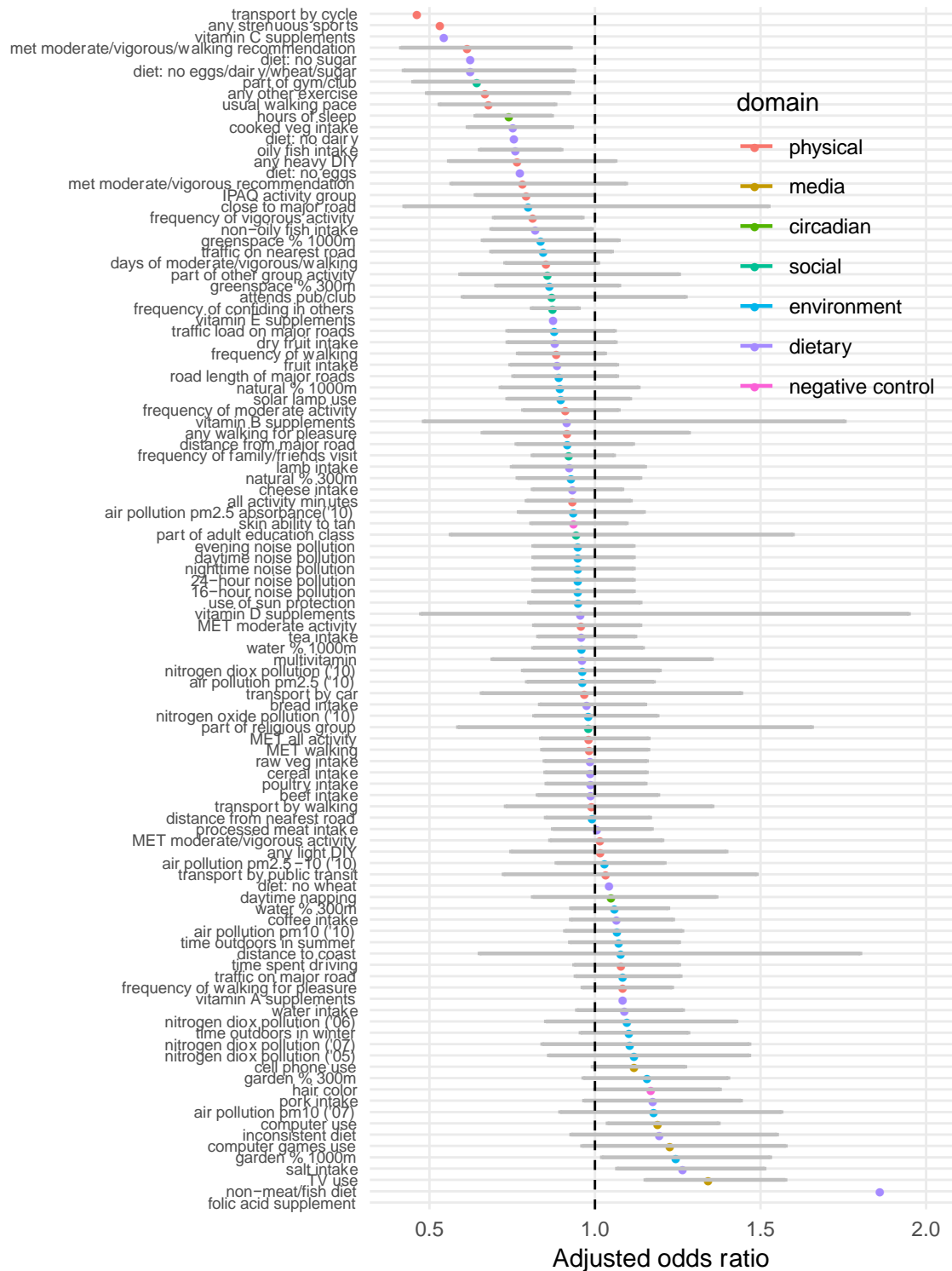
A)

B)

Figure 4d. All results for Model 0 (adjusted for base factors). Note: Missing bars for some factors reflect intervals that extended beyond the x-axis range, but values can be viewed in Tables S3.

