

The significance of cerebrospinal fluid protein biomarkers in predicting cognitive decline in transient ischemic attack patients

Results

Cole Lam

Summary statistics

Summary Statistics

Control/Treatment frequencies

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Control	36	51.4	51.4	51.4
	Treatment	34	48.6	48.6	100.0
	Total	70	100.0	100.0	

Sex frequencies

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	40	57.1	57.1	57.1
	Female	30	42.9	42.9	100.0
	Total	70	100.0	100.0	

Age descriptives

	N	Minimum	Maximum	Mean	Std. Deviation
Age	70	48	86	65.57	9.52
Valid N (listwise)	70				

CSF protein descriptives

	N	Minimum	Maximum	Mean	Std. Deviation
t-tau (ng/L)	70	89.230	893.000	376.878	197.126
p-tau (ng/L)	70	17.300	148.700	48.919	24.297
A β 1-42 (ng/L)	70	292.540	1789.000	919.578	287.948
A β 1-40 (ng/L)	54	4743.000	17642.000	10206.537	2470.848
A β 42/A β 40*10	54	.256	1.520	.950	.264
t-tau/A β 42	70	.108	2.020	.481	.380
p-tau/A β 42	70	.021	.336	.062	.052
ATI	70	.342	2.645	1.487	.599
Valid N (listwise)	54				

Cognitive assessment descriptives

	N	Minimum	Maximum	Mean	Std. Deviation
MoCA Total	68	19	30	25.75	2.634
ACE-R Score	67	71	100	91.39	5.942
Valid N (listwise)	67				

Age descriptives by group status

	C/T	N	Mean	Std. Error Mean
Age	Control	36	63.61	1.692
	Treatment	34	67.65	1.453

CSF protein descriptives by group status

	C/T	N	Mean	Std. Deviation	Std. Error Mean
t-tau (ng/L)	Control	36	321.7517	170.3032	28.3839
	Treatment	34	435.2476	208.9591	35.8362
p-tau (ng/L)	Control	36	41.9796	17.8808	2.9801
	Treatment	34	56.2664	28.0555	4.8115
A β 1-42 (ng/L)	Control	36	980.5417	301.7020	50.2837
	Treatment	34	855.0288	261.6819	44.8781
A β 1-40 (ng/L)	Control	34	10103.0000	2396.7141	411.0331
	Treatment	20	10382.5500	2646.0091	591.6656
A β 42/A β 40*10	Control	34	.9889	.2599	.0446
	Treatment	20	.8842	.2654	.0593
t-tau/A β 42	Control	36	.3692	.2655	.0442
	Treatment	34	.5988	.4470	.0767
p-tau/A β 42	Control	36	.0476	.0309	.0052
	Treatment	34	.0780	.0642	.0110
Amyloid-Tau Index (ATI)	Control	36	1.6972	.5767	.0961
	Treatment	34	1.2653	.5464	.0937

Cognitive assessment descriptives by groups status

	C/T	N	Mean	Std. Deviation	Std. Error Mean
MoCA Total	Control	35	26.60	1.850	.313
	TIA	33	24.85	3.043	.530
ACE-R Score	Control	35	93.06	4.935	.834
	TIA	32	89.56	6.470	1.144

One-sided independent t tests

Independent samples *t* tests

Independent samples *t* test for CSF protein concentrations between TIA and healthy control groups

		Levene's Test for Equality of Variances		t-test for Equality of Means								95% Confidence Interval of the Difference	
		F	Sig.	t	df	Significance One- Sided	Two- Sided	Mean Difference	Std. Error Difference	Lower	Upper		
t-tau (ng/L)	Equal variances assumed	2.5909	.1121	-2.4972	68.0000	.0075	.0149	-113.4960	45.4485	-204.1871	-22.8049		
	Equal variances not assumed			-2.4827	63.7399	.0078	.0157	-113.4960	45.7152	-204.8297	-22.1623		
p-tau (ng/L)	Equal variances assumed	4.6490	.0346	-2.5554	68.0000	.0064	.0128	-14.2869	5.5908	-25.4431	-3.1307		
	Equal variances not assumed			-2.5243	55.4781	.0072	.0145	-14.2869	5.6596	-25.6269	-2.9469		
A β 1-42 (ng/L)	Equal variances assumed	.6730	.4149	1.8546	68.0000	.0340	.0680	125.5128	67.6748	-9.5300	260.5557		
	Equal variances not assumed			1.8623	67.5250	.0335	.0669	125.5128	67.3980	-8.9949	260.0206		
A β 1-40 (ng/L)	Equal variances assumed	.0443	.8342	-.3983	52.0000	.3460	.6920	-279.5500	701.8808	-1687.9769	1128.8769		
	Equal variances not assumed			-.3880	36.8263	.3501	.7002	-279.5500	720.4279	-1739.5081	1180.4081		

Independent samples t test for CSF protein ratios between TIA and healthy control groups

		Levene's Test for Equality of Variances		t-test for Equality of Means						95% Confidence Interval of the Difference	
		F	Sig.	t	df	Significance One- Sided	Two- Sided	Mean Difference	Std. Error Difference	Lower	Upper
A β 42/ A β 40*10	Equal variances assumed	.0029	.9571	1.4186	52.0000	.0810	.1620	.1047	.0738	-.0434	.2528
	Equal variances not assumed			1.4108	39.2867	.0831	.1662	.1047	.0742	-.0454	.2548
t-tau/A β 42	Equal variances assumed	6.2488	.0148	-2.6297	68.0000	.0053	.0106	-.2296	.0873	-.4038	-.0554
	Equal variances not assumed			-2.5934	53.0912	.0061	.0123	-.2296	.0885	-.4071	-.0520
p-tau/A β 42	Equal variances assumed	8.7320	.0043	-2.5433	68.0000	.0066	.0133	-.0304	.0119	-.0542	-.0065
	Equal variances not assumed			-2.4977	46.9239	.0080	.0161	-.0304	.0122	-.0548	-.0059
Amyloid-Tau Index (ATI)	Equal variances assumed	.0045	.9465	3.2124	68.0000	.0010	.0020	.4319	.1344	.1636	.7002
	Equal variances not assumed			3.2174	67.9988	<.001	.0020	.4319	.1342	.1640	.6998

Independent samples *t* test for cognitive test scores between TIA and healthy control groups

		Levene's Test for Equality of Variances		t-test for Equality of Means						95% Confidence Interval of the Difference	
		F	Sig.	t	df	One- Sided	Two- Sided	Mean Difference	Std. Error Difference	Lower	Upper
MoCA Total	Equal variances assumed	9.691	.003	2.887	66	.003	.005	1.752	.607	.540	.2963
	Equal variances not assumed			2.848	52.229	.003	.006	1.752	.615	.517	2.986
ACE-R Score	Equal variances assumed	1.056	.308	2.498	65	.008	.015	3.495	1.399	.701	6.288
	Equal variances not assumed			2.469	57.826	.008	.017	3.495	1.416	.661	6.329

Linear regressions (Pt. 1)

Linear regression predicting t-tau concentrations based on group status, controlling age

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.434 ^a	.188	.164	180.235592

a. Predictors: (Constant), C/T, Age

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	504772.676	2	252386.338	7.769	<.001 ^b
	Residual	2176486.194	67	32484.869		
	Total	2681258.870	69			

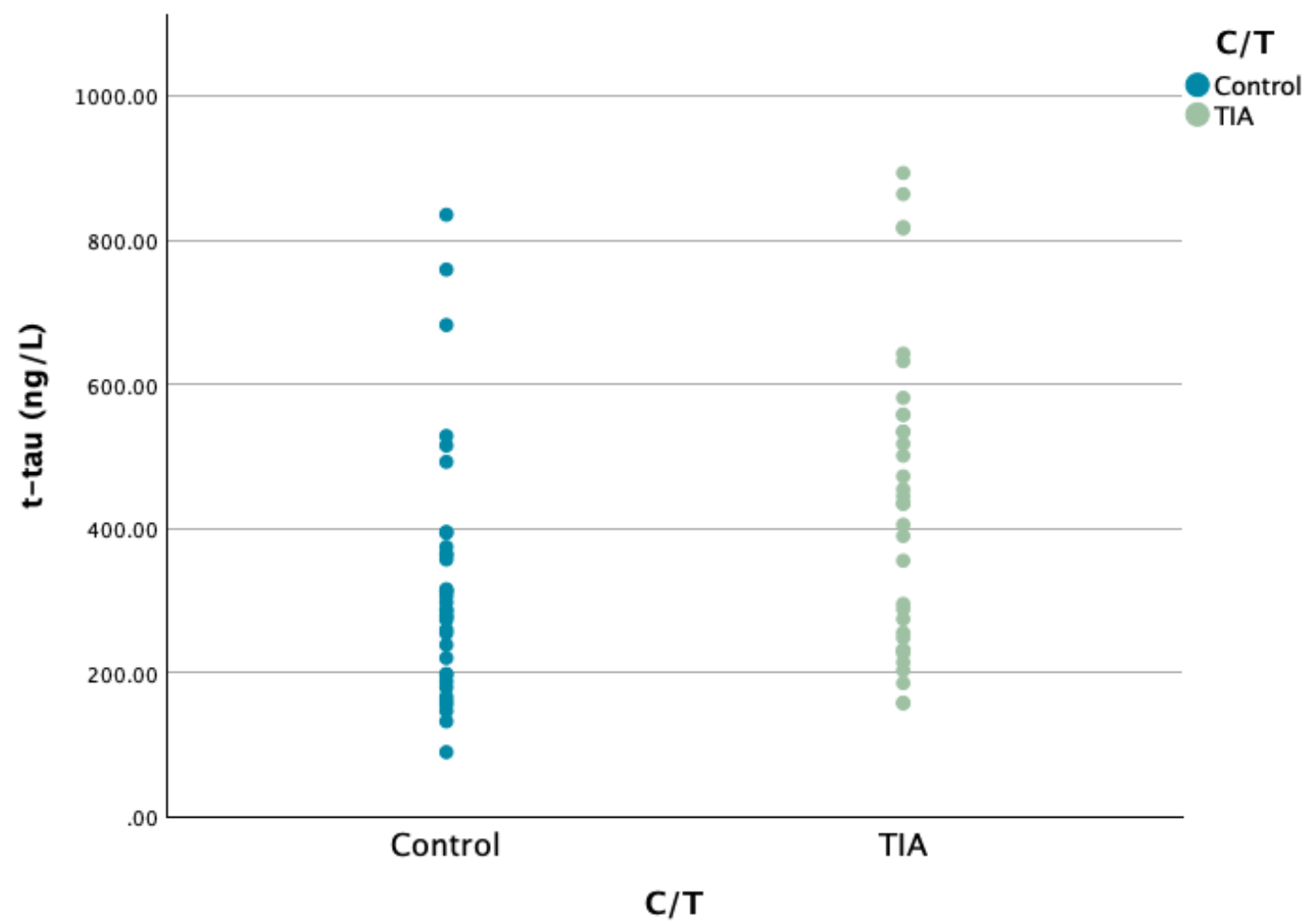
a. Dependent Variable: t-tau (ng/L)

b. Predictors: (Constant), C/T, Age

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-113.365	151.341		-.749	.456
	Age	6.840	2.332	.330	2.933	.005
	C/T	85.889	44.118	.219	1.947	.056

a. Dependent Variable: t-tau (ng/L)



Linear regression predicting p-tau concentrations based on group status, controlling age

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.399 ^a	.159	.134	22.614234

a. Predictors: (Constant), C/T, Age

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	6470.042	2	3235.021	6.326	.003 ^b
	Residual	34264.040	67	511.404		
	Total	40734.083	69			

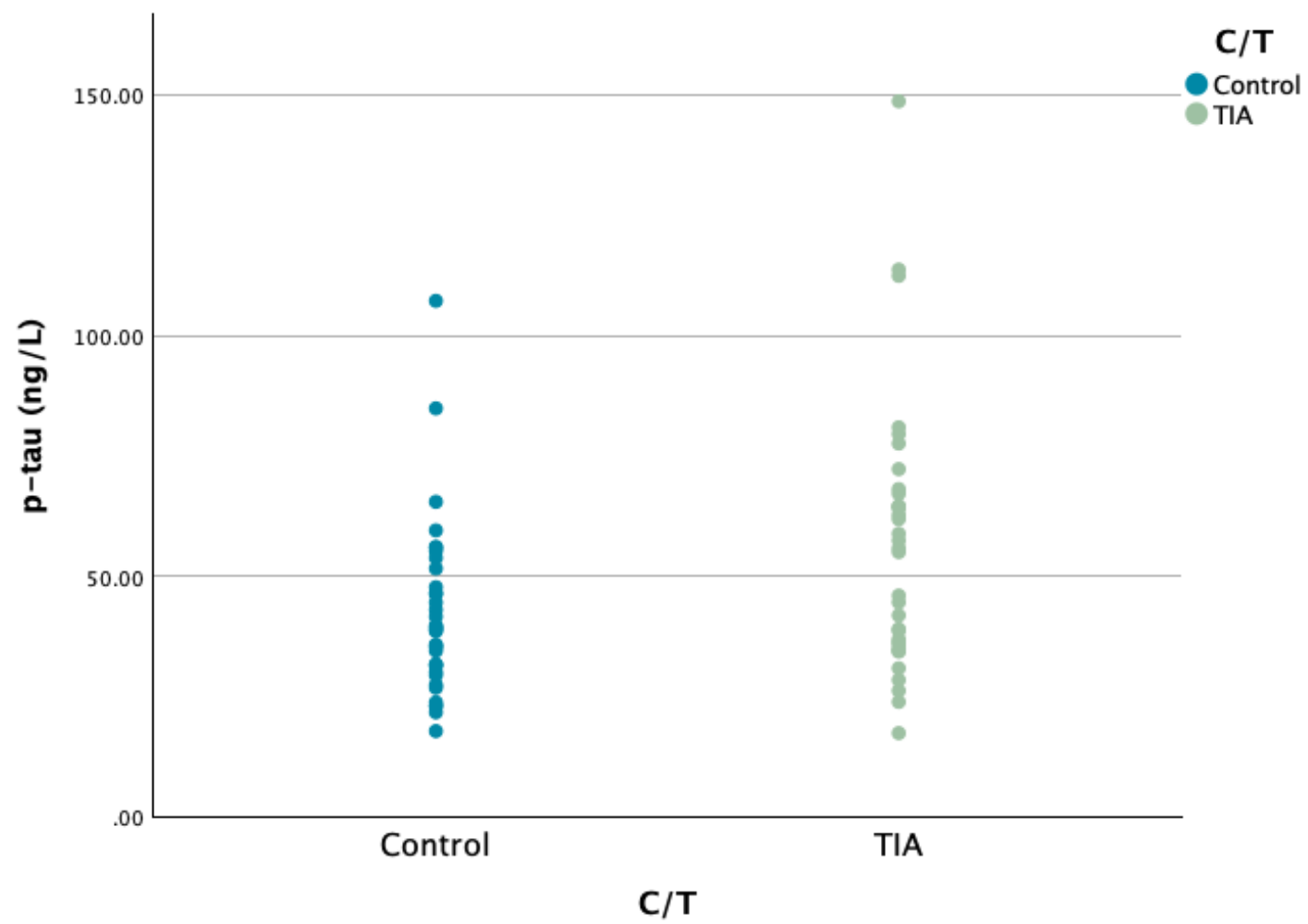
a. Dependent Variable: p-tau (ng/L)

b. Predictors: (Constant), C/T, Age

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-2.346	18.989		-.124	.902
	Age	.697	.293	.273	2.382	.020
	C/T	11.475	5.535	.238	2.073	.042

a. Dependent Variable: p-tau (ng/L)



Linear regression predicting A β 42 concentrations based on group status, controlling age

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.350 ^a	.122	.096	273.760985

a. Predictors: (Constant), C/T, Age

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	699739.333	2	349869.666	4.668	.013 ^b
	Residual	5021320.156	67	74945.077		
	Total	5721059.489	69			

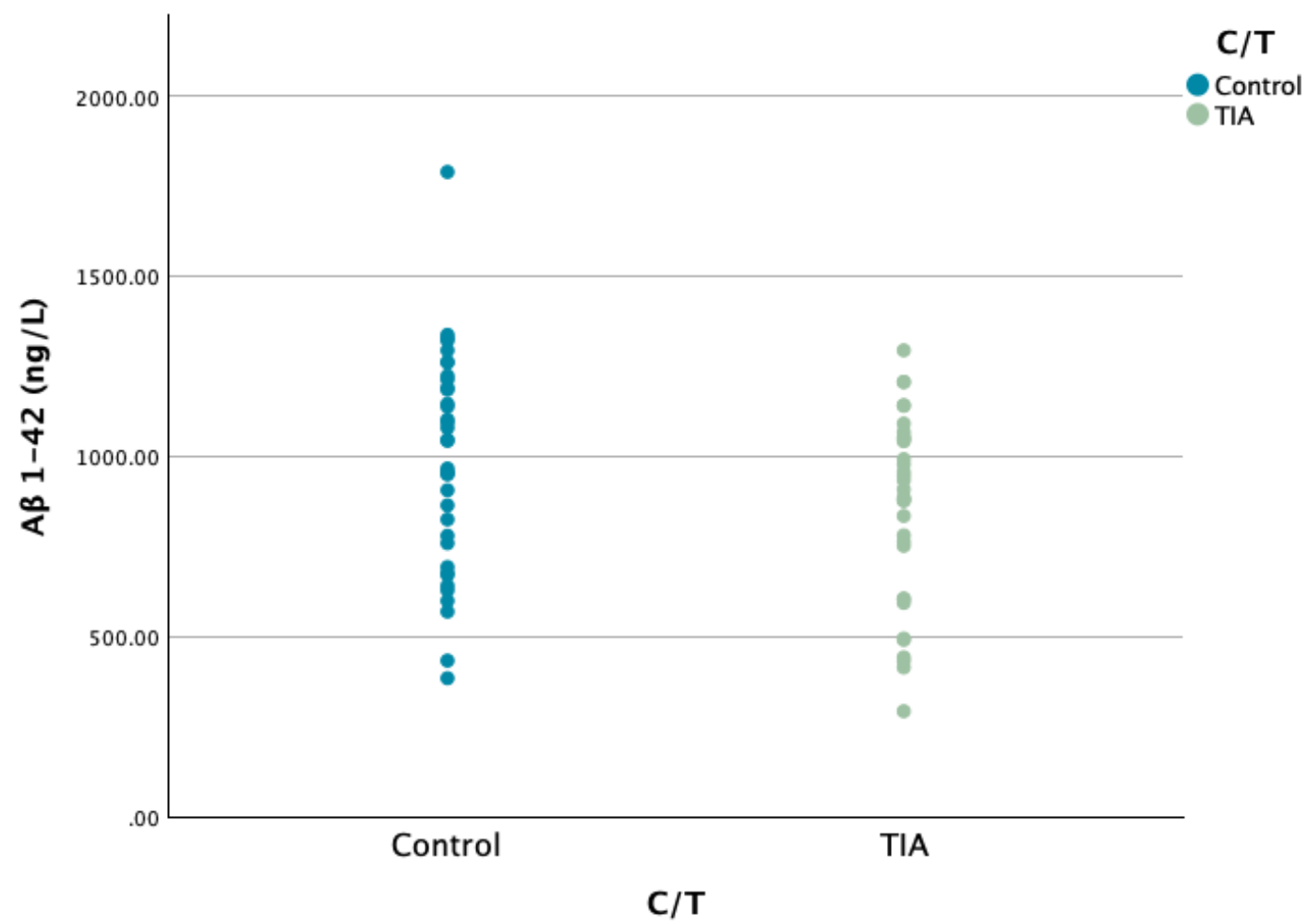
a. Dependent Variable: A β 1-42 (ng/L)

b. Predictors: (Constant), C/T, Age

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1516.603	229.873		6.598	<.001
	Age	-8.427	3.542	-.279	-2.379	.020
	C/T	-91.501	67.011	-.160	-1.365	.177

a. Dependent Variable: A β 1-42 (ng/L)



