**Supplemental Materials**

**Methods**

**Delay Discounting. *Task Details: Study 1*.** The study used an adjusting-amount approach (Holt, Green, & Myerson, 2012), whereby the delay and the amount available at that delay were fixed and the reward amount for the proximal choice is adjusted on a trial-by-trial basis until the participant makes six choices per delay, at which point an indifference point is determined. Participants chose amounts at six delays (1 month, 6 months, 1 year, 3 years, 5 years, 10 years) based on delayed amounts of $200 and $40,000. To match the design across studies as closely as possible, we only used choices with a delayed value of $200 at the 1-month, 6-months, 1-year, and 5-year delays. The outcome of this task were indifference points that were used to calculate *k*-values. We chose to calculate *k*-values instead of using the HCP-provided area-under-the-curve (AUC) values, given evidence that AUC values are especially skewed among populations that exhibit greater discounting (Yoon, De La Garza et al., 2017). ***Study 2***. Participants completed a delay discounting task with a similar structure to that used in Study 1 but based on a fixed delayed amount of $100 (instead of $200). The first choice for each delay was always between $100 (delayed amount) and $50 (immediate amount), and in each following trial, the outcome available immediately was adjusted based on the participant’s choice. This procedure was repeated until the participant made six choices for each temporal delay (1 week, 6 months, 1 year, and 5 years). This task was available for a subset of participants (*n* = 82). The outcome of this task was an indifference point that was used to calculate *k-*values. ***Study 3***. Participants completed the 5-Trial Adjusting Delay Discounting Task (Koffarnus & Bickel, 2014),where participants are presented a series of 5 choice questions between $500 now or $1000 later. With each choice, the amount of delay (time) is adjusted. The task automatically calculates the discount rate (*k-*value; Koffarnus & Bickel, 2014). Participants completed this measure twice a day for seven days and *k*-values were averaged across the week to create an aggregate delay discounting measure.

**Cortical Delay Discounting Score Calculation**. Summation of the values below multiplied by cortical thickness in each region defined by the FreeSurfer Destrieux Atlas. (RH = right hemisphere. LH = left hemisphere. G = gyrus. S = sulcus.)

RH Fronto-marginal gyrus (of Wernicke) and sulcus\*-0.012+

RH Inferior occipital gyrus (O3) and sulcus\*-0.039+

RH Paracentral lobule and sulcus\*-0.052+

RH Subcentral gyrus (central operculum) and sulci\*-0.046+

RH Transverse frontopolar gyri and sulci\*0.007+

RH Anterior part of the cingulate gyrus and sulcus (ACC)\*0.022+

RH Middle-anterior part of the cingulate gyrus and sulcus (aMCC)\*-0.031+

RH Middle-posterior part of the cingulate gyrus and sulcus (pMCC)\*-0.092+

RH Posterior-dorsal part of the cingulate gyrus (dPCC)\*-0.128+

RH Posterior-ventral part of the cingulate gyrus (vPCC, isthmus of the cingulate gyrus)\*-0.031+

RH Cuneus\*0.006+

RH Opercular part of the inferior frontal gyrus\*-0.005+

RH Orbital part of the inferior frontal gyrus\*-0.007+

RH Triangular part of the inferior frontal gyrus\*0.017+

RH Middle frontal gyrus \*0.005+

RH Superior frontal gyrus\*-0.023+

RH Long insular gyrus and central sulcus of the insula\*-0.047+

RH Short insular gyri\*-0.070+

RH Middle occipital gyrus (O2, lateral occipital gyrus)\*-0.049+

RH Superior occipital gyrus (O1)\*-0.002+

RH Lateral occipito-temporal gyrus (fusiform gyrus, O4-T4)\*-0.089+

RH Lingual gyrus, lingual part of the medial occipito-temporal gyrus (O5)\*-0.027+