Figure 4e. All results for Model 1 (further adjusted for sociodemographic factors). Note: Missing bars for some factors reflect intervals that extended beyond the x-axis range, but values can be viewed in Tables S3.

**Figure S4f. All results for Model 2 (further adjusted for sociodemographic and health factors).**
Note: Missing bars for some factors reflect intervals that extended beyond the x-axis range, but values can be viewed in Tables S3.

Figure S5a. MR estimates of top modifiable factors → risk of depression with outliers removed, based on the weighted median method. NS=not significant at p<0.05; nominal=p<0.05; Bonferroni=significant at Bonferroni-corrected threshold
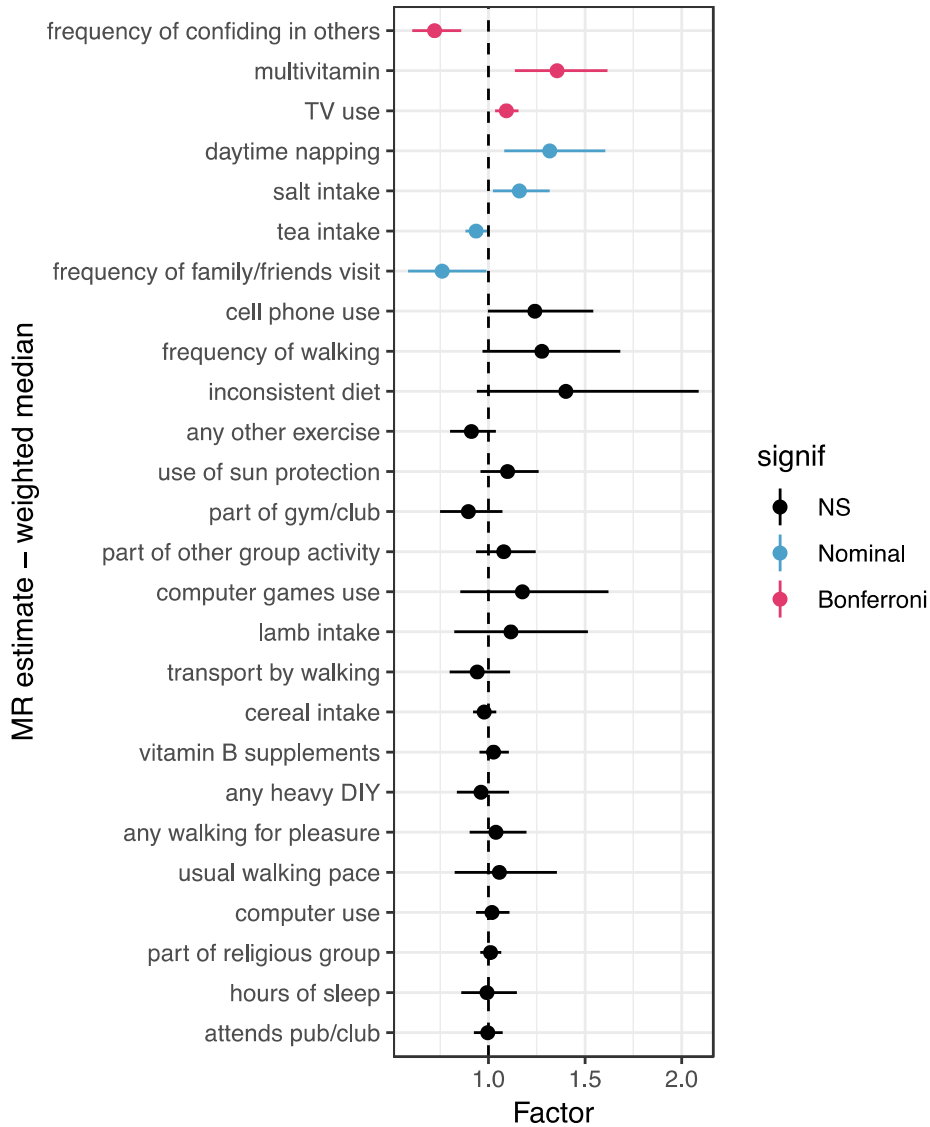
Figure S5b. MR estimates of depression → top modifiable factors with outliers removed, based on the weighted median method. Odds ratio estimates on left shown for dichotomous factors as outcomes, and beta estimates on right shown for non-dichotomous factors as outcomes. NS=not significant at p<0.05; nominal=p<0.05; Bonferroni=significant at Bonferroni-corrected threshold
