Supplemental Material for:

Impulsivity in Midlife Predicts Subjective Cognitive Decline Six Years Later

Summary of Supplemental Material:

Table S1: Sensitivity Regression Analysis in the Full Sample

Table S2: Sensitivity Regression Analyses in Participants Cognitively Unimpaired at Both Assessments

Table S3: Sensitivity Regression Analyses in Participants Cognitively Unimpaired at Both Assessments and SCD Categorized Dichotomously

Table S4: Sensitivity Regression Analyses using Only Depressive Symptoms or Trait Anxiety as a Covariate

Table S5: Sensitivity Regression Analyses with Age 56 Stress Reactivity as an additional Covariate

Figure S1: Path Model Including Informant-Rated SCD

Figure S2: Sensitivity Twin Analyses in the Subsample Cognitively Normal at Baseline

Table S1: Sensitivity Regression Analyses in the Full Sample

Predictors	A. Participant-Rated SCD (Age 68)			B. Informant-Rated SCD (Age 68)			C. MCI (Age 68)		
	β	*p*	95% CI	*β*	*p*	95% CI	*β*	*p*	95% CI
Impulsivity (Age 62)	**0.29**	**<.001**	**[.20, .37]**	**0.10**	**0.030**	**[.01, .19]**	0.02	0.750	[-.11, .14]
Anx/Dep Symptoms (Age 62)	**0.20**	**<.001**	**[.13, .28]**	**0.16**	**<.001**	**[.08, .25]**	0.11	0.061	[.00, .21]
MCI (Age 62)	**0.11**	**0.005**	**[.03, .18]**	0.03	0.466	[-.05, .10]	**0.37**	**<.001**	**[.28, .44]**
APOE Dosage Score	**-0.07**	**0.010**	**[-.12, -.02]**	0.01	0.813	[-.06, .07]	-0.06	0.265	[-.15, .04]
Age (Age 68)	**0.11**	**0.001**	**[.05, .17]**	**0.09**	**0.006**	**[.03, .15]**	0.01	0.867	[-.07, .09]

Note: This table is identical to Table 3 in the main text, except that we did not filter the analysis sample to individuals cognitively normal at mean age 62. Instead, MCI status at mean age 62 was included as a covariate. Standardized associations are shown, with significant associations displayed in bold (p<.05). APOE = Apolipoprotein E.

Table S2: Sensitivity Regression Analyses in Participants Cognitively Unimpaired at Both Assessments

Predictors	A. Participant-Rated SCD (Age 68)			B. Informant-Rated SCD (Age 68)		
	β	*p*	95% CI	*β*	*p*	95% CI
Impulsivity (Age 62)	**0.28**	**<.001**	**[.20, .36]**	0.09	0.086	[-.01, .18]
Anx/Dep Symptoms (Age 62)	**0.18**	**<.001**	**[.09, .27]**	**0.19**	**<.001**	**[.10, .28]**
APOE Dosage Score	-0.05	0.164	[-.11, .02]	0.02	0.646	[-.07, .10]
Age (Age 68)	**0.11**	**0.003**	**[.04, .18]**	**0.10**	**0.014**	**[.03, .18]**

Note: This table is identical to Table 3 in the main text, except that we filtered the analysis sample to only those individuals cognitively unimpaired at both mean age 62 and mean age 68 (i.e., focusing on P-SCD; *n*=722). Standardized associations are shown, with significant associations displayed in bold (p<.05). APOE = Apolipoprotein E.

Table S3: Sensitivity Regression Analyses in Participants Cognitively Unimpaired at Both Assessments and SCD Categorized Dichotomously

Predictors	A. Participant-Rated SCD (Age 68)			B. Informant-Rated SCD (Age 68)		
	β	*p*	95% CI	*β*	*p*	95% CI
Impulsivity (Age 62)	**0.34**	**< .001**	**[.19, .50]**	**0.21**	**0.039**	**[.00, .38]**
Anx/Dep Symptoms (Age 62)	0.15	0.098	[-.03, .30]	**0.19**	**0.017**	**[.03, .33]**
APOE Dosage Score	-0.08	0.406	[-.30, .09]	-0.12	0.147	[-.30, .03]
Age (Age 68)	0.16	0.085	[-.02, .33]	0.09	0.319	[-.08, .25]

Note: This table is identical to Table 3 in the main text, except that we filtered the analysis sample to only those individuals cognitively unimpaired at both mean age 62 and mean age 68 (i.e., P-SCD; *n*=722). Additionally, instead of analyzing individual differences in P-SCD as continuous scores, we used a dichotomous variable for P-SCD if their ratings (5.7%) or their informant's (6.2%) ECog total score exceeded 1.31 or 1.36 (respectively). Standardized probit regression coefficients are shown, with significant associations displayed in bold (p<.05). APOE = Apolipoprotein E.