Linear regression predicting A β 40 concentrations based on group status, controlling age

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.080 ^a	.006	-.032	2510.662

a. Predictors: (Constant), C/T, Age

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2095260.383	2	1047630.191	.166	.847 ^b
	Residual	321474607.043	51	6303423.668		
	Total	323569867.426	53			

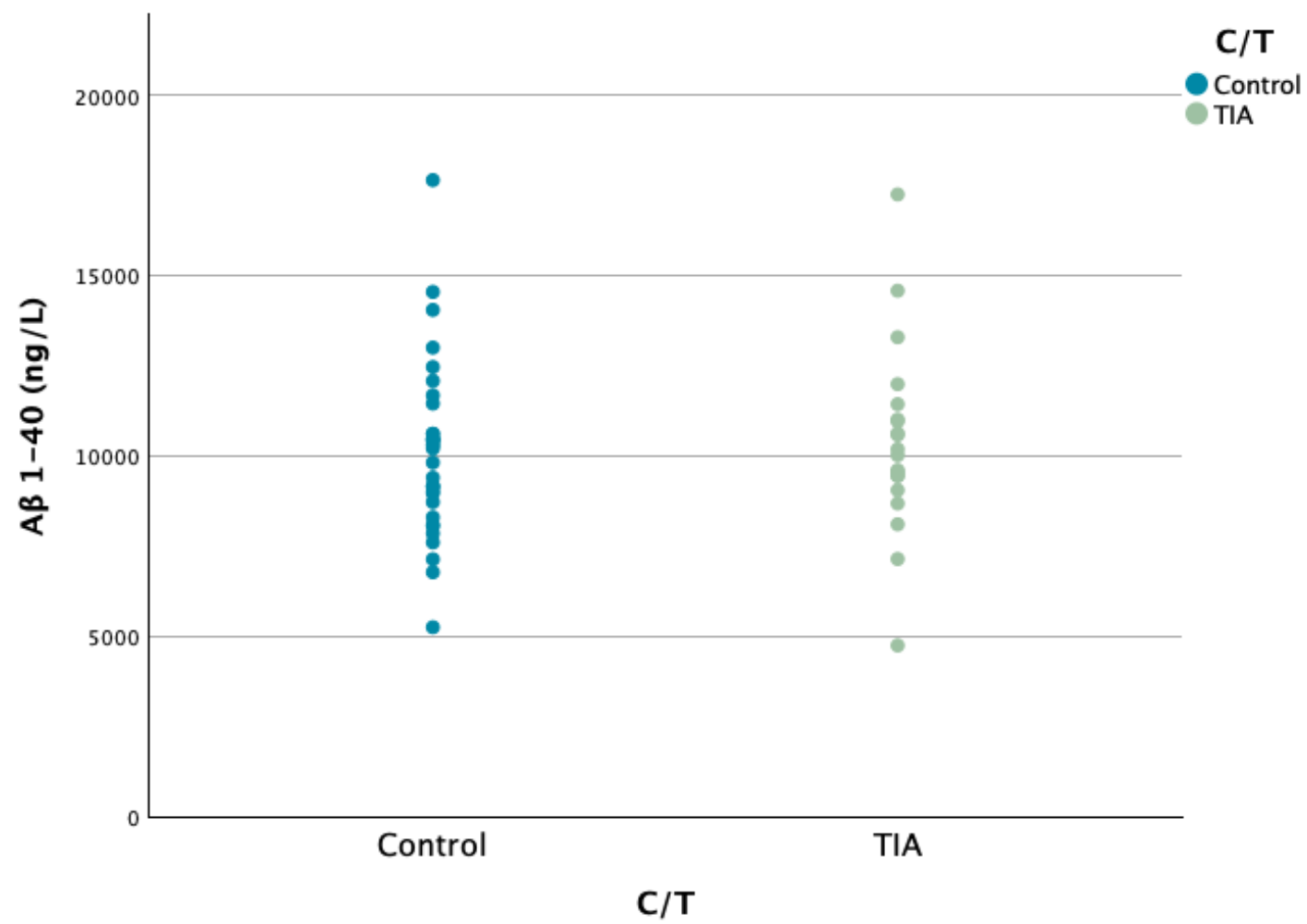
a. Dependent Variable: A β 1-40 (ng/L)

b. Predictors: (Constant), C/T, Age

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	9101.132	2424.743		3.753	<.001
	Age	15.618	37.199	.061	.420	.676
	C/T	195.946	734.994	.039	.267	.791

a. Dependent Variable: A β 1-40 (ng/L)



Linear regression predicting A β 42/A β 40*10 concentrations based on group status, controlling age

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.346 ^a	.120	.085	.252857

a. Predictors: (Constant), C/T, Age

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.444	2	.222	3.471	.039 ^b
	Residual	3.261	51	.064		
	Total	3.705	53			

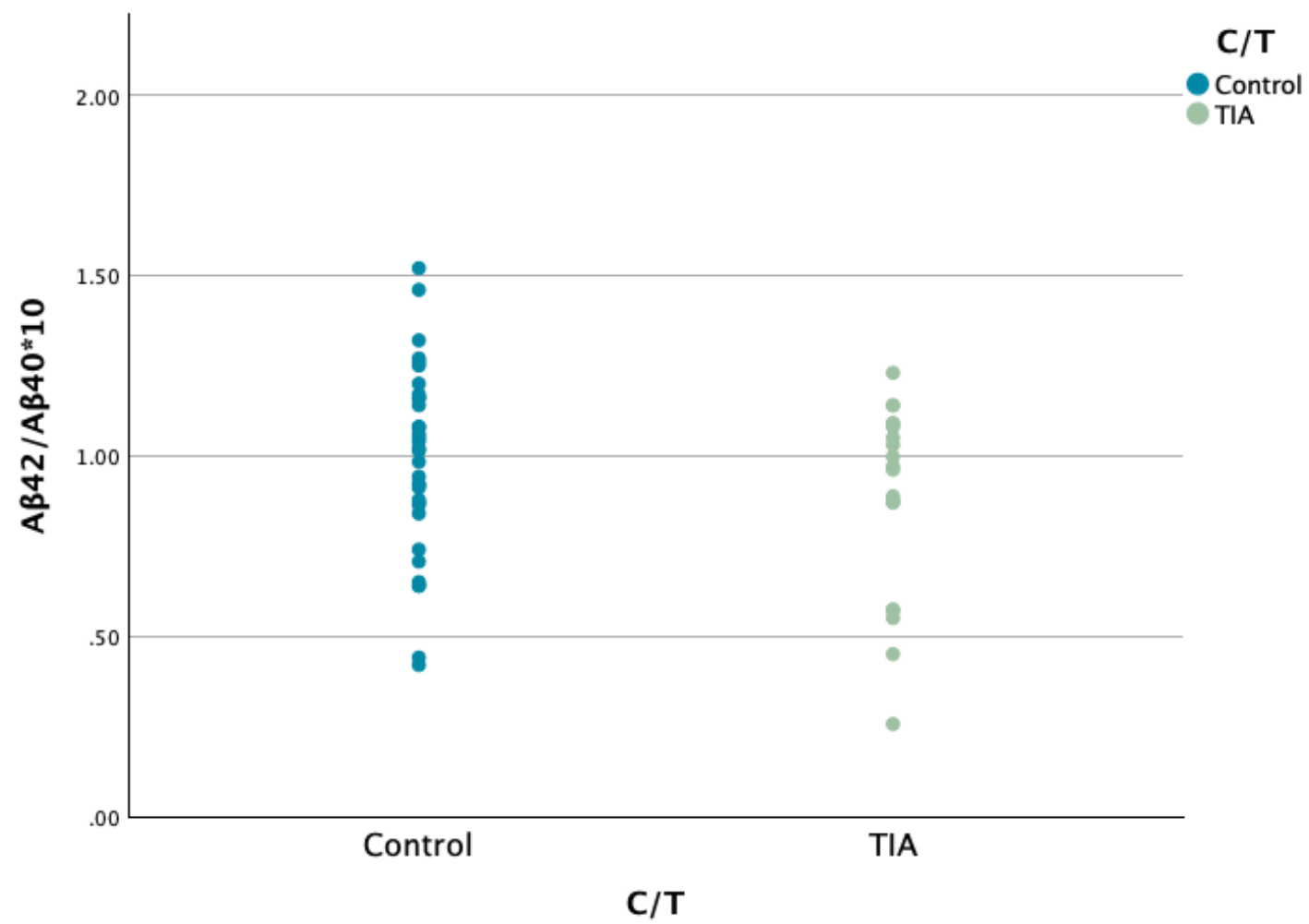
a. Dependent Variable: A β 42/A β 40*10

b. Predictors: (Constant), C/T, Age

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.514	.244		6.202	<.001
	Age	-.008	.004	-.298	-2.187	.033
	C/T	-.061	.074	-.112	-.822	.415

a. Dependent Variable: A β 42/A β 40*10



Linear regression predicting t-tau/A β 42 concentrations based on group status, controlling age

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.516 ^a	.266	.244	.330623

a. Predictors: (Constant), C/T, Age

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2.658	2	1.329	12.160	<.001 ^b
	Residual	7.324	67	.109		
	Total	9.982	69			

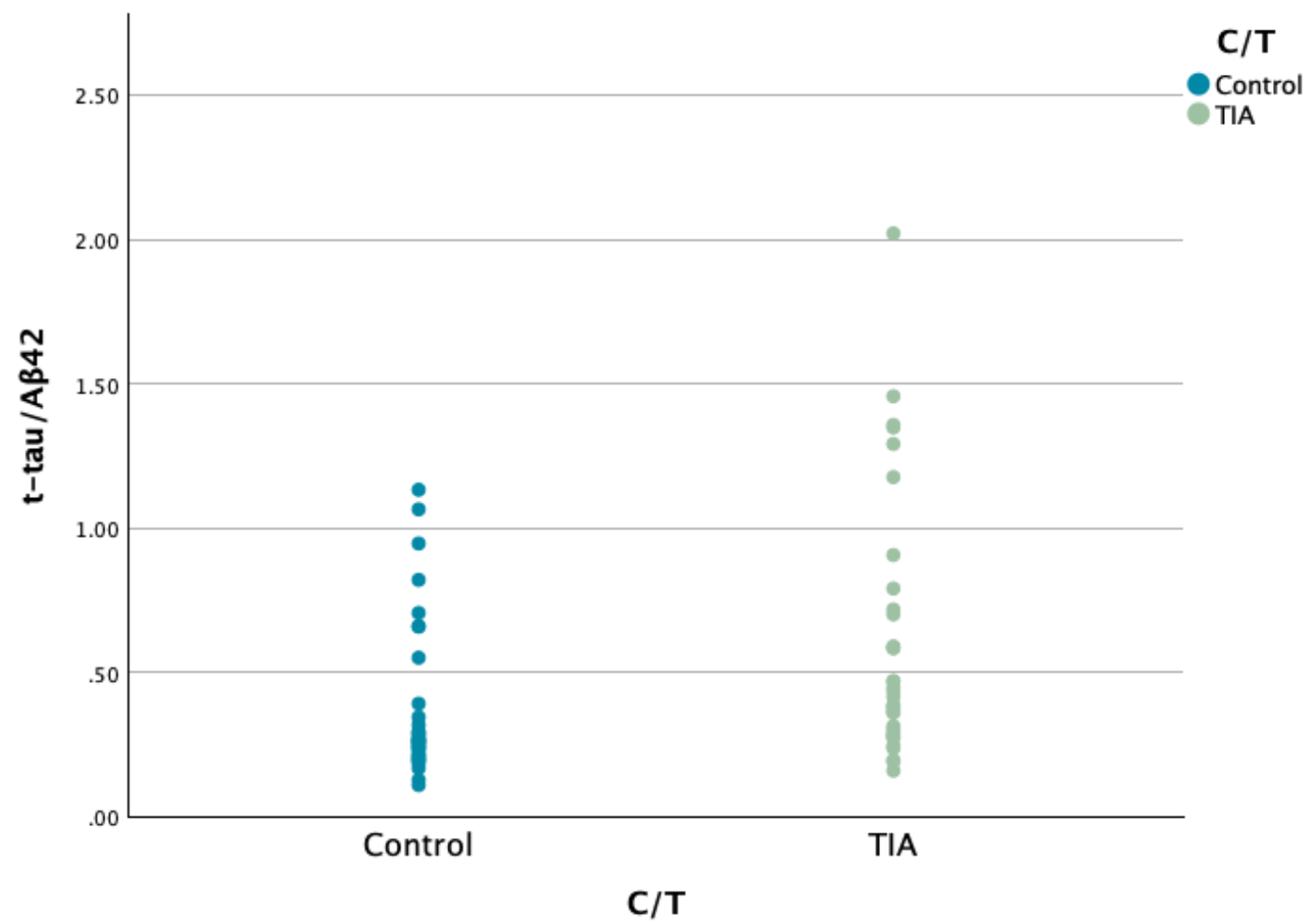
a. Dependent Variable: t-tau/A β 42

b. Predictors: (Constant), C/T, Age

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.715	.278		-2.577	.012
	Age	.017	.004	.427	3.986	<.001
	C/T	.161	.081	.213	1.986	.051

a. Dependent Variable: t-tau/A β 42



Linear regression predicting p-tau/A β 42 concentrations based on group status, controlling age

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.461 ^a	.212	.189	.046714

a. Predictors: (Constant), C/T, Age

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.039	2	.020	9.021	<.001 ^b
	Residual	.146	67	.002		
	Total	.186	69			

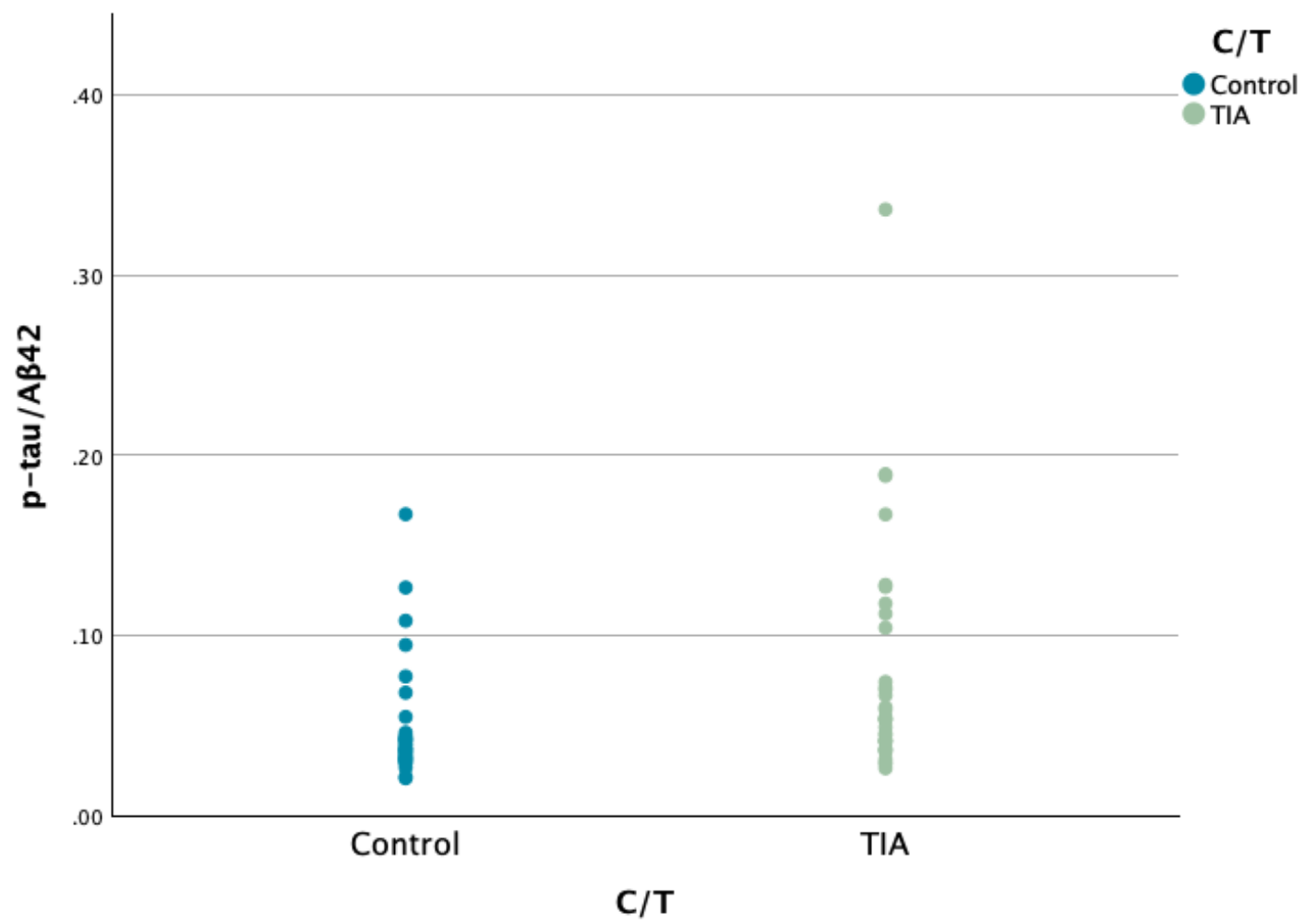
a. Dependent Variable: p-tau/A β 42

b. Predictors: (Constant), C/T, Age

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.078	.039		-1.985	.051
	Age	.002	.001	.362	3.264	.002
	C/T	.022	.011	.217	1.959	.054

a. Dependent Variable: p-tau/A β 42



Linear regression predicting ATI concentrations based on group status, controlling age

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.546 ^a	.298	.277	.509422

a. Predictors: (Constant), C/T, Age

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	7.368	2	3.684	14.196	<.001 ^b
	Residual	17.387	67	.260		
	Total	24.755	69			