RH Parahippocampal gyrus, \*-0.053+

RH Orbital gyri\*-0.054+

RH Angular gyrus\*-0.008+

RH Supramarginal gyrus\*-0.013+

RH Superior parietal lobule (lateral part of P1)\*0.006+

RH Postcentral gyrus\*-0.025+

RH Precentral gyrus\*-0.001+

RH Precuneus (medial part of P1)\*0.002+

RH Straight gyrus\*-0.038+

RH Subcallosal area, subcallosal gyrus\*0.036+

RH Anterior transverse temporal gyrus (of Heschl)\*-0.036+

RH Lateral aspect of the superior temporal gyrus\*-0.023+

RH Planum polare of the superior temporal gyrus\*-0.020+

RH Planum temporale of the superior temporal gyrus\*-0.013+

RH Inferior temporal gyrus (T3)\*-0.025+

RH Middle temporal gyrus (T2)\*-0.054+

RH Horizontal ramus of the anterior segment of the lateral sulcus\*0.045+

RH Vertical ramus of the anterior segment of the lateral sulcus\*0.0305+

RH Posterior ramus of the lateral sulcus\*-0.044+

RH Occipital pole\*-0.051+

RH Temporal pole\*-0.060+

RH Calcarine sulcus\*-0.011+

RH Central sulcus (Rolando’s fissure)\*-0.047+

RH Marginal branch of the cingulate sulcus\*-0.018+

RH Anterior segment of the circular sulcus of the insula\*-0.058+

RH Inferior segment of the circular sulcus of the insula\*0.017+

RH Superior segment of the circular sulcus of the insula\*-0.056+

RH Anterior transverse collateral sulcus\*-0.022+

RH Posterior transverse collateral sulcus\*-0.071+

RH Inferior frontal sulcus\*-0.017+

RH Middle frontal sulcus\*-0.001+

RH Superior frontal sulcus\*-0.034+

RH Sulcus intermedius primus (of Jensen)\*-0.013+

RH Intraparietal sulcus and transverse parietal sulci\*-0.012+

RH Middle occipital sulcus and lunatus sulcus\*-0.020+

RH Superior occipital sulcus and transverse occipital sulcus\*-0.012+

RH Anterior occipital sulcus and preoccipital notch\*-0.048+

RH Lateral occipito-temporal sulcus\*-0.014+

RH Medial occipito-temporal sulcus and lingual sulcus\*-0.058+

RH Lateral orbital sulcus\*-0.001+

RH Medial orbital sulcus (olfactory sulcus)\*0.008+

RH Orbital sulci (H-shaped sulci)\*-0.004+

RH Parieto-occipital sulcus\*-0.008+

RH Pericallosal sulcus (S of corpus callosum)\*-0.021+

RH Postcentral sulcus\*-0.001+

RH Inferior part of the precentral sulcus\*-0.037+

RH Superior part of the precentral sulcus\*-0.029+

RH Suborbital sulcus\*0.019+

RH Subparietal sulcus\*-0.023+

RH Inferior temporal sulcus\*-0.023+

RH Superior temporal sulcus\*-0.037+

RH Transverse temporal sulcus\*-0.089 +

LH Fronto-marginal gyrus (of Wernicke) and sulcus\*-0.044+

LH Inferior occipital gyrus (O3) and sulcus\*-0.058+

LH Paracentral lobule and sulcus\*-0.076+

LH Subcentral gyrus (central operculum) and sulci\*-0.033+

LH Transverse frontopolar gyri and sulci\*-0.024+

LH Anterior part of the cingulate gyrus and sulcus (ACC)\*0.030+

LH Middle-anterior part of the cingulate gyrus and sulcus (aMCC)\*0.015+

LH Middle-posterior part of the cingulate gyrus and sulcus (pMCC)\*-0.045+

LH Posterior-dorsal part of the cingulate gyrus (dPCC)\*-0.119+

LH Posterior-ventral part of the cingulate gyrus (vPCC, isthmus of the cingulate gyrus)\*0.047+

LH Cuneus\*-0.049+

LH Opercular part of the inferior frontal gyrus\*-0.000+

LH Orbital part of the inferior frontal gyrus\*-0.047+

LH Triangular part of the inferior frontal gyrus\*0.003+

LH Middle frontal gyrus (F2)\*0.007+

LH Superior frontal gyrus (F1)\*-0.0253+

LH Long insular gyrus and central sulcus of the insula\*-0.036+

LH Short insular gyri\*-0.0422+

LH Middle occipital gyrus (O2, lateral occipital gyrus)\*-0.018+

LH Superior occipital gyrus (O1)\*0.001+

LH Lateral occipito-temporal gyrus (fusiform gyrus, O4-T4)\*-0.088+

LH Lingual gyrus, lingual part of the medial occipito-temporal gyrus (O5)\*-0.024+

