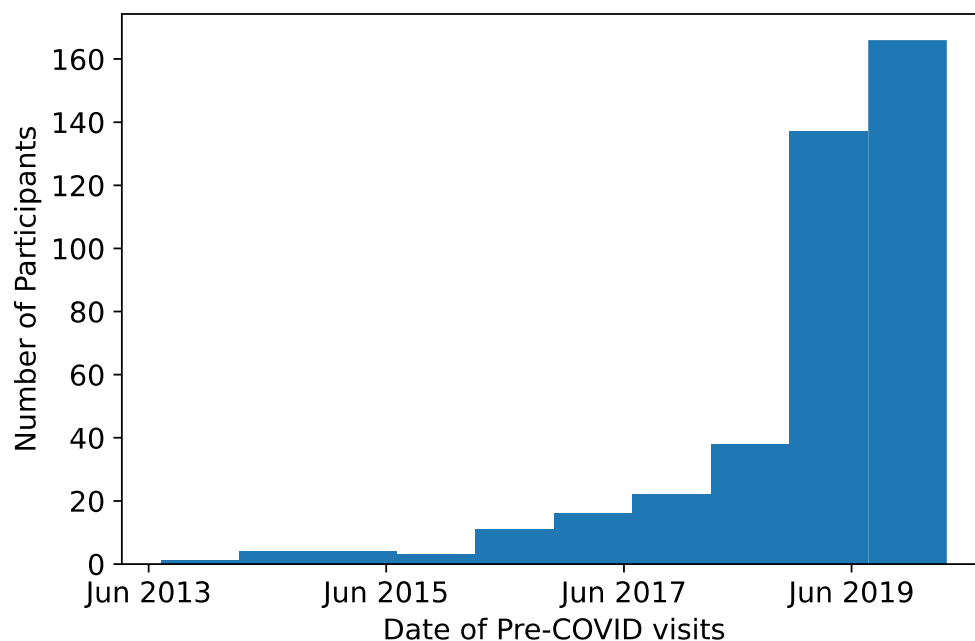


Supplement to “Earlier Bedtime and Effective Coping Skills Predict a Return to Low-Risk of Depression in Young Adults during the COVID-19 Pandemic”

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Supplement Methods - Data Matching: Specific to the 119 participants that became high risk for depression by June 2020 (and were not before the pandemic), we created a matched dataset of those that did and did not return to low risk by 2021 using the maximum bipartite matching algorithm [1]. The method first constructed a bipartite graph such that the first set of nodes represented the 61 returning to low-risk participants while the second set of nodes presented the 58 persistent high-risk participants. An edge was connected between a returning and a persistent participant if they had the same CES-D-10 score in June 2020. The Ford-Fulkerson algorithm [2] then selected the maximum number of pairs matched with respect to the CES-D-10 score in June 2020. This process resulted in a matched dataset of 49 participants returning to low-risk and 49 persistent participants.



Supplementary Figure S1. Distribution of Pre-COVID visit date.

Supplementary Table S1. Results of the complete logistic regression model applied to the matched dataset of 49 participants returning to low risk in 2021 and the 49 persistent high-risk participants. Significant predictors are highlighted in bold ($p<0.05$).

	<i>Estimate</i>	<i>SE</i>	<i>tStat</i>	<i>pValue</i>
<i>Intercept</i>	0.48	0.887	0.541	0.589
<i>Age</i>	-0.315	0.478	-0.66	0.509
<i>Sex</i>	-0.557	0.357	-1.558	0.119
<i>Age:sex</i>	-0.73	0.423	-1.728	0.084
<i>Study site</i>				
<i>Duke</i>	0.296	1.235	0.24	0.811
<i>OHSU</i>	0.219	1.002	0.218	0.827
<i>SRI</i>	1.151	0.93	1.238	0.216
<i>UPMC</i>	1	1.014	0.986	0.324
<i>Race</i>				
<i>Asian</i>	0.331	1.167	0.284	0.777
<i>African American</i>	-0.034	1.3	-0.026	0.979
<i>Others</i>	-0.6	1.21	-0.496	0.62
<i>Hispanic</i>	-3.238	1.359	-2.382	0.017
<i>Family socioeconomic status</i>	0.02	0.328	0.062	0.95
<i>Enrolled in education</i>	-1.149	0.796	-1.444	0.149
<i>Sleep behavior</i>				
<i>sleep quality</i>	0.055	0.37	0.148	0.882
<i>sleep bedtime</i>	1.172	0.463	2.533	0.011
<i>sleep duration</i>	0.484	0.381	1.272	0.203
<i>age:sleep quality</i>	0.139	0.387	0.359	0.72
<i>sex:sleep quality</i>	-0.163	0.362	-0.451	0.652
<i>age:sleep bedtime</i>	-0.001	0.389	-0.002	0.999
<i>sex:sleep bedtime</i>	-0.173	0.405	-0.427	0.669
<i>age:sleep duration</i>	-0.595	0.406	-1.467	0.142
<i>sex:sleep duration</i>	-0.386	0.379	-1.02	0.308
<i>Coping skills</i>				
<i>coping</i>	0.231	0.355	0.651	0.515
<i>age:coping</i>	-1.932	0.607	-3.183	0.001
<i>sex:coping</i>	-0.098	0.357	-0.273	0.785
<i>Alcohol use</i>				
<i>alcohol quantity</i>	0.016	0.524	0.031	0.975
<i>alcohol frequency</i>	0.326	0.547	0.595	0.552
<i>age:alcohol quantity</i>	0.839	0.624	1.344	0.179
<i>sex:alcohol quantity</i>	0.436	0.434	1.004	0.315
<i>age:alcohol frequency</i>	-0.135	0.574	-0.236	0.813
<i>sex:alcohol frequency</i>	0.041	0.481	0.086	0.932