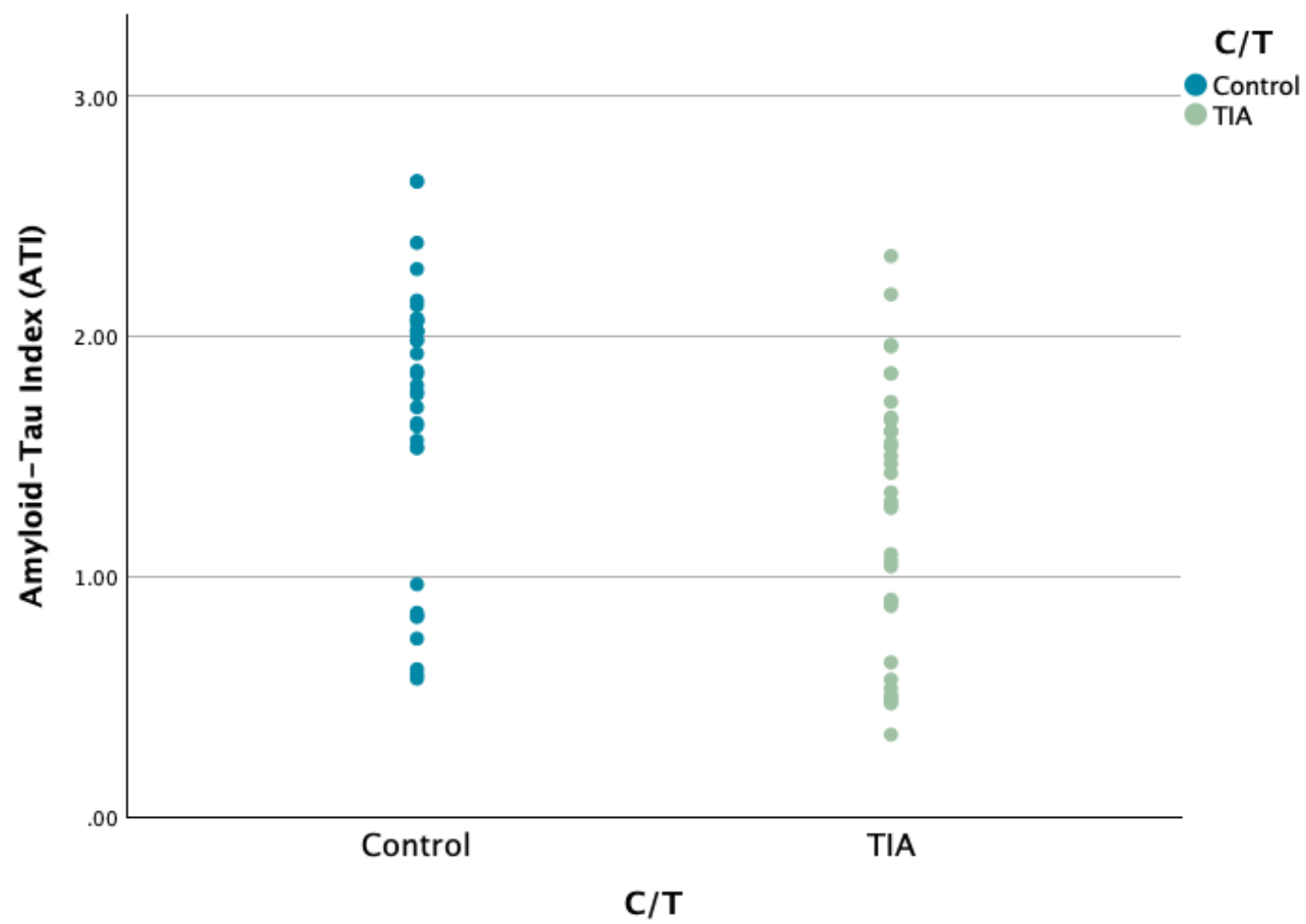
a. Dependent Variable: Amyloid-Tau Index (ATI)

b. Predictors: (Constant), C/T, Age

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.365	.428		7.866	<.001
	Age	-.026	.007	-.417	-3.978	<.001
	C/T	-.326	.125	-.274	-2.615	.011

a. Dependent Variable: Amyloid-Tau Index (ATI)



Linear regression predicting MoCA concentrations based on group status, controlling age

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.422 ^a	.178	.153	2.424

a. Predictors: (Constant), Age, C/T

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	82.775	2	41.387	7.043	.002 ^b
	Residual	381.975	65	5.877		
	Total	464.750	67			

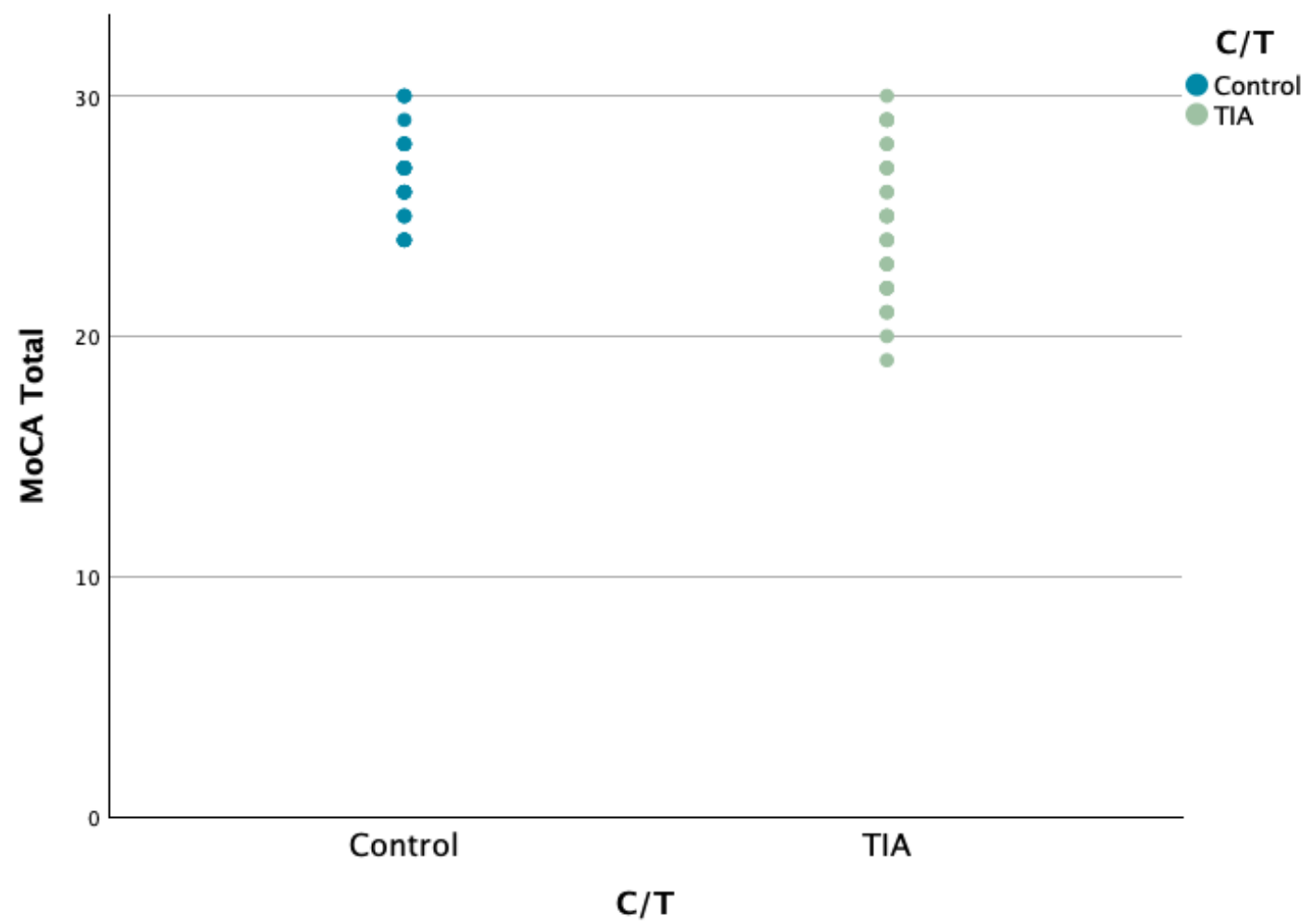
a. Dependent Variable: MoCA Total

b. Predictors: (Constant), Age, C/T

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	31.216	2.062		15.139	<.001
	C/T	-1.491	.599	-.285	-2.489	.015
	Age	-.072	.032	-.262	-2.284	.026

a. Dependent Variable: MoCA Total



Linear regression predicting ACE-R concentrations based on group status, controlling age

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.481 ^a	.231	.207	5.291

a. Predictors: (Constant), C/T, Age

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	538.437	2	269.218	9.618	<.001 ^b
	Residual	1791.474	64	27.992		
	Total	2329.910	66			

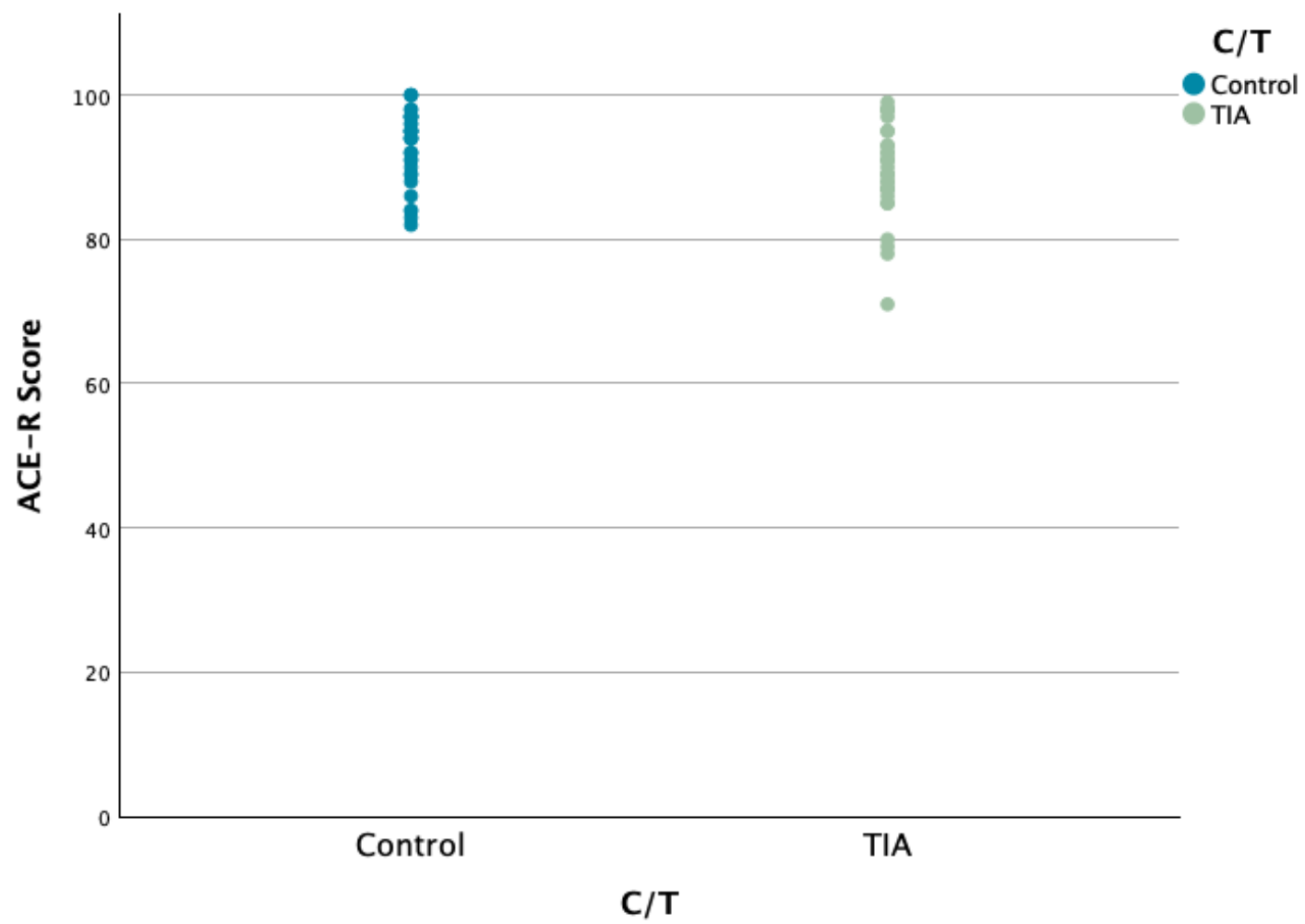
a. Dependent Variable: ACE-R Score

b. Predictors: (Constant), C/T, Age

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	108.516	4.562		23.787	<.001
	Age	-.242	.070	-.384	-3.456	<.001
	C/T	-2.719	1.313	-.230	-2.070	.042

a. Dependent Variable: ACE-R Score



Linear regressions (Pt. 2)

Linear regression predicting MoCA test scores based on t-tau concentrations, controlling age and group status

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.428 ^a	.184	.145	2.435

a. Predictors: (Constant), t-tau (ng/L), C/T, Age

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	85.302	3	28.434	4.796	.004 ^b
	Residual	379.448	64	5.929		
	Total	464.750	67			

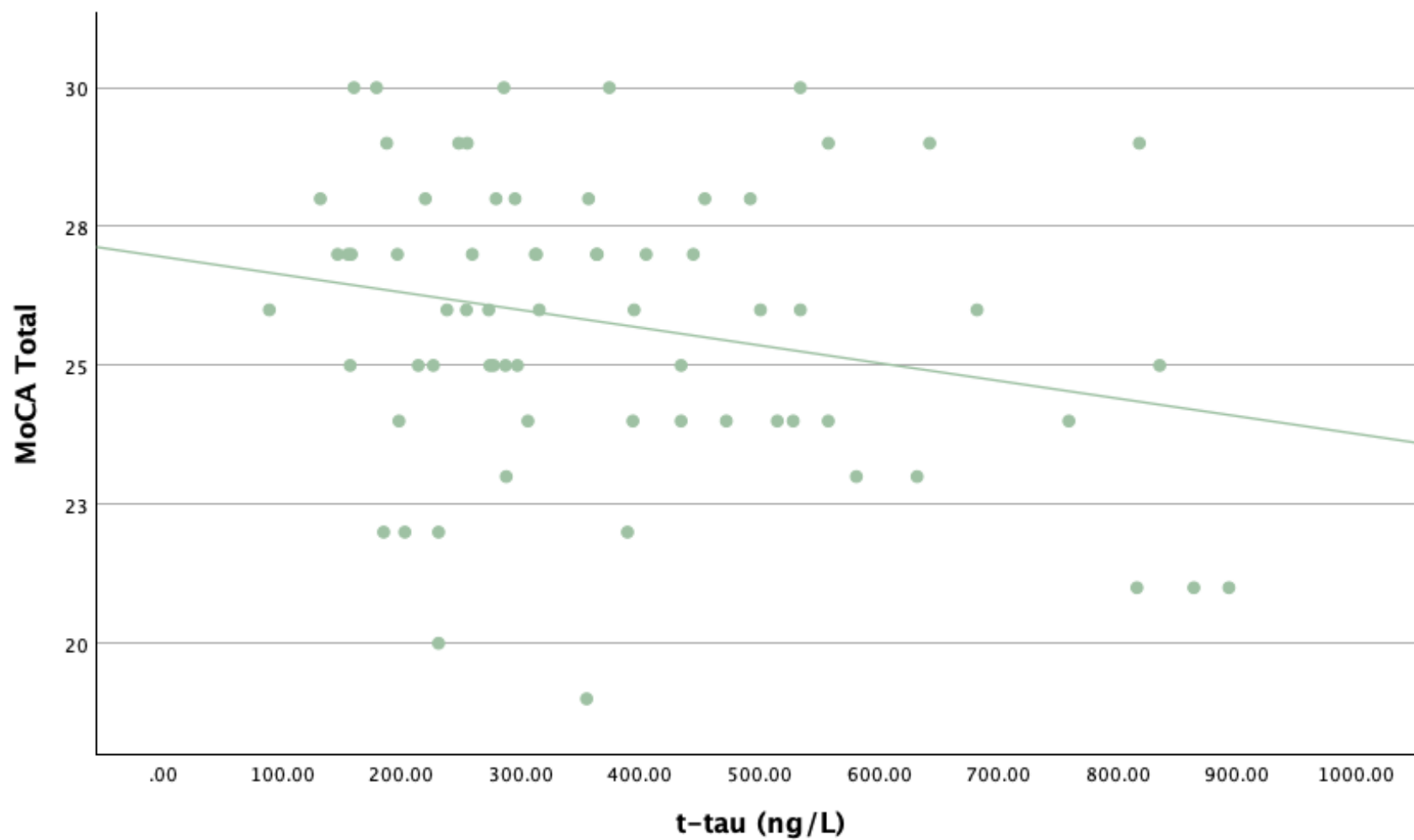
a. Dependent Variable: MoCA Total

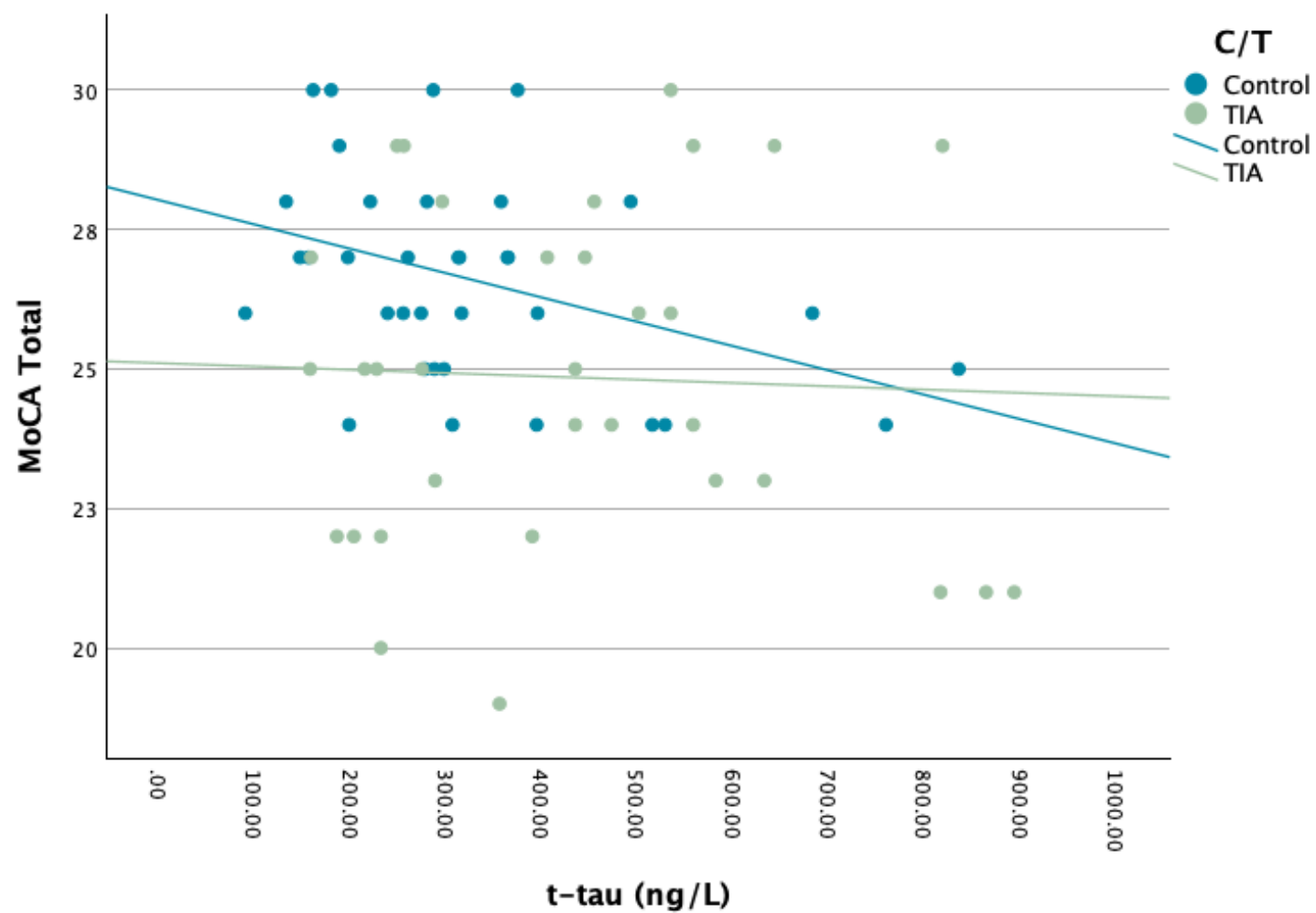
b. Predictors: (Constant), t-tau (ng/L), C/T, Age

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	31.109	2.078		14.973	<.001
	Age	-.065	.034	-.236	-1.934	.058
	C/T	-1.402	.617	-.268	-2.272	.026
	t-tau (ng/L)	-.001	.002	-.081	-.653	.516

a. Dependent Variable: MoCA Total





Linear regression predicting MoCA test scores based on p-tau concentrations, controlling age and group status

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.423 ^a	.179	.140	2.442

a. Predictors: (Constant), p-tau (ng/L), C/T, Age

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	83.176	3	27.725	4.650	.005 ^b
	Residual	381.574	64	5.962		
	Total	464.750	67			