Table S4: Sensitivity Regression Analyses using Only Depressive Symptoms or Trait Anxiety as a Covariate

Predictors	A. Participant-Rated SCD (Age 68)			B. Informant-Rated SCD (Age 68)			C. MCI (Age 68)		
	β	*p*	95% CI	*β*	*p*	95% CI	*β*	*p*	95% CI
A. Anxiety Symptoms only									
Impulsivity (Age 62)	**0.27**	**<.001**	**[.18, .35]**	0.10	0.056	[-.01, .19]	0.07	0.327	[-.09, .21]
Trait Anxiety (Age 62)	**0.22**	**<.001**	**[.13, .30]**	**0.16**	**<.001**	**[.08, .26]**	0.04	0.592	[-.12, .18]
APOE Dosage Score	**-0.08**	**0.014**	**[-.15, -.02]**	0.01	0.809	[-.06, .08]	-0.07	0.215	[-.19, .04]
Age (Age 68)	**0.12**	**0.001**	**[.04, .19]**	**0.11**	**0.004**	**[.04, .19]**	0.08	0.243	[-.05, .21]
B. Depression Symptoms only									
Impulsivity (Age 62)	**0.31**	**<.001**	**[.24, .39]**	**0.12**	**0.009**	[.03, .21]	0.05	0.505	[-.10, .18]
Depression Symptoms (Age 62)	**0.17**	**<.001**	**[.09, .25]**	**0.15**	**<.001**	**[.07, .22]**	0.10	0.166	[-.03, .24]
APOE Dosage Score	**-0.08**	**0.024**	**[-.14, -.01]**	0.01	0.752	[-.06, .09]	-0.08	0.213	[-.19, .04]
Age (Age 68)	**0.12**	**0.001**	**[.05, .19]**	**0.12**	**0.002**	**[.04, .19]**	0.08	0.217	[-.05, .21]

Note: This table is identical to Table 3 in the main text, except that we replaced the combined anxiety/depression symptoms covariate with either trait anxiety only (model A) or depressive symptoms only (model B). Results were most similar to Table 3 when focusing on trait anxiety rather than depressive symptoms. Standardized probit regression coefficients are shown, with significant associations displayed in bold ($p<.05$). APOE = Apolipoprotein E.

Table S5: Sensitivity Regression Analyses with Age 56 Stress Reactivity as an additional Covariate

Predictors	A. Participant-Rated SCD (Age 68)			B. Informant-Rated SCD (Age 68)			C. MCI (Age 68)		
	β	*p*	95% CI	*β*	*p*	95% CI	*β*	*p*	95% CI
Impulsivity (Age 62)	**0.26**	**<.001**	**[.18, .34]**	0.08	0.099	[-.01, .18]	0.04	0.631	[-.12, .18]
Anx/Dep Symptoms (Age 62)	**0.18**	**<.001**	**[.08, .29]**	**0.14**	**0.006**	**[.03, .23]**	0.01	0.888	[-.15, .18]
MPQ Stress Reactivity (Age 56)	0.08	0.121	[-.02, .18]	0.07	0.156	[-.04, .17]	0.13	0.107	[-.04, .27]
APOE Dosage Score	**-0.07**	**0.032**	**[-.14, -.01]**	0.02	0.676	[-.06, .09]	-0.07	0.266	[-.18, .05]
Age (Age 68)	**0.12**	**0.002**	**[.04, .18]**	**0.11**	**0.004**	**[.04, .18]**	0.07	0.315	[-.06, .20]

Note: This table is identical to Table 3 in the main text, except that we added stress reactivity (measured at mean age 56) as an additional covariate. Standardized probit regression coefficients are shown, with significant associations displayed in bold (p<.05). APOE = Apolipoprotein E.