LH Parahippocampal gyrus\*-0.056+

LH Orbital gyri\*-0.068+

LH Angular gyrus\*0.003+

LH Supramarginal gyrus\*-0.024+

LH Superior parietal lobule (lateral part of P1)\*0.014+

LH Postcentral gyrus\*-0.030+

LH Precentral gyrus\*-0.008+

LH Precuneus (medial part of P1)\*-0.024+

LH Straight gyrus\*-0.040+

LH Subcallosal area, subcallosal gyrus\*0.048+

LH Anterior transverse temporal gyrus (of Heschl)\*-0.054+

LH Lateral aspect of the superior temporal gyrus\*-0.017+

LH Planum polare of the superior temporal gyrus\*0.003+

LH Planum temporale of the superior temporal gyrus\*0.003+

LH Inferior temporal gyrus (T3)\*-0.045+

LH Middle temporal gyrus (T2)\*-0.031+

LH Horizontal ramus of the anterior segment of the lateral sulcus\*-0.046+

LH Vertical ramus of the anterior segment of the lateral sulcus\*0.041+

LH Posterior ramus of the lateral sulcus\*-0.056+

LH Occipital pole\*-0.051+

LH Temporal pole\*-0.029+

LH Calcarine sulcus\*-0.013+

LH Central sulcus\*-0.033+

LH Marginal branch of the cingulate sulcus\*0.045+

LH Anterior segment of the circular sulcus of the insula\*-0.070+

LH Inferior segment of the circular sulcus of the insula\*0.001+

LH Superior segment of the circular sulcus of the insula\*-0.080+

LH Anterior transverse collateral sulcus\*-0.016+

LH Posterior transverse collateral sulcus\*-0.016+

LH Inferior frontal sulcus\*-0.020+

LH Middle frontal sulcus\*0.025+

LH Superior frontal sulcus\*-0.023+

LH Sulcus intermedius primus (of Jensen)\*-0.054+

LH Intraparietal sulcus and transverse parietal sulci\*0.013+

LH Middle occipital sulcus and lunatus sulcus\*-0.025+

LH Superior occipital sulcus and transverse occipital sulcus\*-0.022+

LH Anterior occipital sulcus and preoccipital notch\*0.006+

LH Lateral occipito-temporal sulcus\*-0.007+

LH Medial occipito-temporal sulcus and lingual sulcus\*-0.078+

LH Lateral orbital sulcus\*-0.019+

LH Medial orbital sulcus (olfactory sulcus)\*-0.030+

LH Orbital sulci (H-shaped sulci)\*-0.017+

LH Parieto-occipital sulcus\*-0.026+

LH Pericallosal sulcus (S of corpus callosum)\*-0.01+

LH Postcentral sulcus\*0.007+

LH Inferior part of the precentral sulcus\*-0.017+

LH Superior part of the precentral sulcus\*-0.024+

LH Suborbital sulcus\*0.030+

LH Subparietal sulcus\*-0.022+

LH Inferior temporal sulcus\*-0.046+

LH Superior temporal sulcus\*-0.023+

LH Transverse temporal sulcus\*-0.018

**Results**

*Table S1*. *Bivariate Correlations between Cortical Delay Discounting & Psychiatric Symptoms*

|  |  |
| --- | --- |
| Psychiatric Symptoms | Cortical Delay Discounting Score |
| Substance Use Disorders | 0.31\*\* |
| Alcohol Use Disorder | 0.24\* |
| Antisocial Personality Disorder | 0.38\*\* |
| Major Depressive Disorder | 0.11 |
| Panic Disorder | -0.01 |
| Generalized Anxiety Disorder | -0.11 |
| Social Anxiety Disorder | 0.01 |
| Latent Externalizing Disorder Variable | 0.47\*\* |
| Latent Internalizing Disorder Variable | 0.05 |

*Note*. *N* = 152. \**p* <.01. \*\**p* <.001.