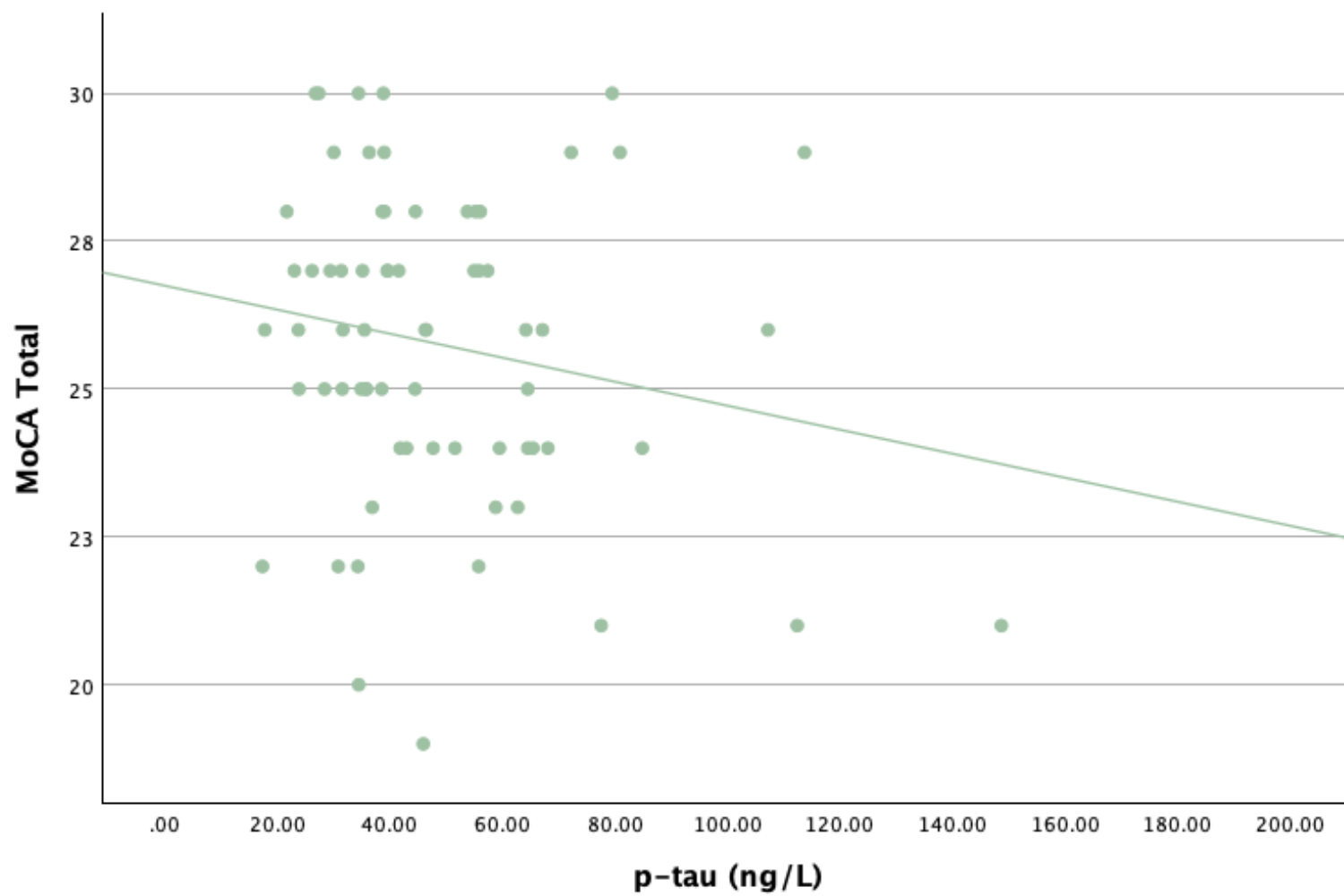
a. Dependent Variable: MoCA Total

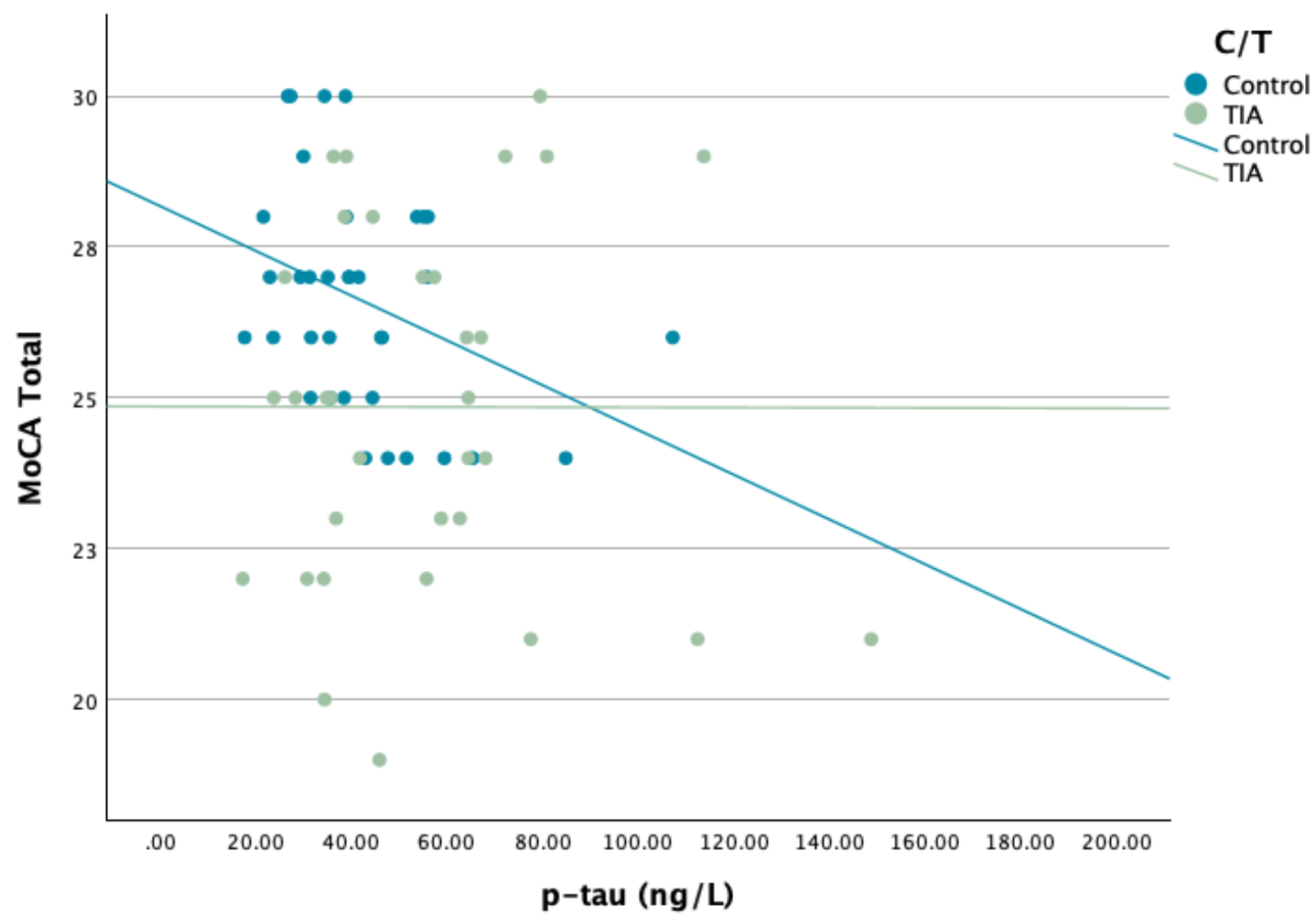
b. Predictors: (Constant), p-tau (ng/L), C/T, Age

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	31.213	2.077		15.029	<.001
	Age	-.070	.033	-.253	-2.112	.039
	C/T	-1.453	.621	-.278	-2.340	.022
	p-tau (ng/L)	-.003	.013	-.032	-.259	.796

a. Dependent Variable: MoCA Total





Linear regression predicting MoCA test scores based on A β 42 concentrations, controlling age and group status

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.426 ^a	.181	.143	2.438

a. Predictors: (Constant), A β 1-42 (ng/L), C/T, Age

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	84.297	3	28.099	4.727	.005 ^b
	Residual	380.453	64	5.945		
	Total	464.750	67			

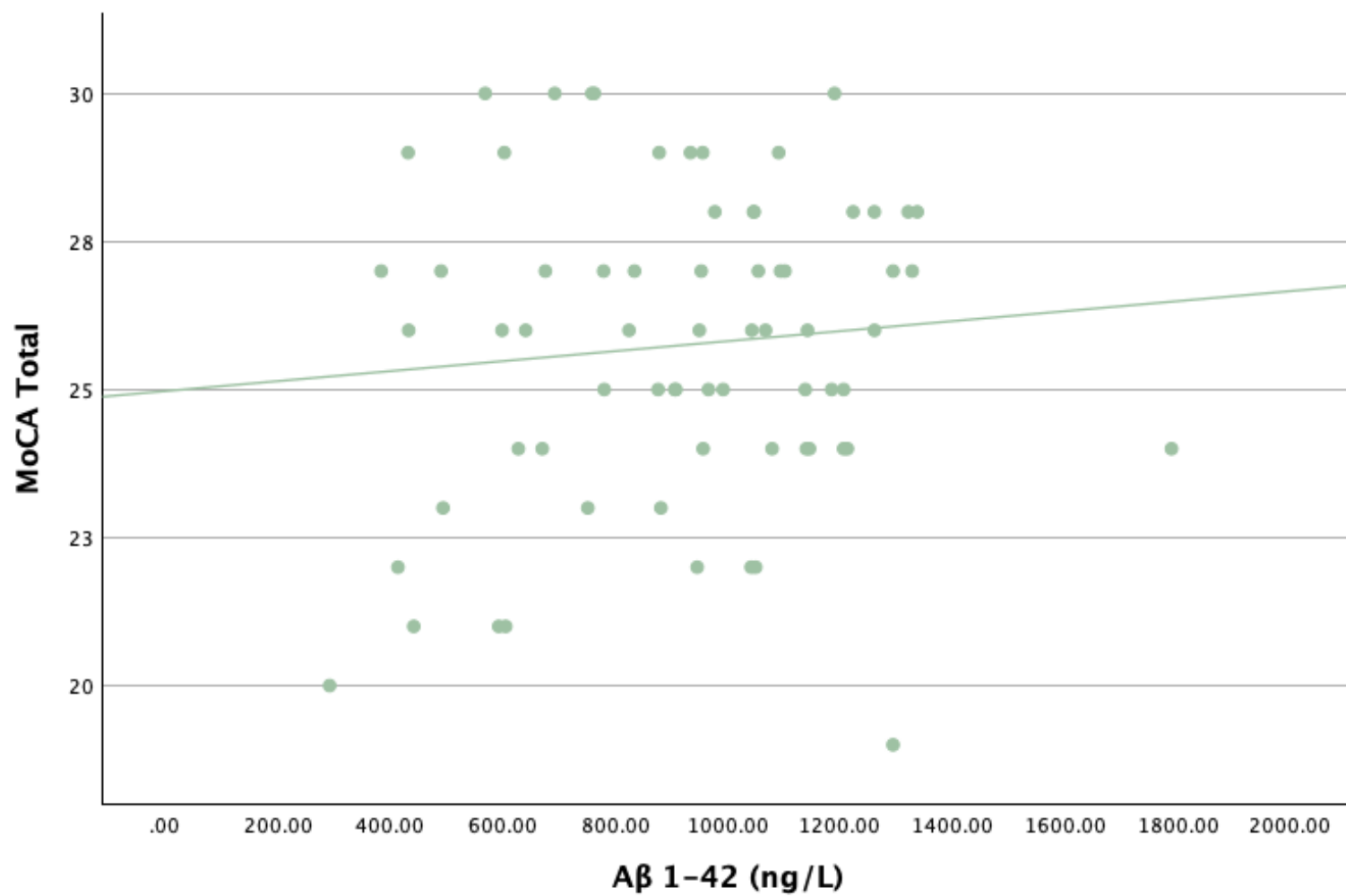
a. Dependent Variable: MoCA Total

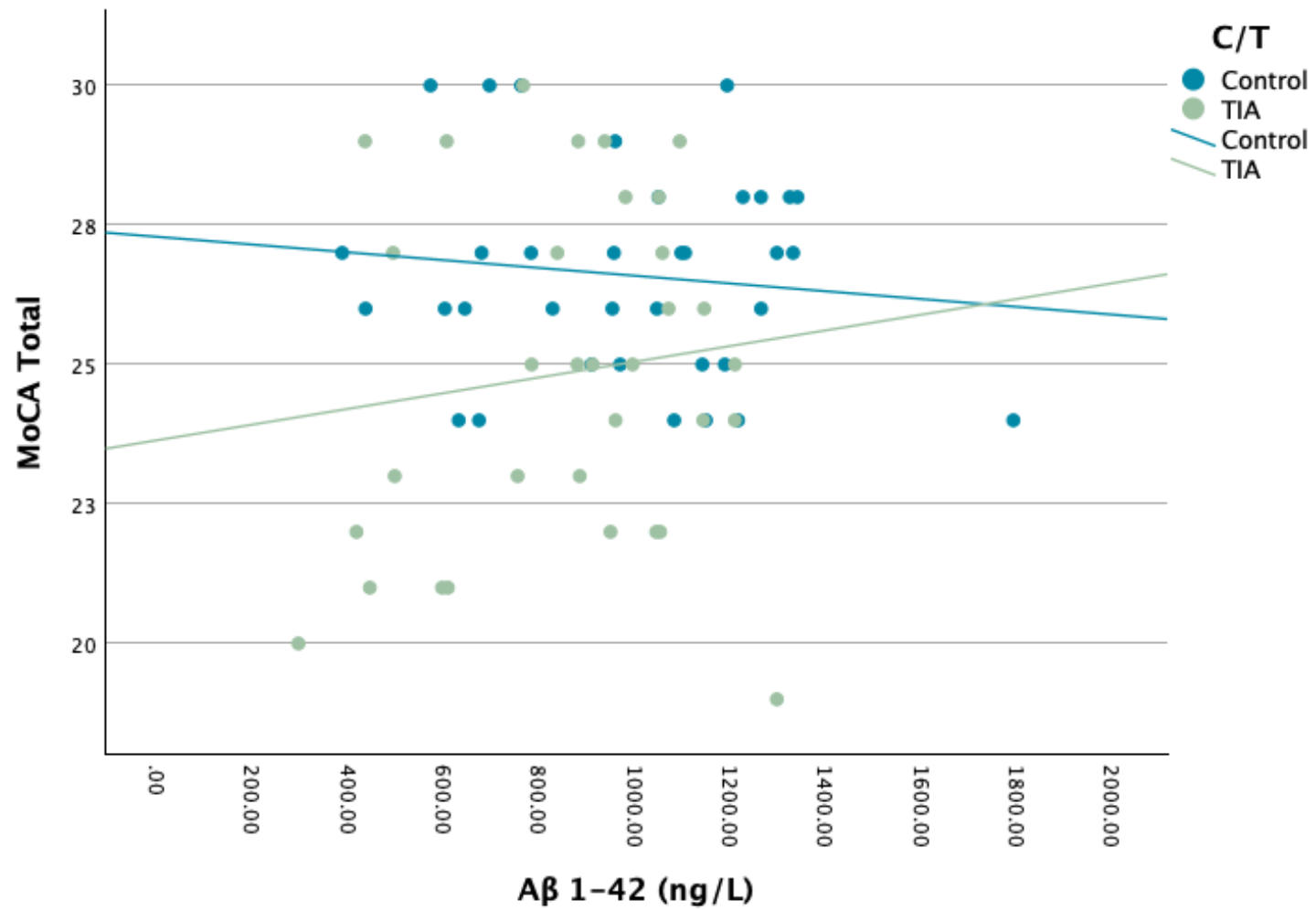
b. Predictors: (Constant), A β 1-42 (ng/L), C/T, Age

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	32.070	2.673		11.997	<.001
	Age	-.077	.033	-.279	-2.321	.023
	C/T	-1.546	.612	-.296	-2.526	.014
	A β 1-42 (ng/L)	-.001	.001	-.061	-.506	.615

a. Dependent Variable: MoCA Total





Linear regression predicting MoCA test scores based on A β 40 concentrations, controlling age and group status

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.412 ^a	.170	.118	2.356

a. Predictors: (Constant), A β 1-40 (ng/L), C/T, Age

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	54.580	3	18.193	3.278	.029 ^b
	Residual	266.400	48	5.550		
	Total	320.981	51			