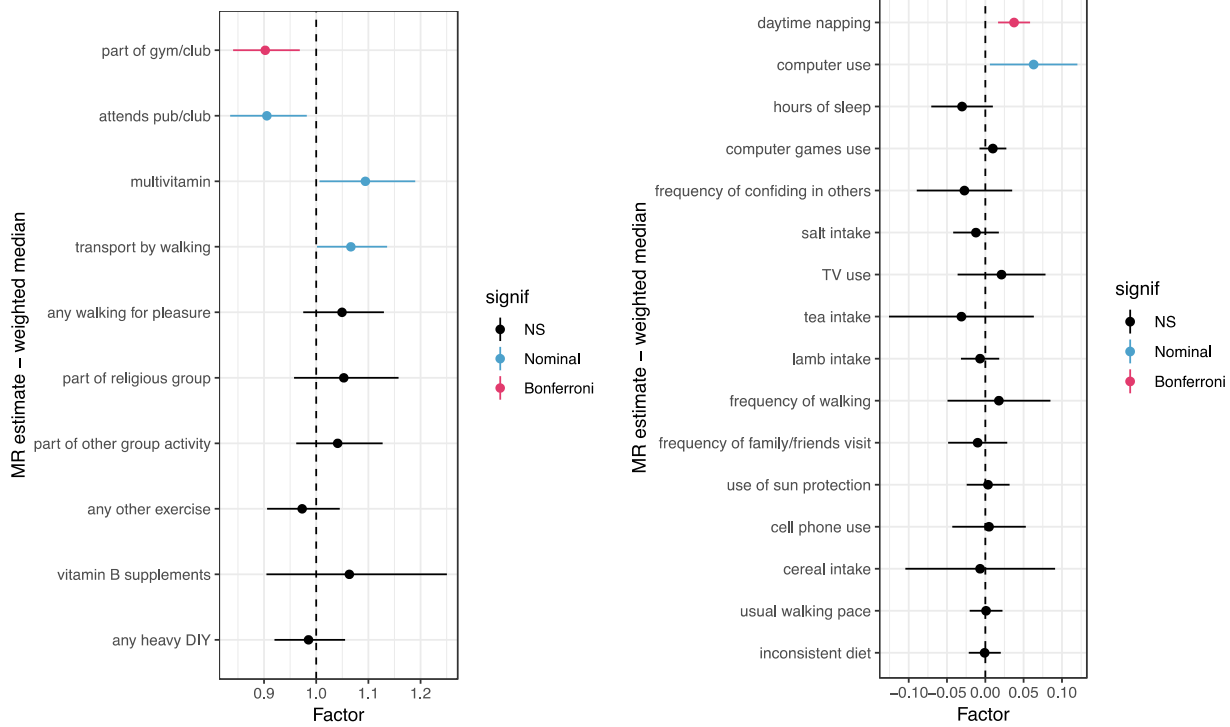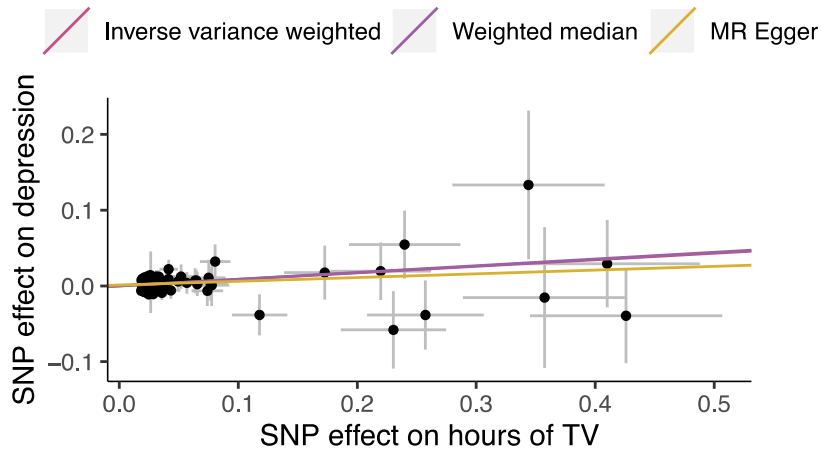
Figure S6a. Mendelian randomization plots for confiding in others → risk of depression. A) Scatterplot of SNP effects on confiding in others versus their effects on depression, with slope of each line corresponding to estimated MR effect per method (**Table S4a**). B) Forest plot of individual and combined SNP effects. C) Forest plot of leave-one-SNP-out sensitivity analyses. Top SNPs $p < 5 \times 10^{-7}$.