Supplementary Table S2. Results of the complete logistic regression model applied to 35 participants returning to CES-D \leq 7 and 58 persistent participants with CES-D-10 \geq 10. Significant predictors are highlighted in bold ($p<0.05$).

	<i>Estimate</i>	<i>SE</i>	<i>tStat</i>	<i>pValue</i>
<i>Intercept</i>	-5.499	2.057	-2.674	0.007
<i>age</i>	0.417	0.685	0.609	0.543
<i>sex</i>	-0.148	0.445	-0.334	0.739
<i>age:sex</i>	-0.695	0.534	-1.3	0.194
<i>study site</i>				
<i>Duke</i>	2.124	1.581	1.343	0.179
<i>OHSU</i>	1.884	1.323	1.424	0.155
<i>SRI</i>	1.37	1.197	1.144	0.253
<i>UPMC</i>	1.613	1.449	1.114	0.265
<i>race</i>				
<i>Asian</i>	2.127	1.759	1.209	0.227
<i>African American</i>	0.027	2.133	0.013	0.99
<i>Others</i>	-0.784	1.334	-0.587	0.557
<i>Hispanic</i>	-1.405	1.629	-0.863	0.388
<i>family socioeconomic status</i>	-0.538	0.481	-1.118	0.263
<i>enrolled in education</i>	-0.108	1.118	-0.097	0.923
<i>CES-D score in June 2020</i>	0.38	0.128	2.96	0.003
<i>Sleep behavior</i>				
<i>sleep quality</i>	-0.249	0.441	-0.566	0.571
<i>sleep bedtime</i>	1.264	0.596	2.122	0.034
<i>sleep duration</i>	1.007	0.596	1.691	0.091
<i>age:sleep quality</i>	-0.033	0.413	-0.081	0.936
<i>sex:sleep quality</i>	-0.337	0.405	-0.832	0.405
<i>age:sleep bedtime</i>	0.485	0.592	0.819	0.413
<i>sex:sleep bedtime</i>	0.252	0.472	0.535	0.593
<i>age:sleep duration</i>	-0.255	0.526	-0.485	0.628
<i>sex:sleep duration</i>	0.293	0.522	0.561	0.575
<i>Coping skills</i>				
<i>coping</i>	-0.149	0.422	-0.353	0.724
<i>age:coping</i>	-0.967	0.516	-1.875	0.061
<i>sex:coping</i>	-0.152	0.427	-0.355	0.723
<i>Alcohol use</i>				
<i>alcohol quantity</i>	0.323	0.779	0.415	0.678
<i>alcohol frequency</i>	0.302	0.767	0.394	0.694
<i>age:alcohol quantity</i>	-0.049	0.825	-0.059	0.953
<i>sex:alcohol quantity</i>	0.317	0.639	0.496	0.62

<i>age:alcohol frequency</i>	0.956	0.766	1.249	0.212
<i>sex:alcohol frequency</i>	-0.253	0.703	-0.36	0.719

1. Zhao, Q., et al., *Association of Heavy Drinking With Deviant Fiber Tract Development in Frontal Brain Systems in Adolescents*. JAMA Psychiatry, 2021. **78**(4): p. 407-415.
2. Ford, L.R. and D.R. Fulkerson, *Maximal flow through a network*. Canadian Journal of Mathematics, 1956. **8**: p. 399-404.