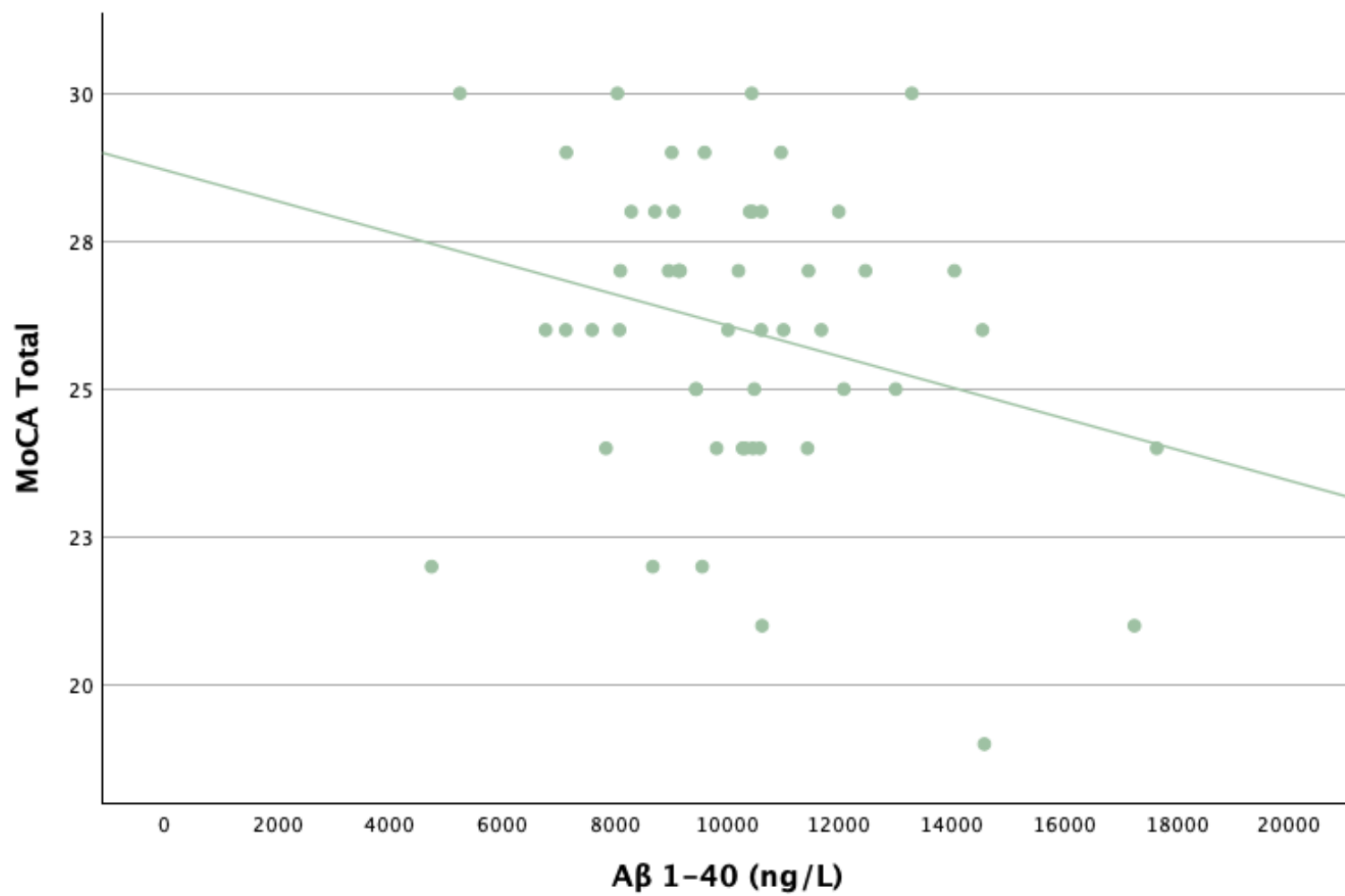
a. Dependent Variable: MoCA Total

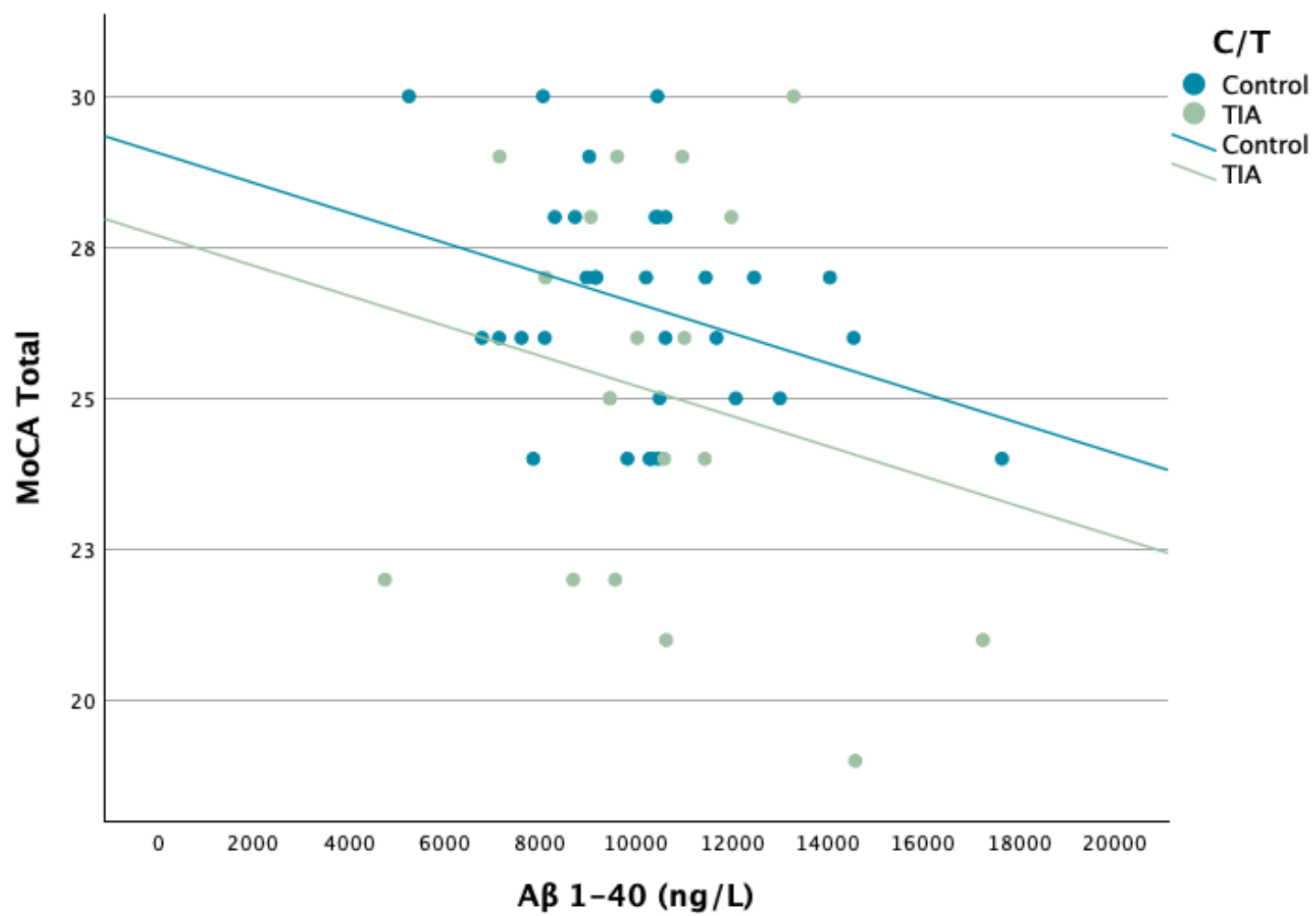
b. Predictors: (Constant), A β 1-40 (ng/L), C/T, Age

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	31.965	2.603		12.281	<.001
	Age	-.047	.035	-.179	-1.319	.193
	C/T	-1.153	.700	-.223	-1.647	.106
	A β 1-40 (ng/L)	.000	.000	-.240	-1.817	.075

a. Dependent Variable: MoCA Total





Linear regression predicting MoCA test scores based on A β 42/A β 40*10 concentrations, controlling age and group status

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.339 ^a	.115	.060	2.432

a. Predictors: (Constant), A β 42/A β 40*10, C/T, Age

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	36.967	3	12.322	2.083	.115 ^b
	Residual	284.014	48	5.917		
	Total	320.981	51			

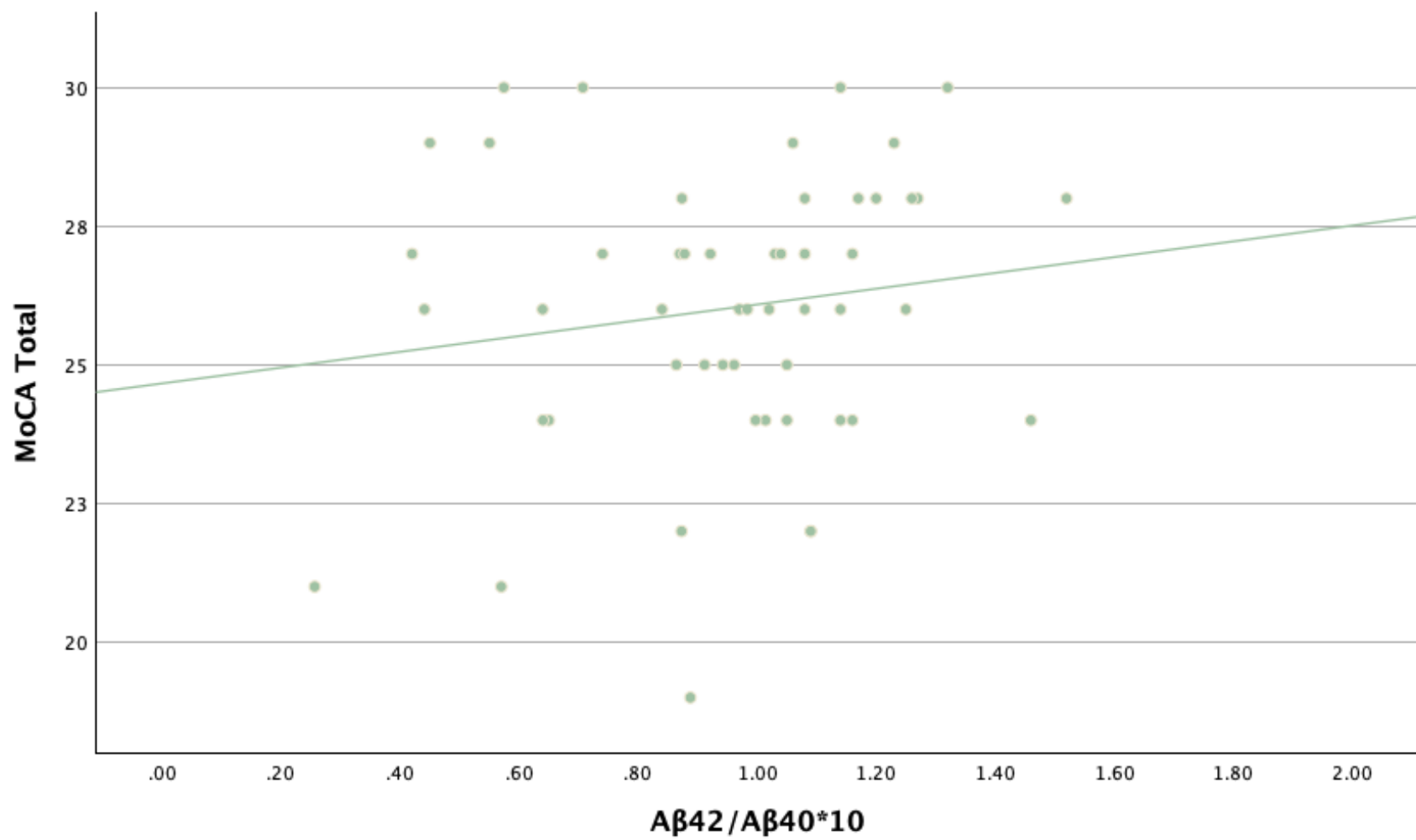
a. Dependent Variable: MoCA Total

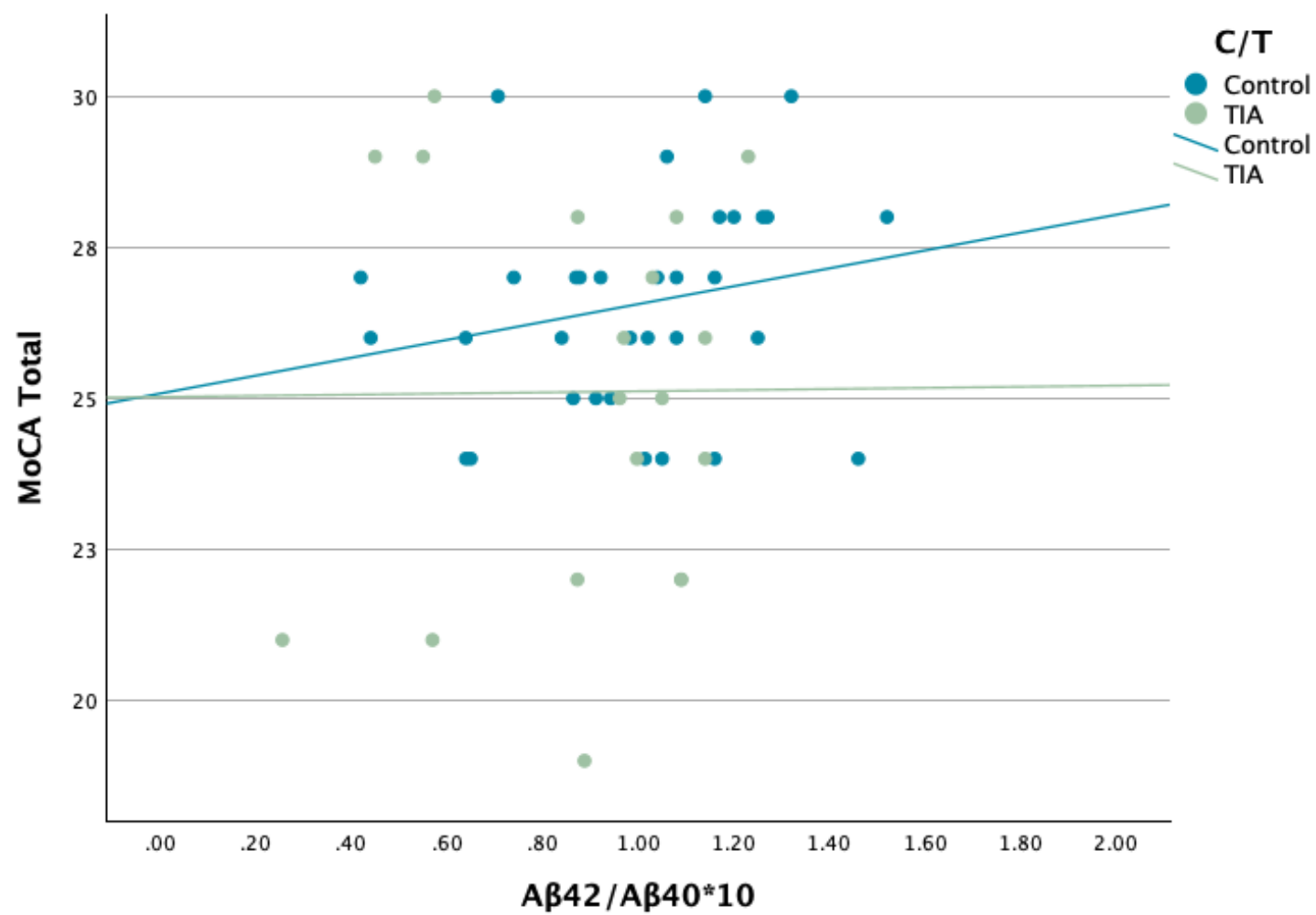
b. Predictors: (Constant), A β 42/A β 40*10, C/T, Age

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	29.056	3.159		9.196	<.001
	Age	-.046	.038	-.178	-1.211	.232
	C/T	-1.169	.727	-.227	-1.607	.115
	A β 42/A β 40*10	.470	1.351	.050	.348	.729

a. Dependent Variable: MoCA Total





Linear regression predicting MoCA test scores based on t-tau/A β 42 concentrations, controlling age and group status

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.428 ^a	.183	.144	2.436

a. Predictors: (Constant), t-tau/A β 42, C/T, Age

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	84.942	3	28.314	4.771	.005 ^b
	Residual	379.808	64	5.934		
	Total	464.750	67			

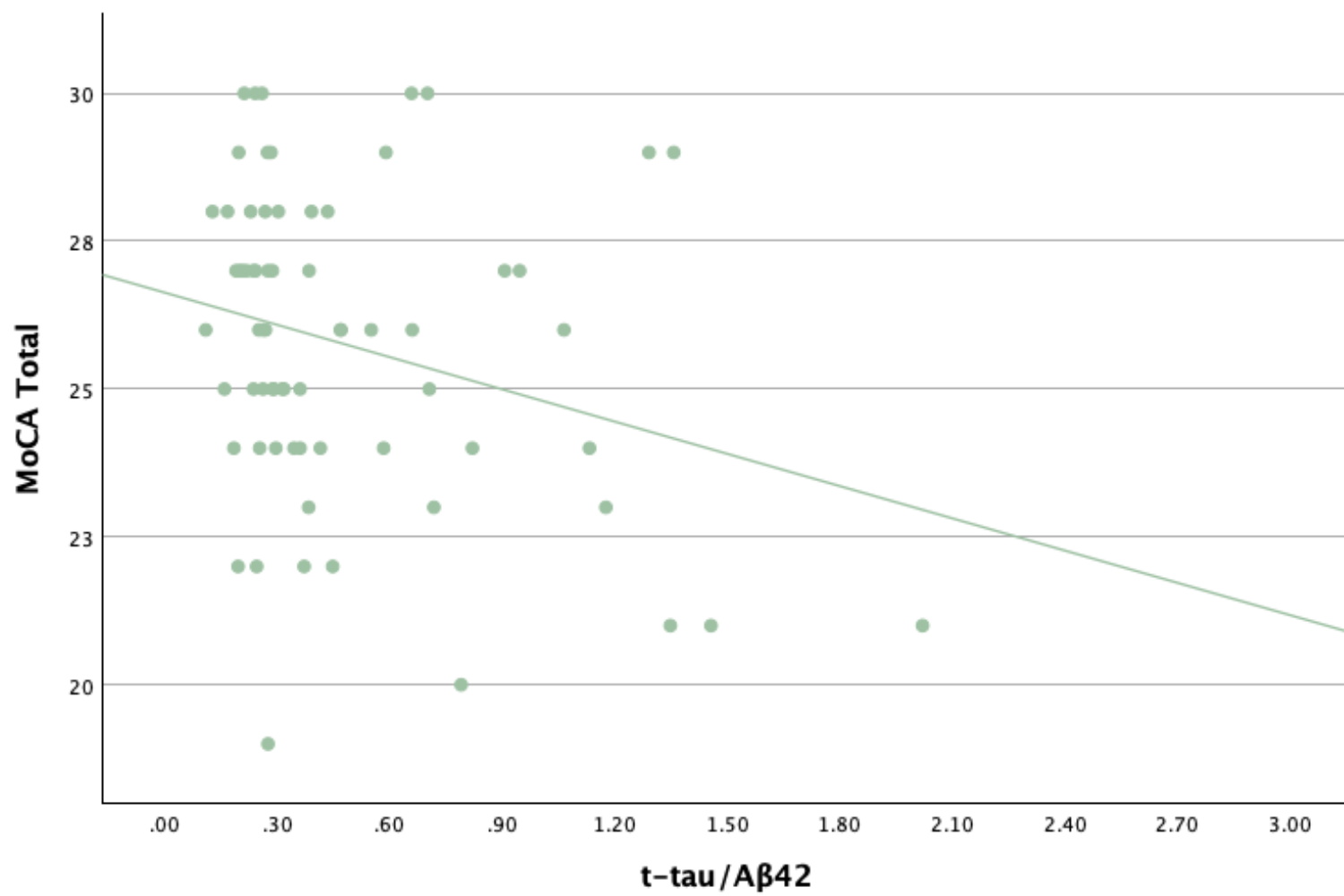
a. Dependent Variable: MoCA Total

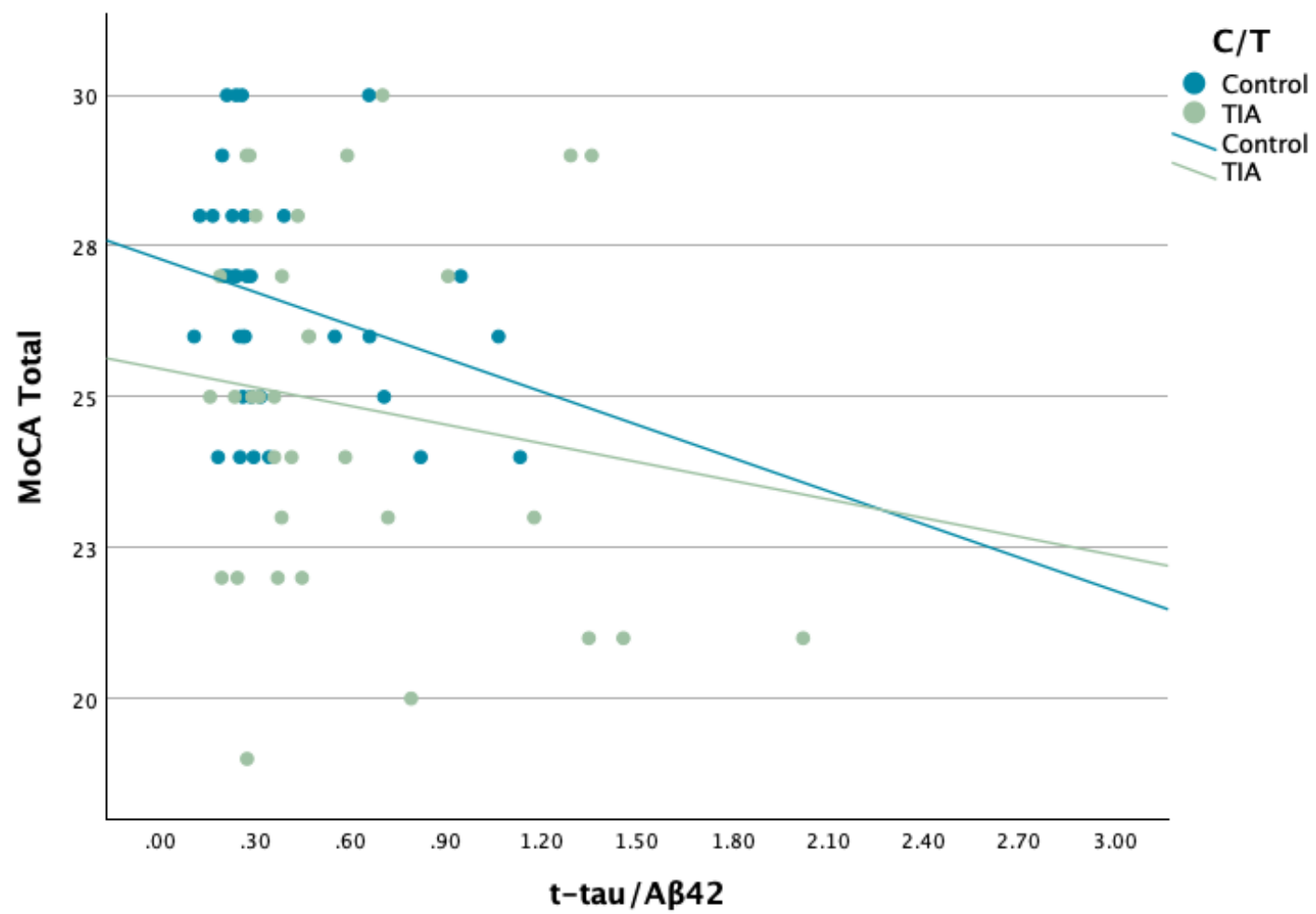
b. Predictors: (Constant), t-tau/A β 42, C/T, Age