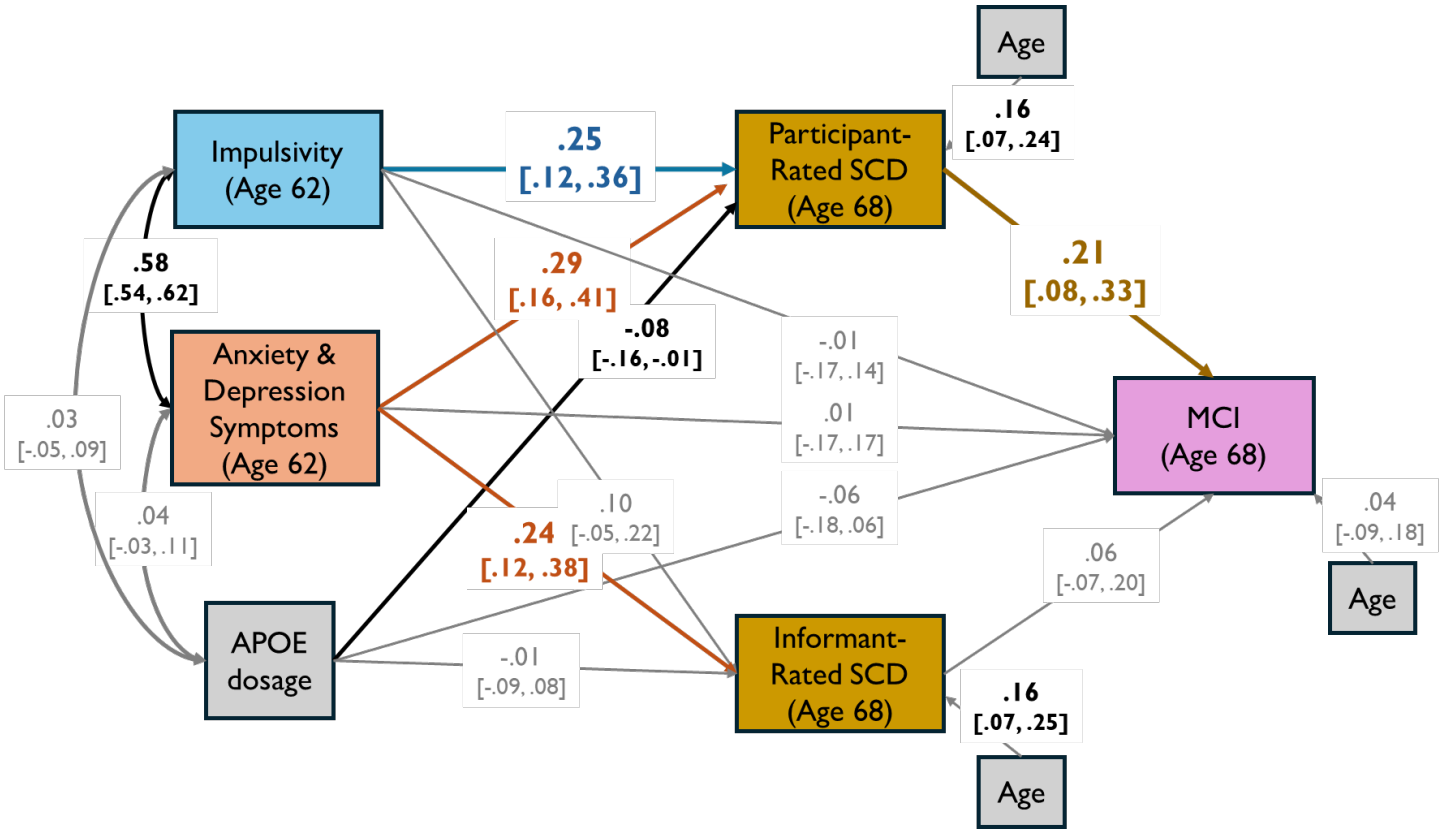


Figure S1: Full structural equation model of impulsivity (mean age 62), SCD (mean age 68), and mild cognitive impairment (MCI; mean age 68). This model is identical to Figure 1 in the main text, but it also includes a mediation pathway through informant-rated SCD. Analyses included only individuals who were cognitively unimpaired at mean age 62. Significant associations are displayed in bold (based on bootstrapped 95% CIs). Not displayed are the correlations among age at the 68 year assessment and the other predictor variables (impulsivity, anxiety & depression symptoms, and APOE dosage score).