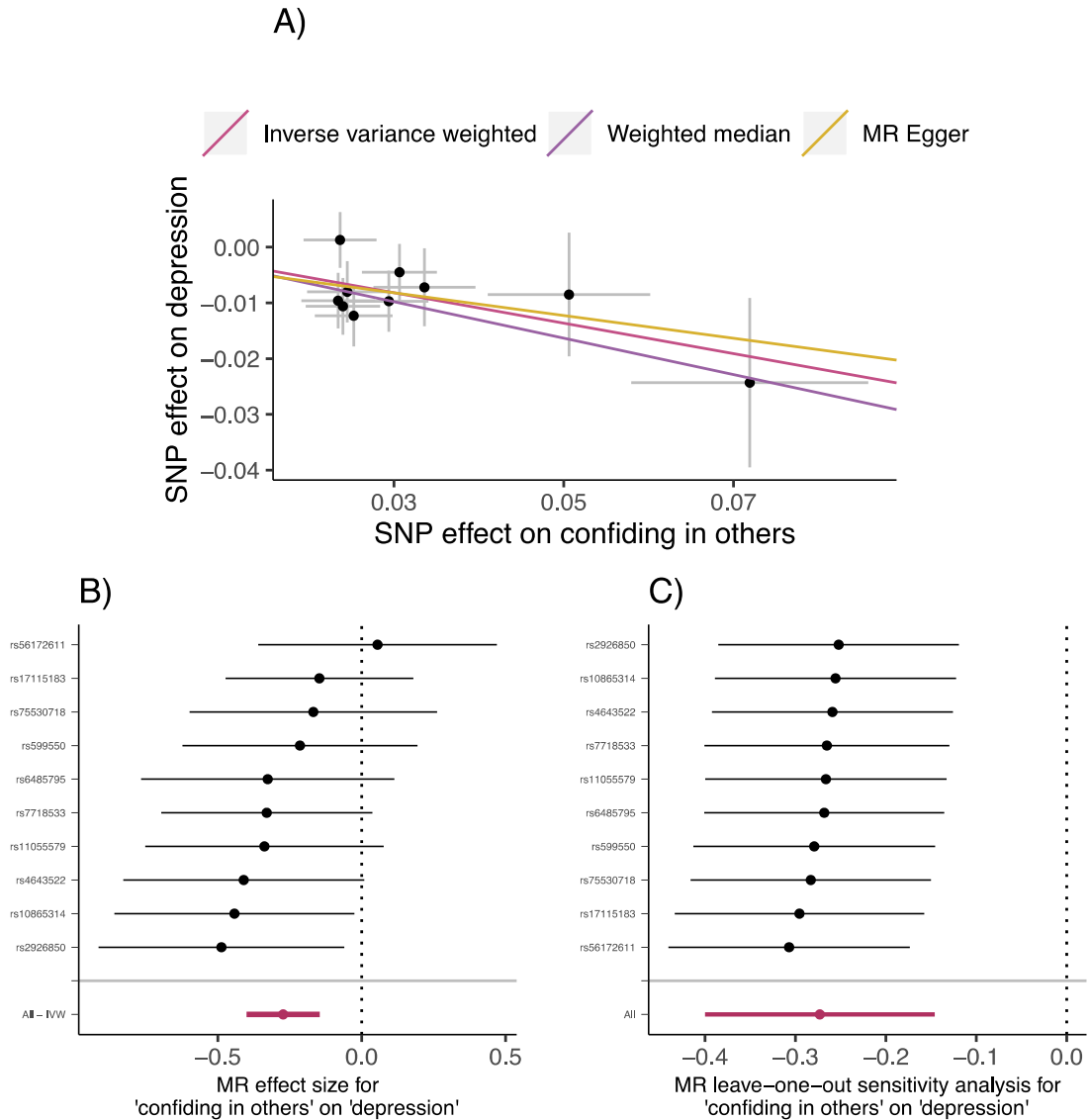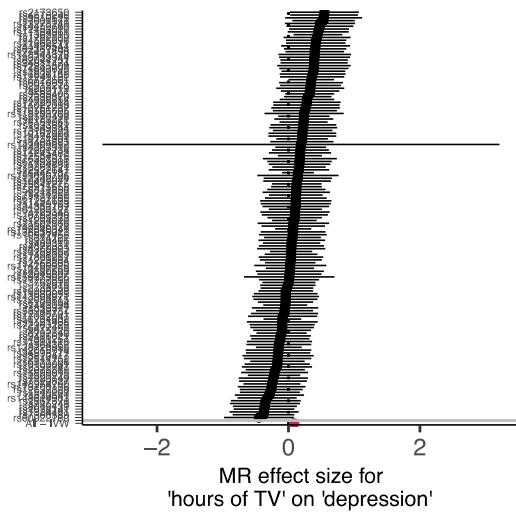
Figure S6b. Mendelian randomization plots for TV watching time → risk of depression. A) Scatterplot of SNP effects on TV watching time versus their effects on depression, with slope of each line corresponding to estimated MR effect per method (**Table S4a**). B) Forest plot of individual and combined SNP effects. C) Forest plot of leave-one-SNP-out sensitivity analyses. Top SNPs $p < 5 \times 10^{-7}$.