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	30.822	2.172		14.188	<.001
	Age	-.063	.035	-.228	-1.778	.080
	C/T	-1.403	.620	-.268	-2.263	.027
	t-tau/A β 42	-.545	.902	-.080	-.604	.548

a. Dependent Variable: MoCA Total





Linear regression predicting MoCA test scores based on p-tau/A β 42 concentrations, controlling age and group status

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.425 ^a	.180	.142	2.440

a. Predictors: (Constant), p-tau/A β 42, C/T, Age

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	83.871	3	27.957	4.698	.005 ^b
	Residual	380.879	64	5.951		
	Total	464.750	67			

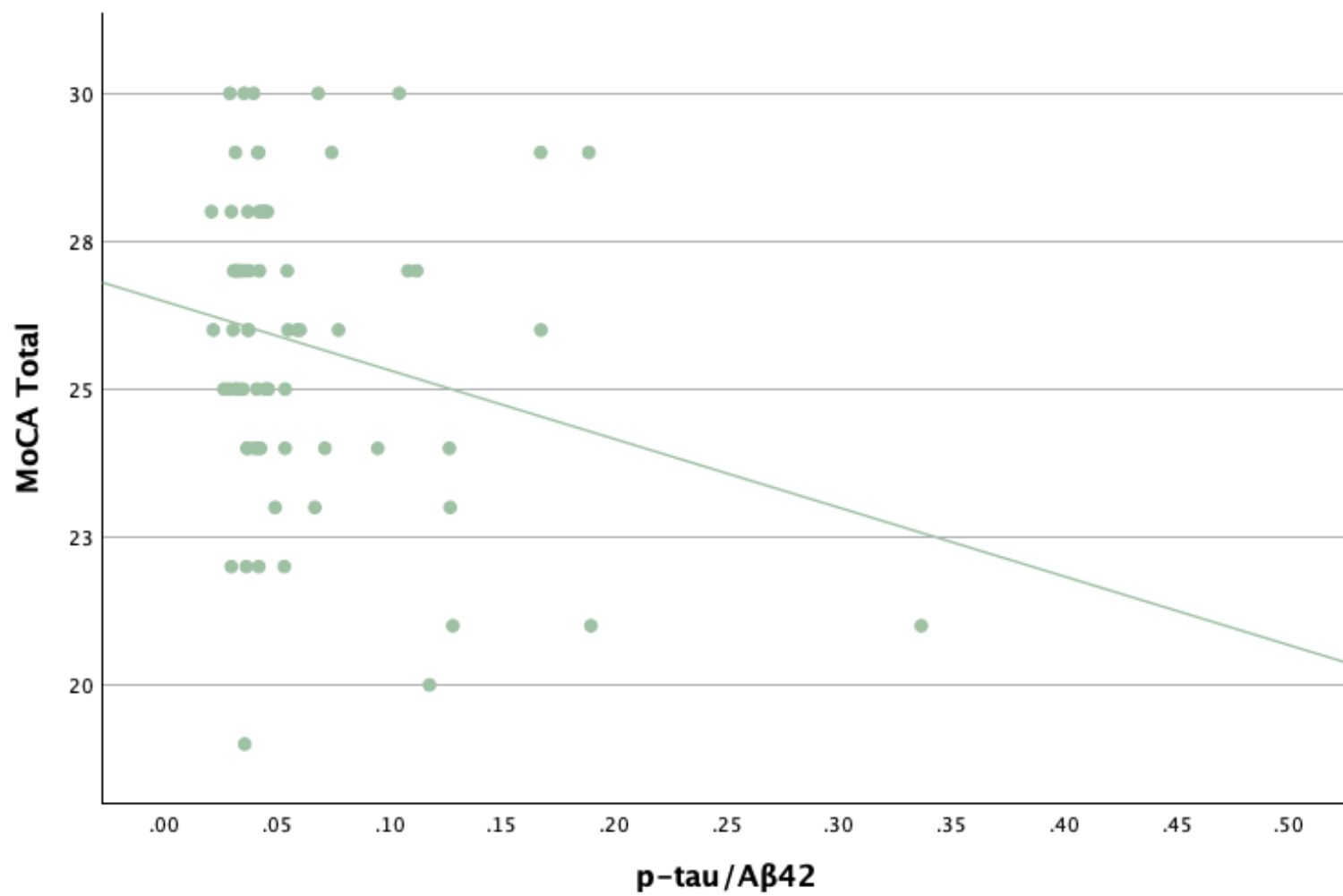
a. Dependent Variable: MoCA Total

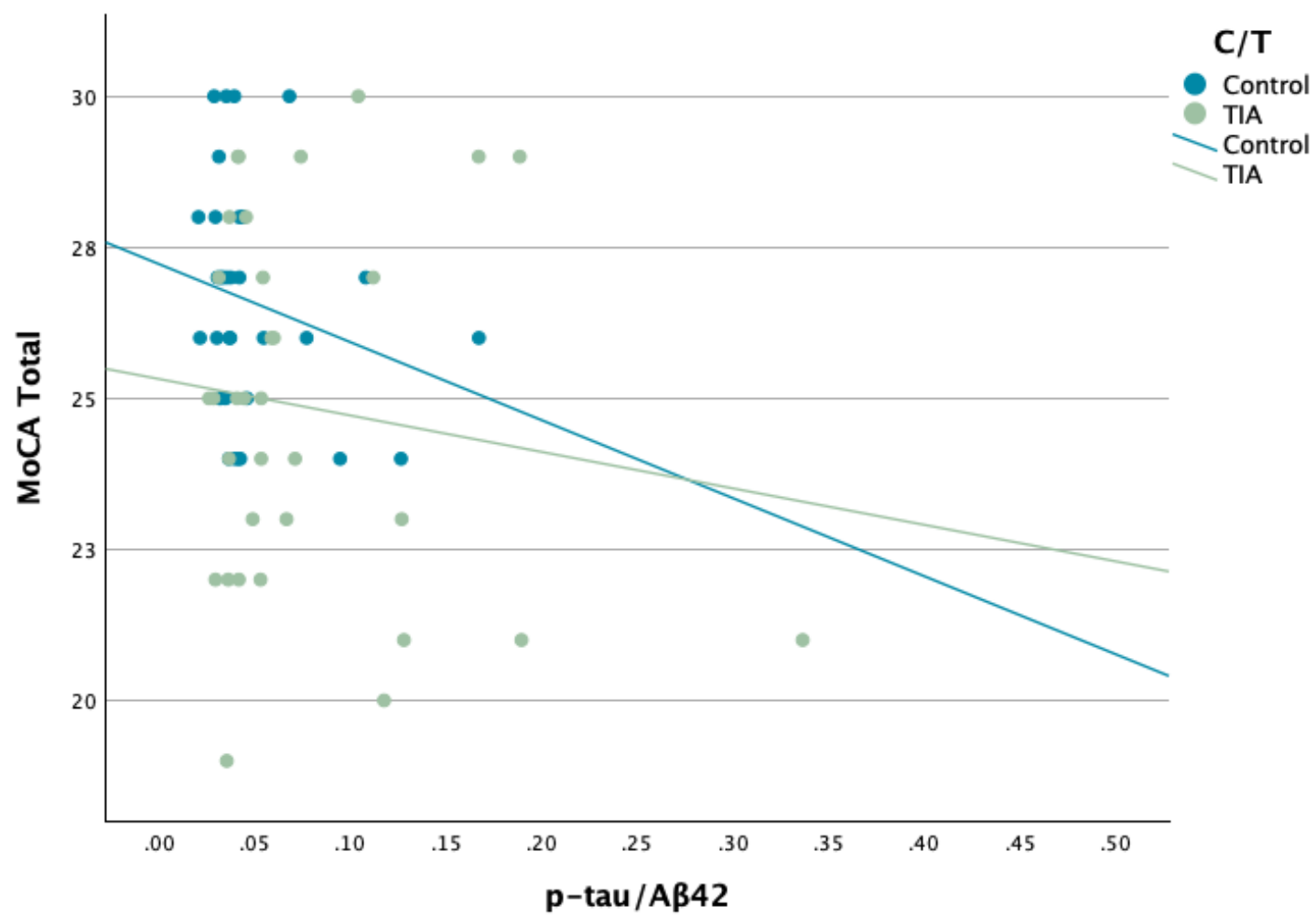
b. Predictors: (Constant), p-tau/A β 42, C/T, Age

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	30.999	2.136		14.511	<.001
	Age	-.067	.034	-.242	-1.947	.056
	C/T	-1.429	.620	-.273	-2.303	.025
	p-tau/A β 42	-2.745	6.395	-.055	-.429	.669

a. Dependent Variable: MoCA Total





Linear regression predicting MoCA test scores based on ATI concentrations, controlling age and group status

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.422 ^a	.178	.140	2.443

a. Predictors: (Constant), Amyloid-Tau Index (ATI), C/T, Age

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	82.807	3	27.602	4.625	.005 ^b
	Residual	381.943	64	5.968		
	Total	464.750	67			

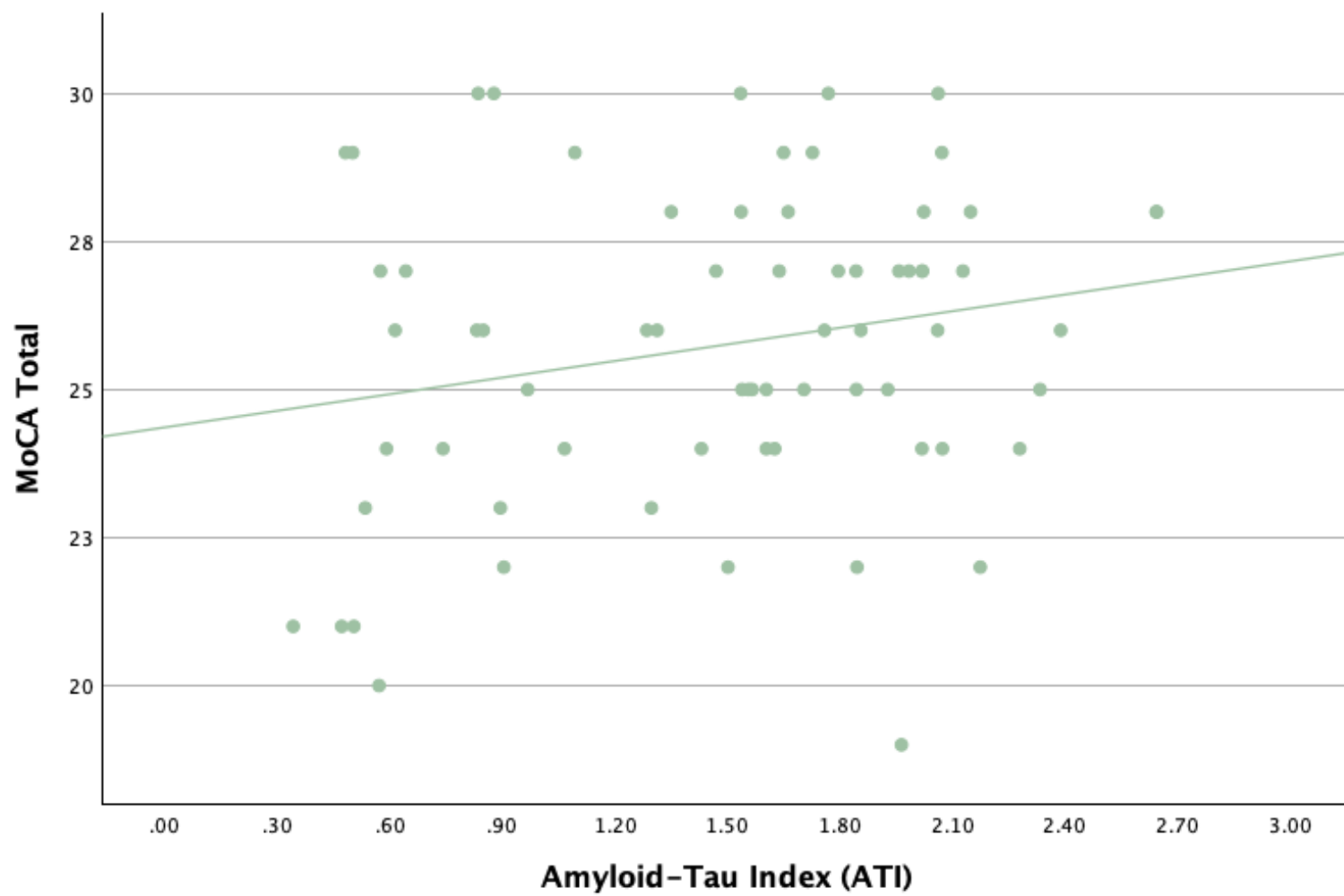
a. Dependent Variable: MoCA Total

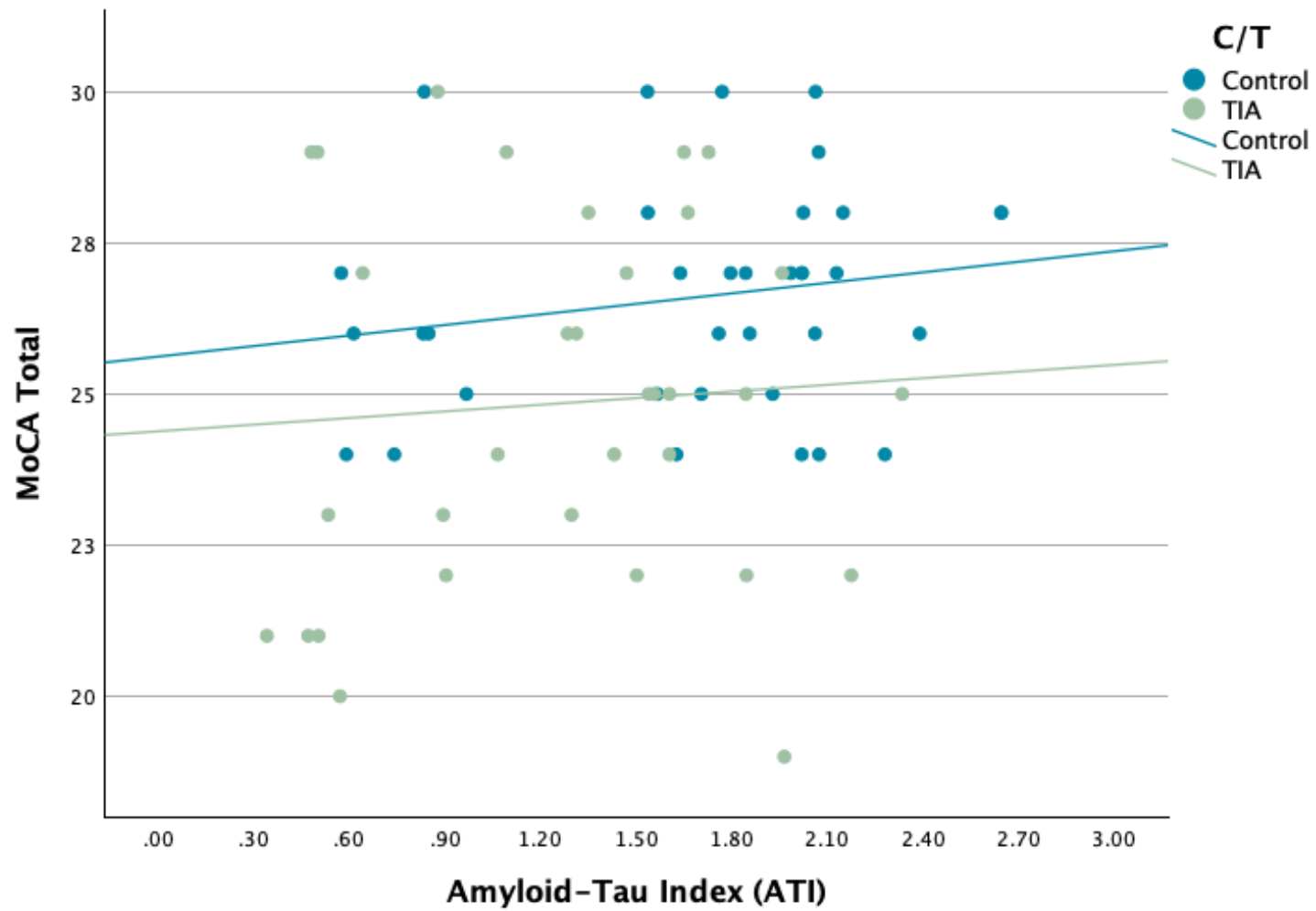
b. Predictors: (Constant), Amyloid-Tau Index (ATI), C/T, Age

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	31.360	2.860		10.965	<.001
	Age	-.073	.035	-.266	-2.076	.042
	C/T	-1.505	.633	-.288	-2.379	.020
	Amyloid-Tau Index (ATI)	-.043	.586	-.010	-.073	.942

a. Dependent Variable: MoCA Total





Linear regression predicting ACE-R test scores based on t-tau concentrations, controlling age and group status

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.486 ^a	.236	.200	5.316

a. Predictors: (Constant), t-tau (ng/L), C/T, Age

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	549.758	3	183.253	6.485	<.001 ^b
	Residual	1780.153	63	28.256		
	Total	2329.910	66			