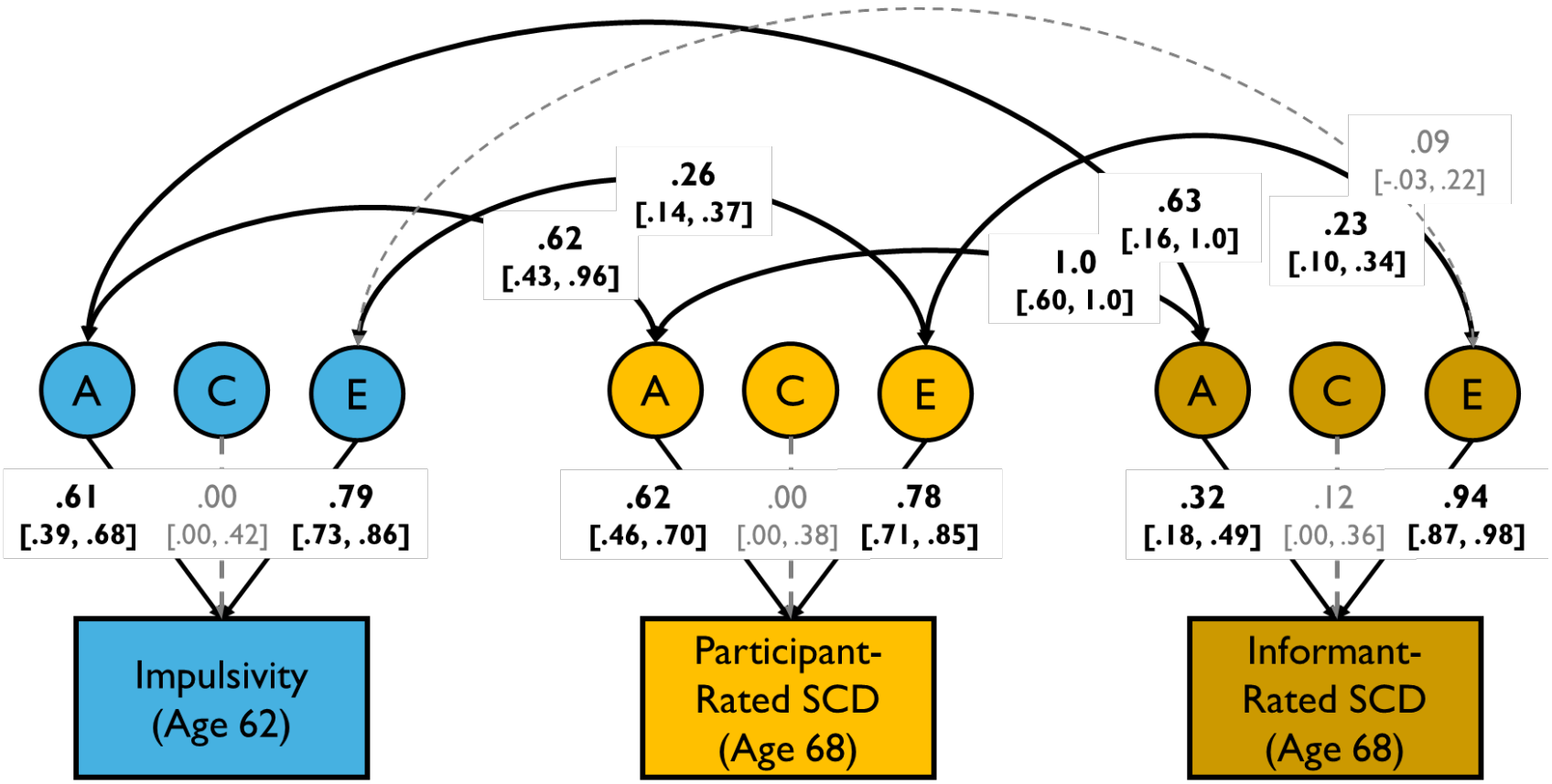


Figure S2: Genetic (A), shared environmental (C), and nonshared environmental (E) influences and correlations among impulsivity and SCD measures in the subsample of participants cognitively normal at baseline (mean age 62). The interpretation of genetic and environmental correlations is highly dependent on the total variance explained by these influences. Shared environmental correlations were not estimated because they explained very little variance on each trait (<2.5%). The total proportion of variance explained by ACE influences on each measure can be computed by squaring the factor loadings. Model fit: $\chi 2(36)=31.94$, p=.662, CFI=1.0, RMSEA=.000.