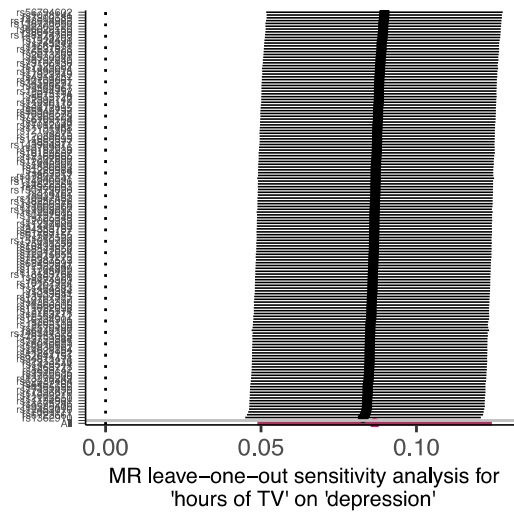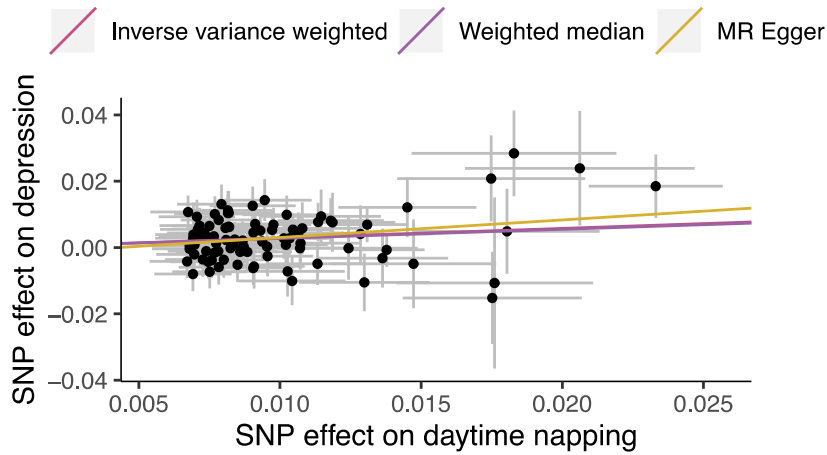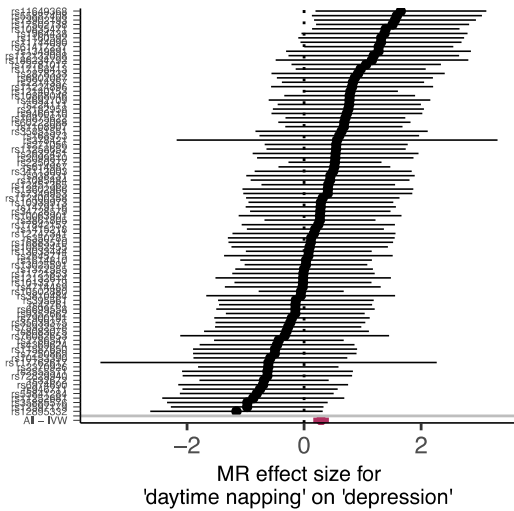
Figure S6c. Mendelian randomization plots for daytime napping → risk of depression. A) Scatterplot of SNP effects on daytime napping versus their effects on depression, with slope of each line corresponding to estimated MR effect per method (**Table S4a**). B) Forest plot of individual and combined SNP effects. C) Forest plot of leave-one-SNP-out sensitivity analyses. Top SNPs $p < 5 \times 10^{-7}$.
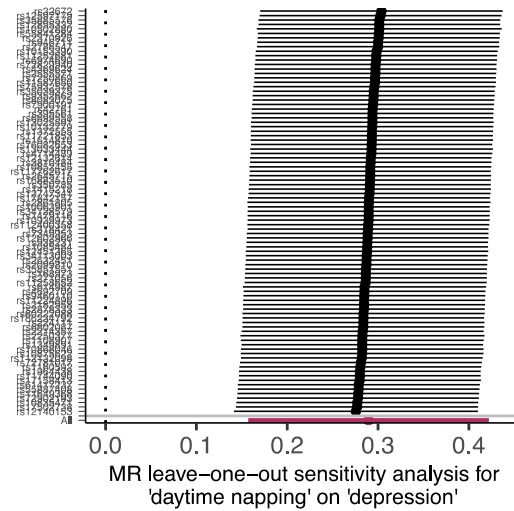
Figure S6d. Mendelian randomization plots for multivitamin use → risk of depression. A) Scatterplot of SNP effects on multivitamin use versus their effects on depression, with slope of each line corresponding to estimated MR effect per method (**Table S4a**). B) Forest plot of individual and combined SNP effects. C) Forest plot of leave-one-SNP-out sensitivity analyses. Top SNPs p < 5x10^{-7}.