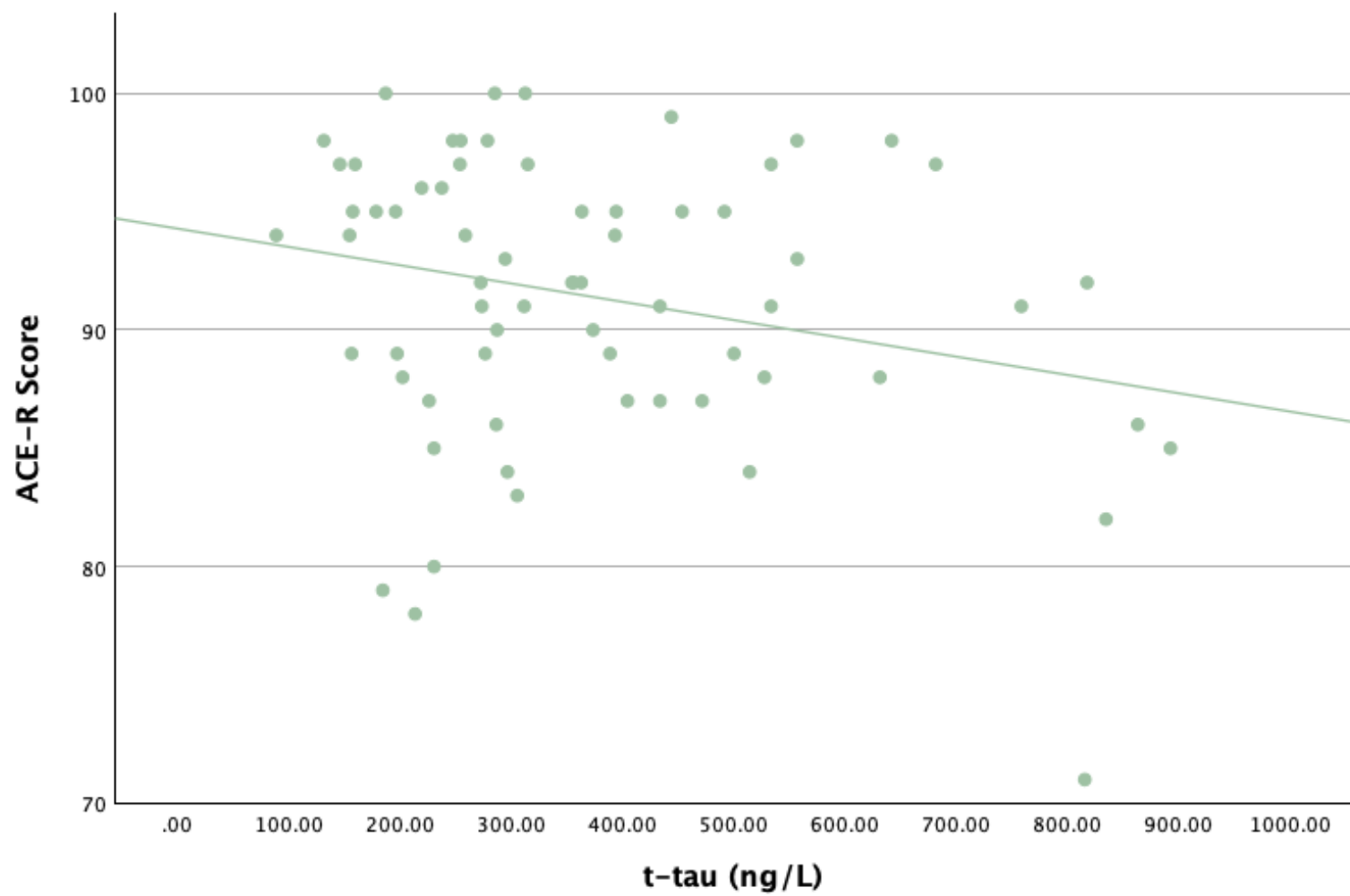
a. Dependent Variable: ACE-R Score

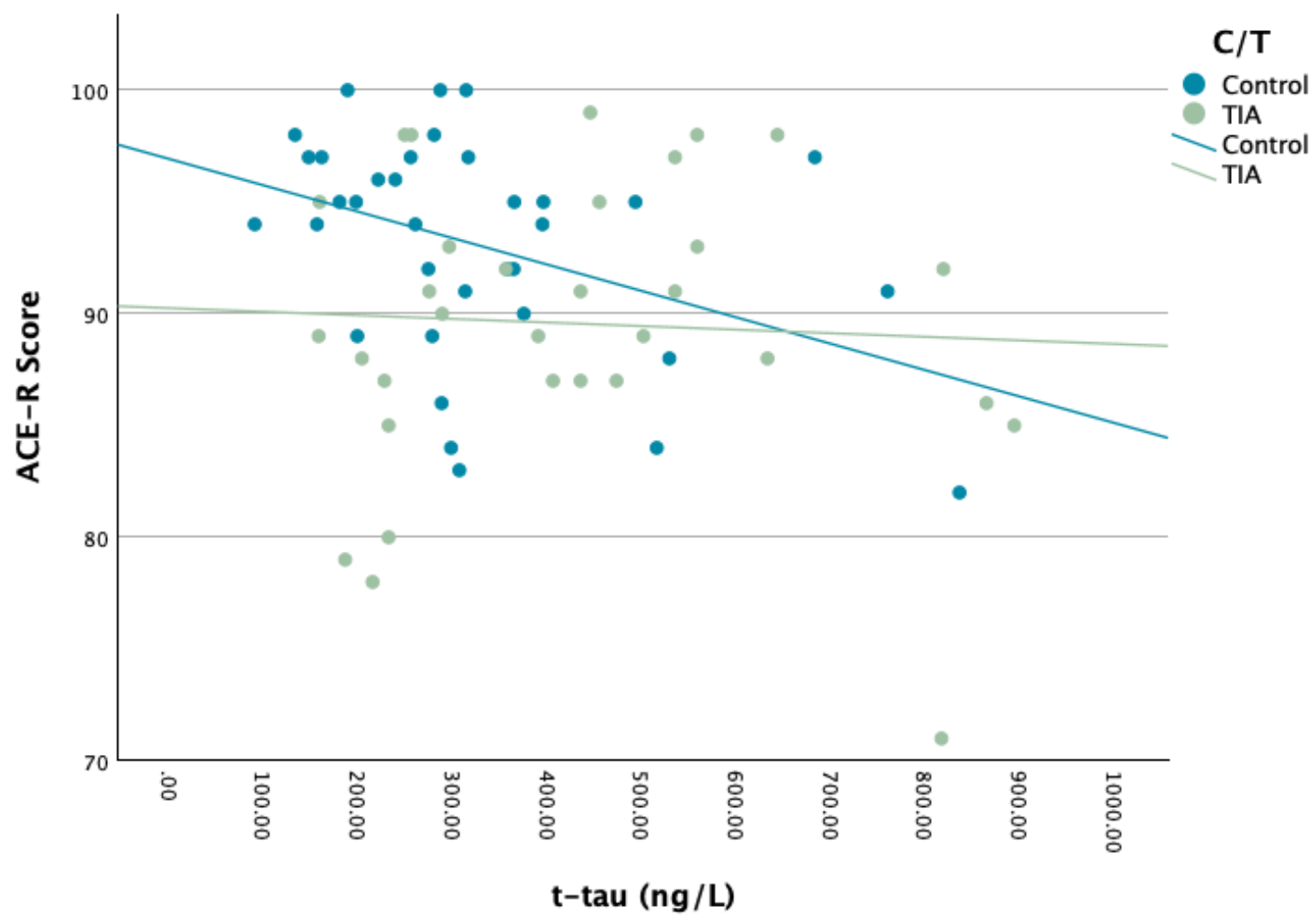
b. Predictors: (Constant), t-tau (ng/L), C/T, Age

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	108.309	4.595		23.571	<.001
	Age	-.227	.074	-.361	-3.060	.003
	C/T	-2.534	1.352	-.215	-1.874	.066
	t-tau (ng/L)	-.002	.004	-.076	-.633	.529

a. Dependent Variable: ACE-R Score





Linear regression predicting ACE-R test scores based on p-tau concentrations, controlling age and group status

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.486 ^a	.237	.200	5.313

a. Predictors: (Constant), p-tau (ng/L), C/T, Age

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	551.322	3	183.774	6.510	<.001 ^b
	Residual	1778.588	63	28.232		
	Total	2329.910	66			

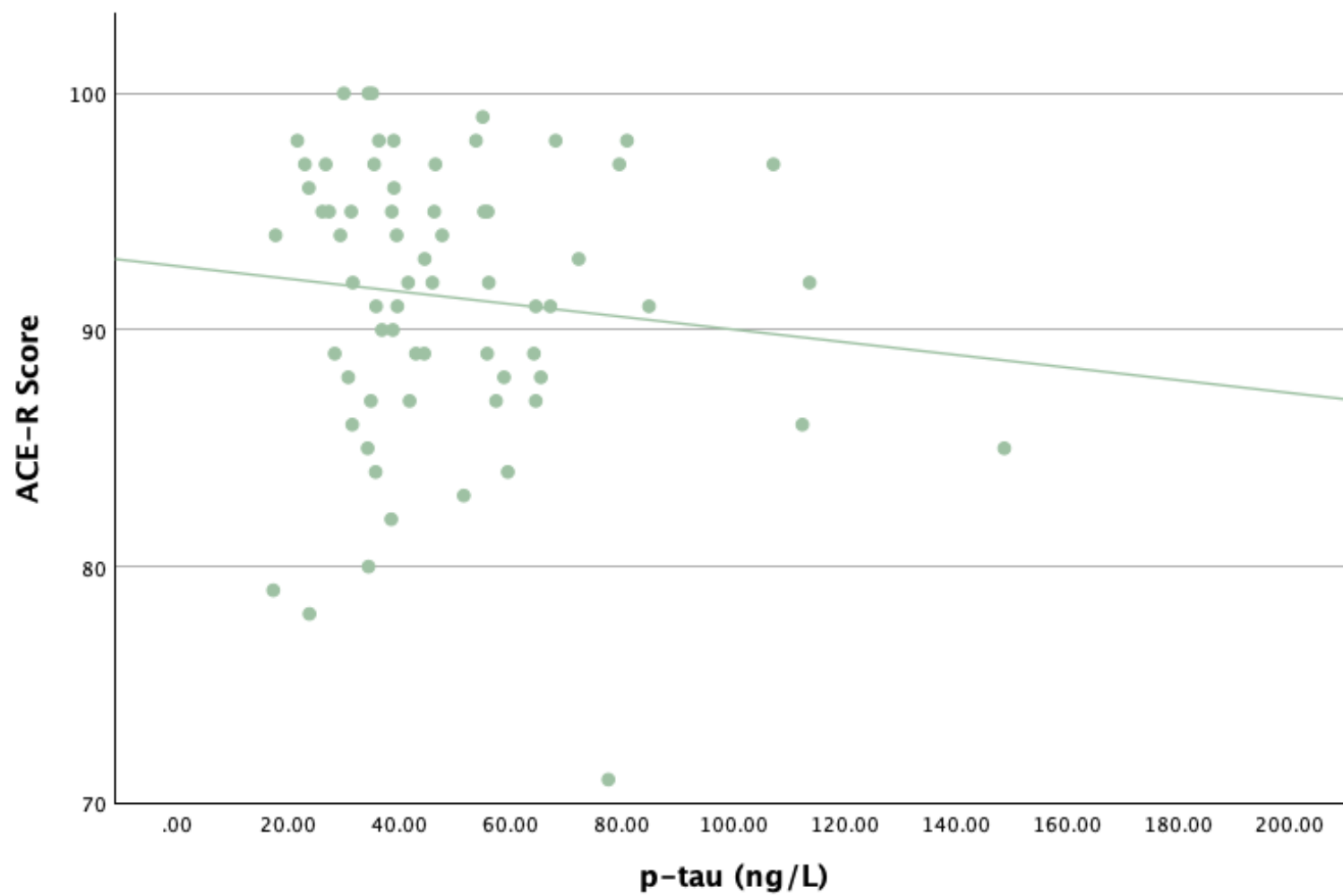
a. Dependent Variable: ACE-R Score

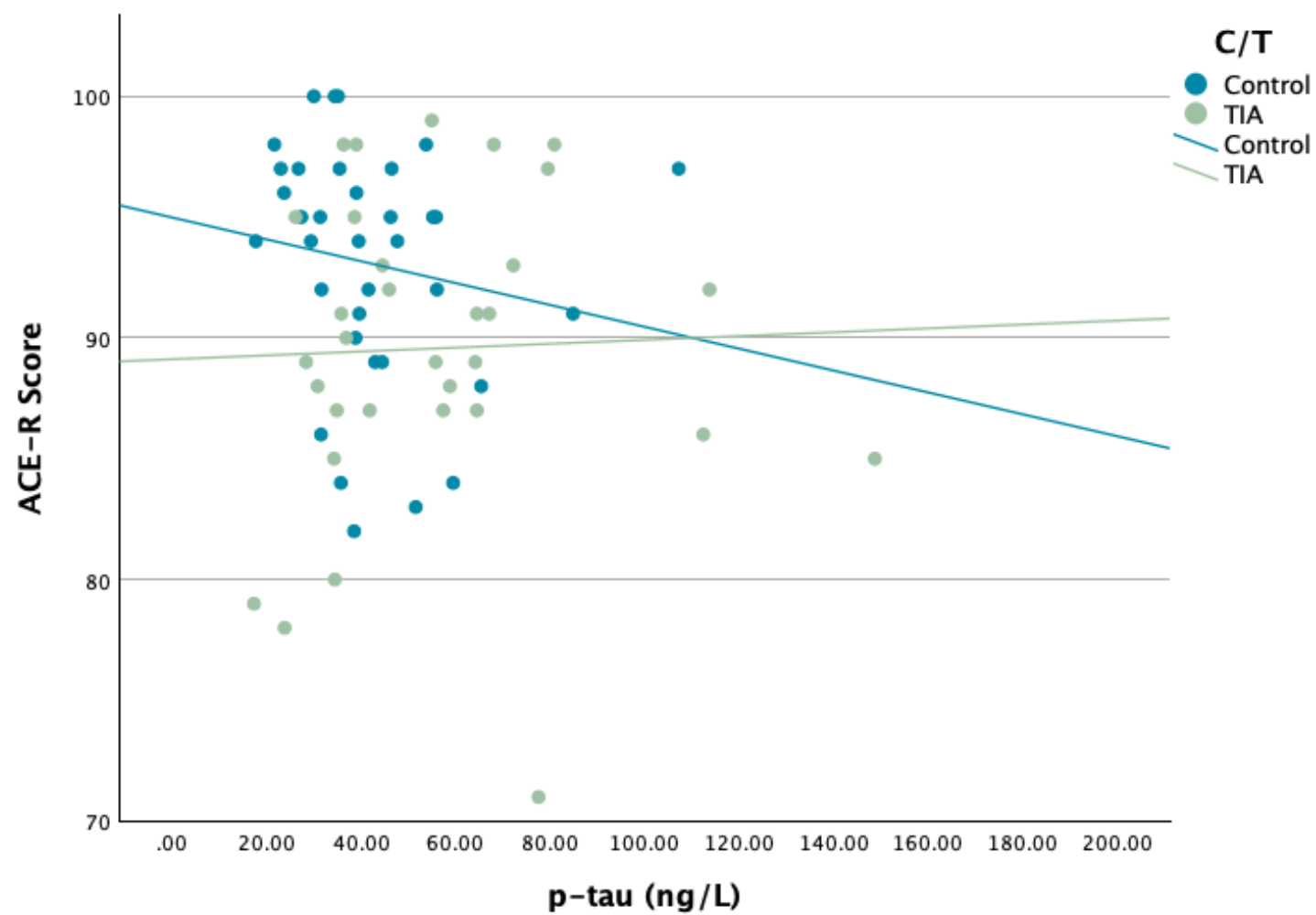
b. Predictors: (Constant), p-tau (ng/L), C/T, Age

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	108.539	4.582		23.690	<.001
	Age	-.256	.073	-.406	-3.496	<.001
	C/T	-2.937	1.358	-.249	-2.163	.034
	p-tau (ng/L)	.019	.029	.080	.676	.502

a. Dependent Variable: ACE-R Score





Linear regression predicting ACE-R test scores based on A β 42 concentrations, controlling age and group status

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.481 ^a	.231	.195	5.332

a. Predictors: (Constant), A β 1-42 (ng/L), C/T, Age

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	538.930	3	179.643	6.319	<.001 ^b
	Residual	1790.980	63	28.428		
	Total	2329.910	66			

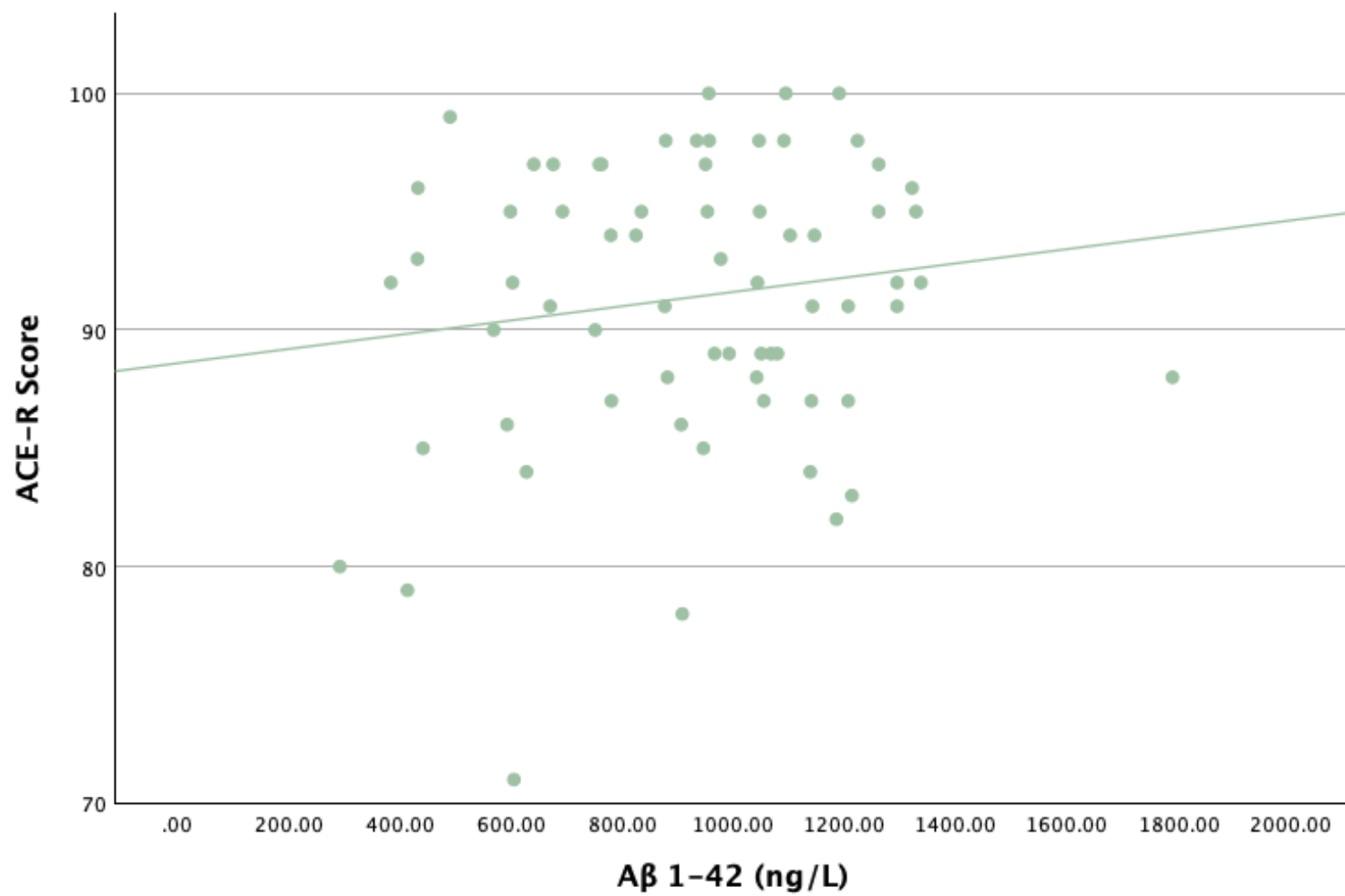
a. Dependent Variable: ACE-R Score

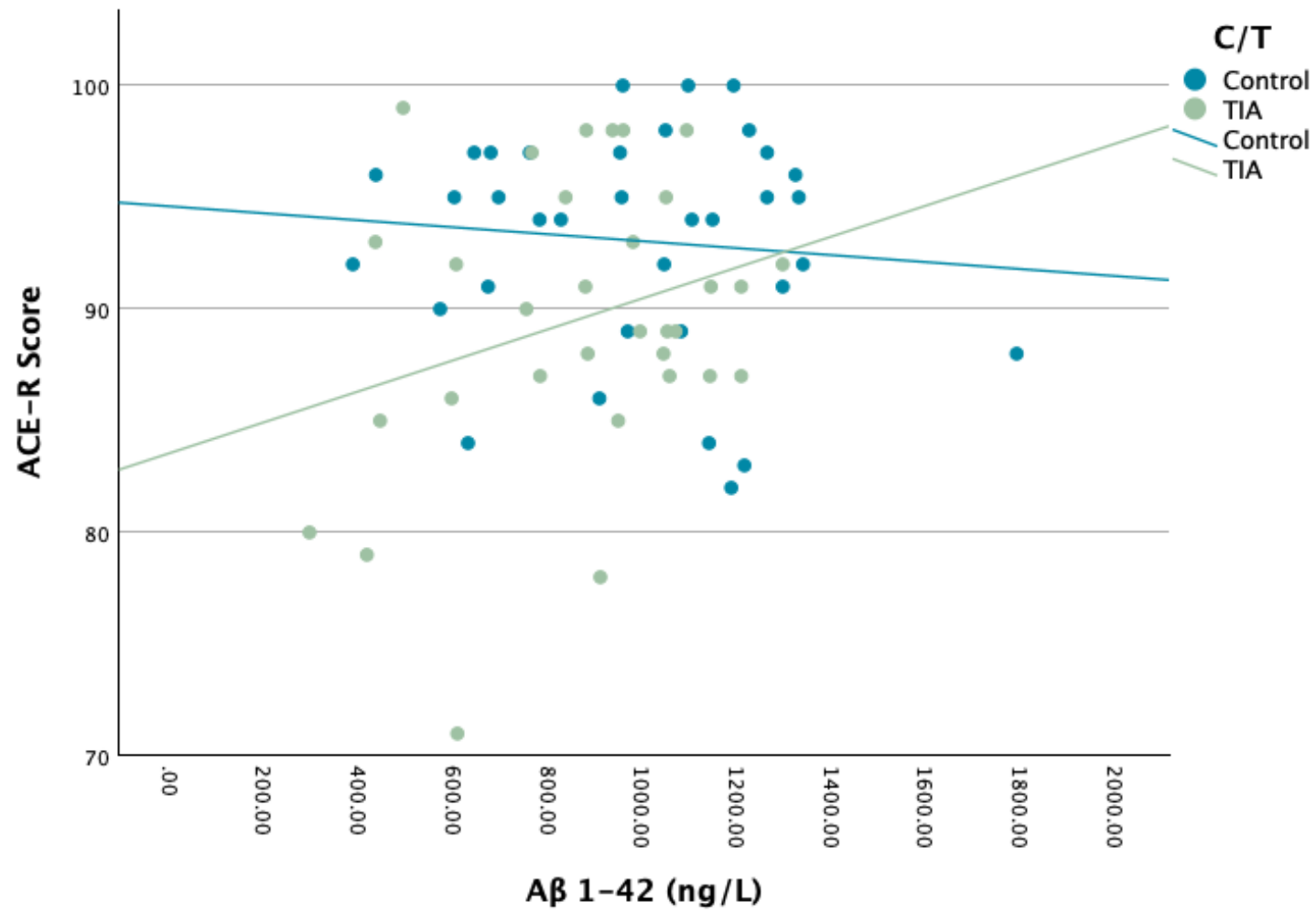
b. Predictors: (Constant), A β 1-42 (ng/L), C/T, Age

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	108.994	5.855		18.615	<.001
	Age	-.245	.073	-.389	-3.338	.001
	C/T	-2.748	1.342	-.233	-2.048	.045
	A β 1-42 (ng/L)	.000	.002	-.015	-.132	.896

a. Dependent Variable: ACE-R Score





Linear regression predicting ACE-R test scores based on A β 40 concentrations, controlling age and group status

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.480 ^a	.231	.183	5.499

a. Predictors: (Constant), A β 1-40 (ng/L), C/T, Age

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	435.112	3	145.037	4.796	.005 ^b
	Residual	1451.715	48	30.244		
	Total	1886.827	51			

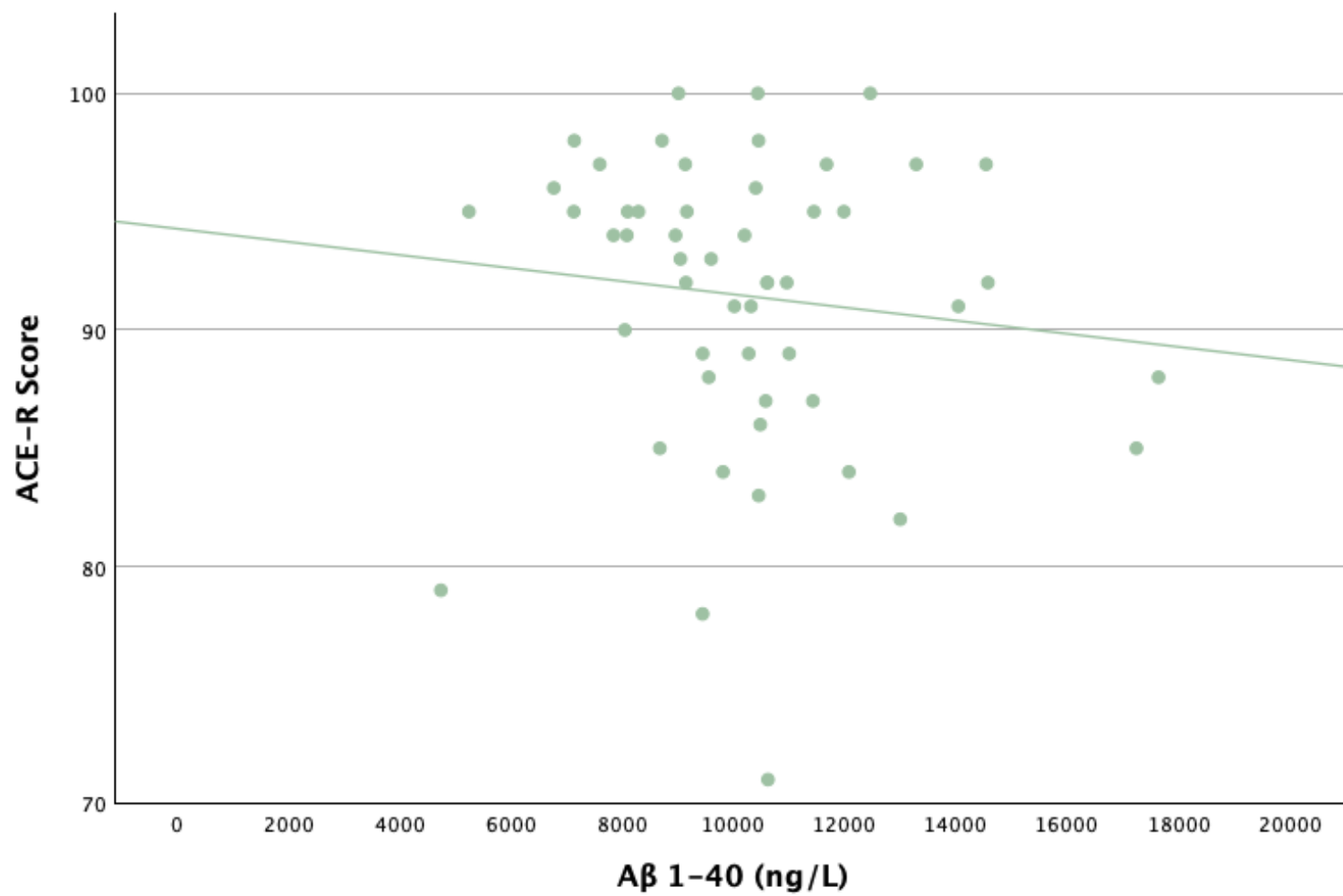
a. Dependent Variable: ACE-R Score

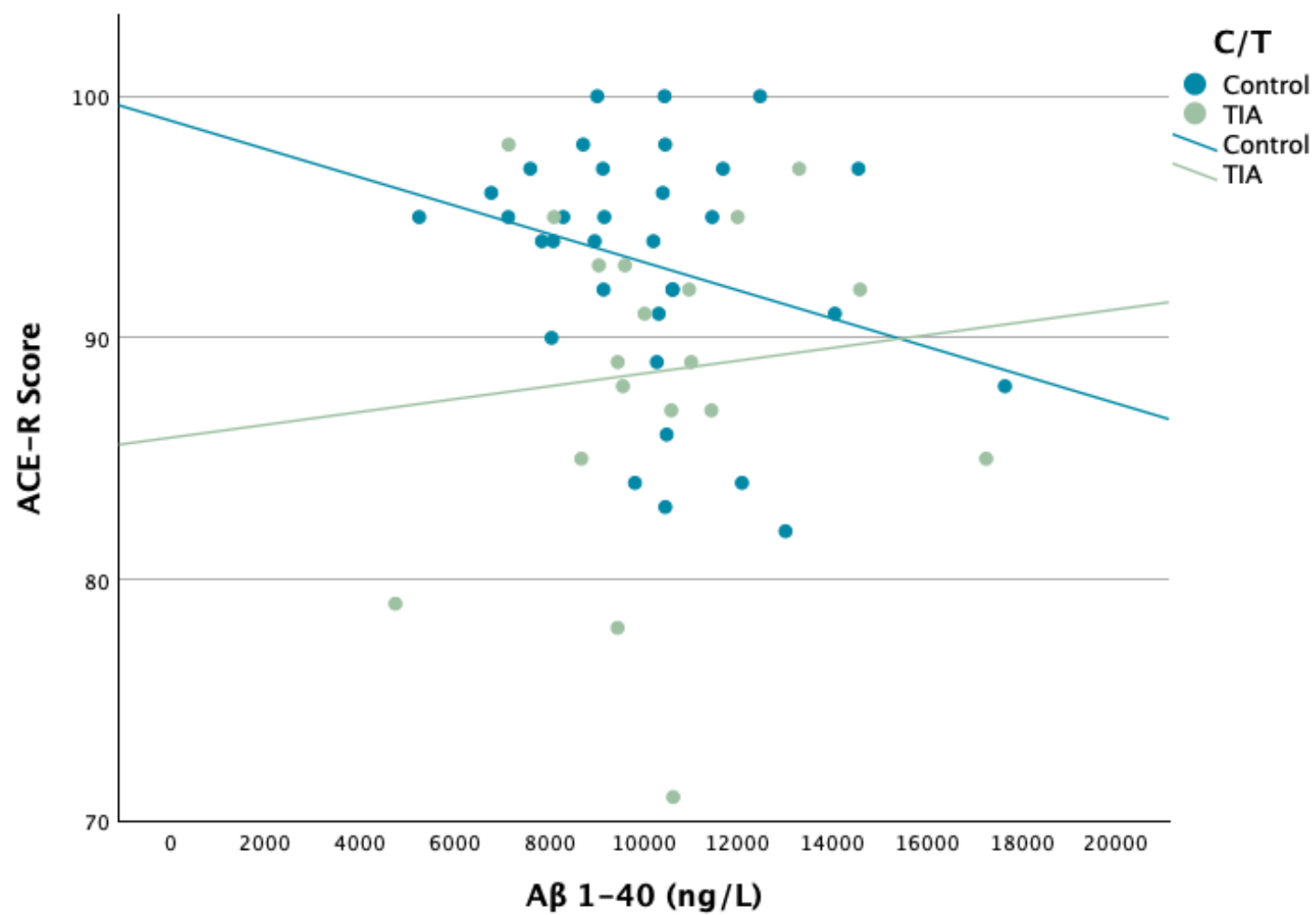
b. Predictors: (Constant), A β 1-40 (ng/L), C/T, Age

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	107.989	6.076		17.774	<.001
	Age	-.202	.082	-.320	-2.446	.018
	C/T	-3.410	1.633	-.273	-2.088	.042
	A β 1-40 (ng/L)	.000	.000	-.079	-.624	.536

a. Dependent Variable: ACE-R Score





Linear regression predicting ACE-R test scores based on A β 42/A β 40*10 concentrations, controlling age and group status

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.480 ^a	.231	.183	5.499

a. Predictors: (Constant), A β 42/A β 40*10, C/T, Age

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	435.270	3	145.090	4.798	.005 ^b
	Residual	1451.557	48	30.241		
	Total	1886.827	51			

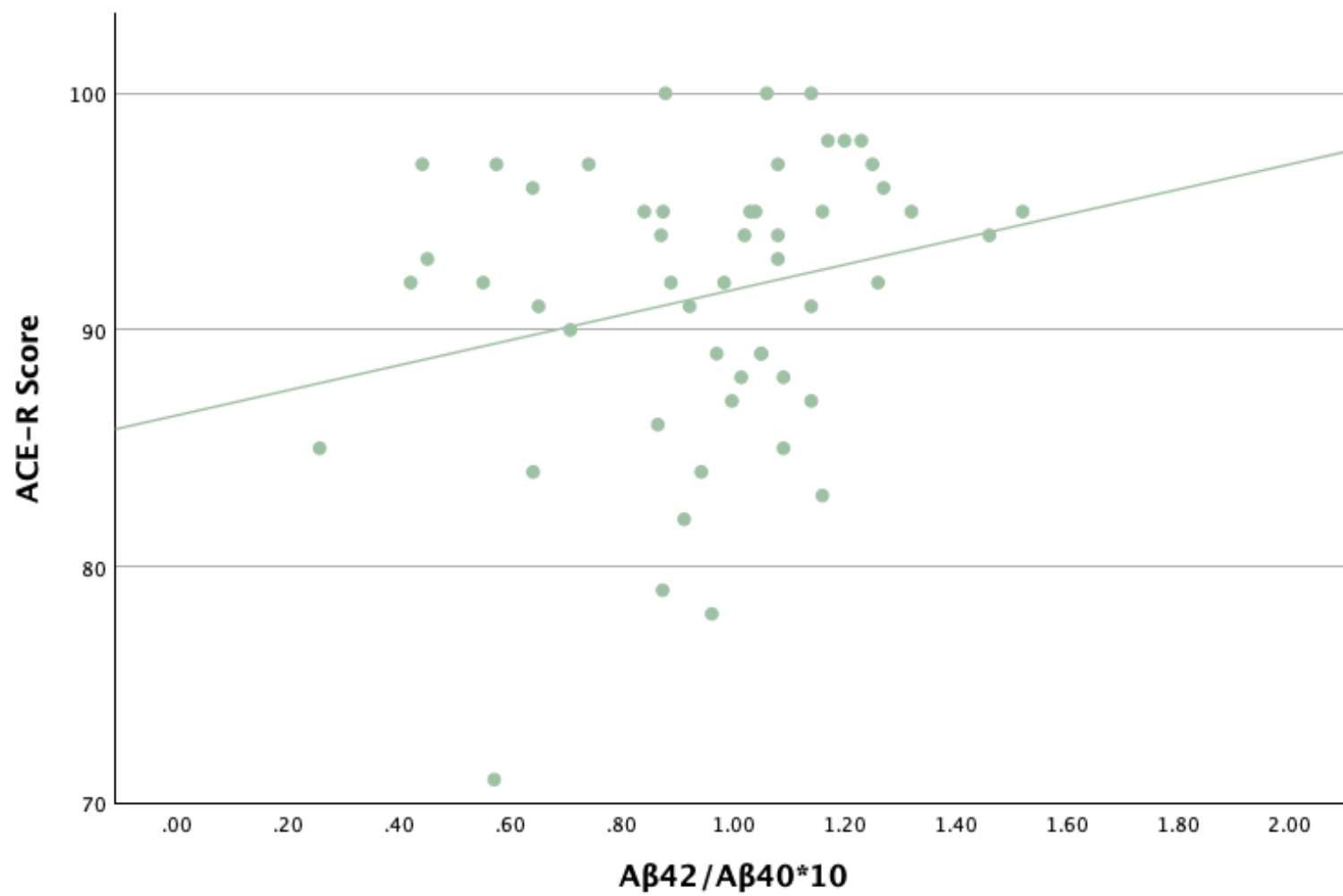
a. Dependent Variable: ACE-R Score

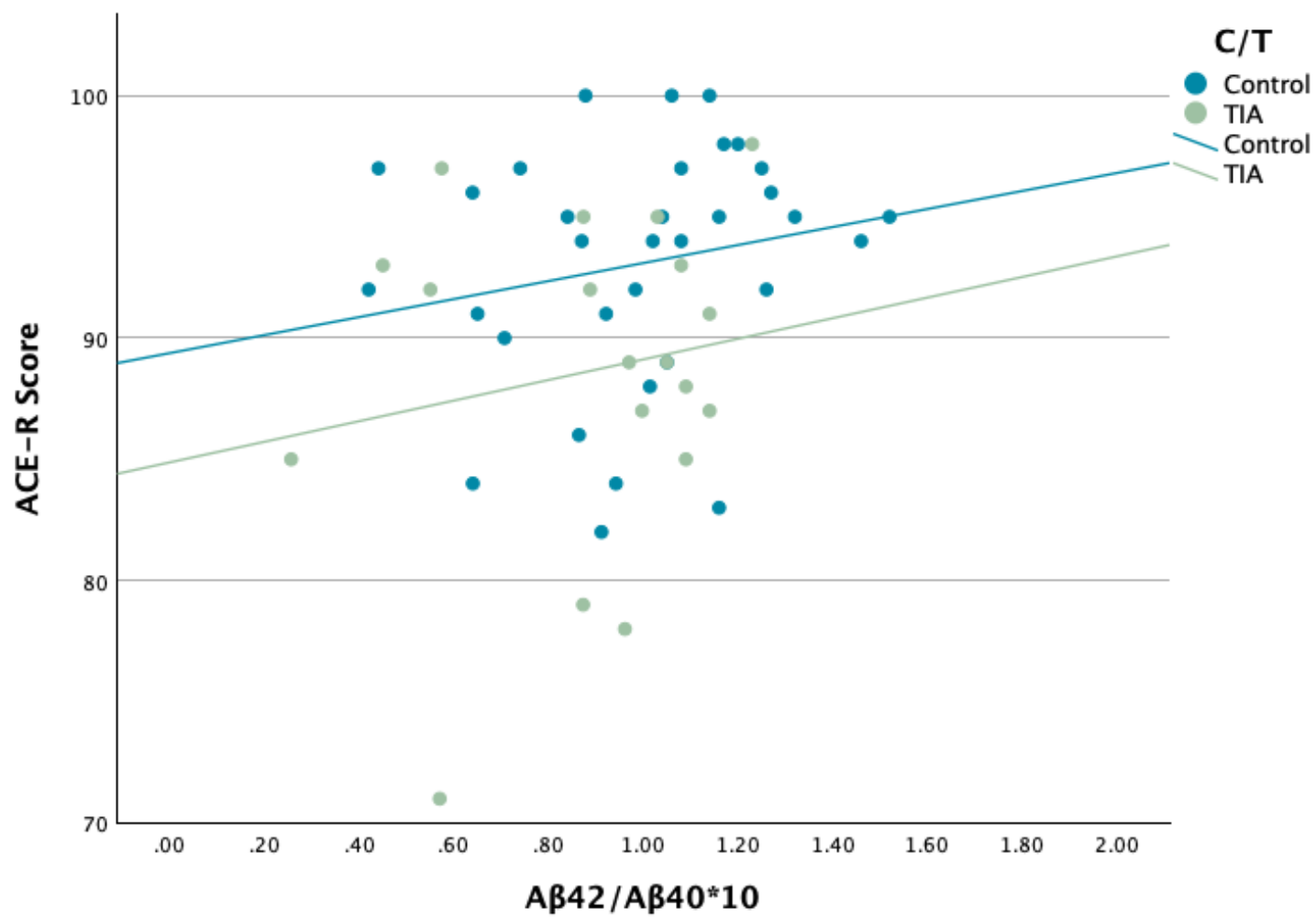
b. Predictors: (Constant), A β 42/A β 40*10, C/T, Age

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	103.291	7.143		14.461	<.001
	Age	-.188	.086	-.299	-2.183	.034
	C/T	-3.322	1.644	-.266	-2.020	.049
	A β 42/A β 40*10	1.918	3.054	.085	.628	.533

a. Dependent Variable: ACE-R Score





Linear regression predicting ACE-R test scores based on t-tau/A β 42 concentrations, controlling age and group status

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.484 ^a	.234	.197	5.323

a. Predictors: (Constant), t-tau/A β 42, C/T, Age

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	544.682	3	181.561	6.407	<.001 ^b
	Residual	1785.229	63	28.337		
	Total	2329.910	66			

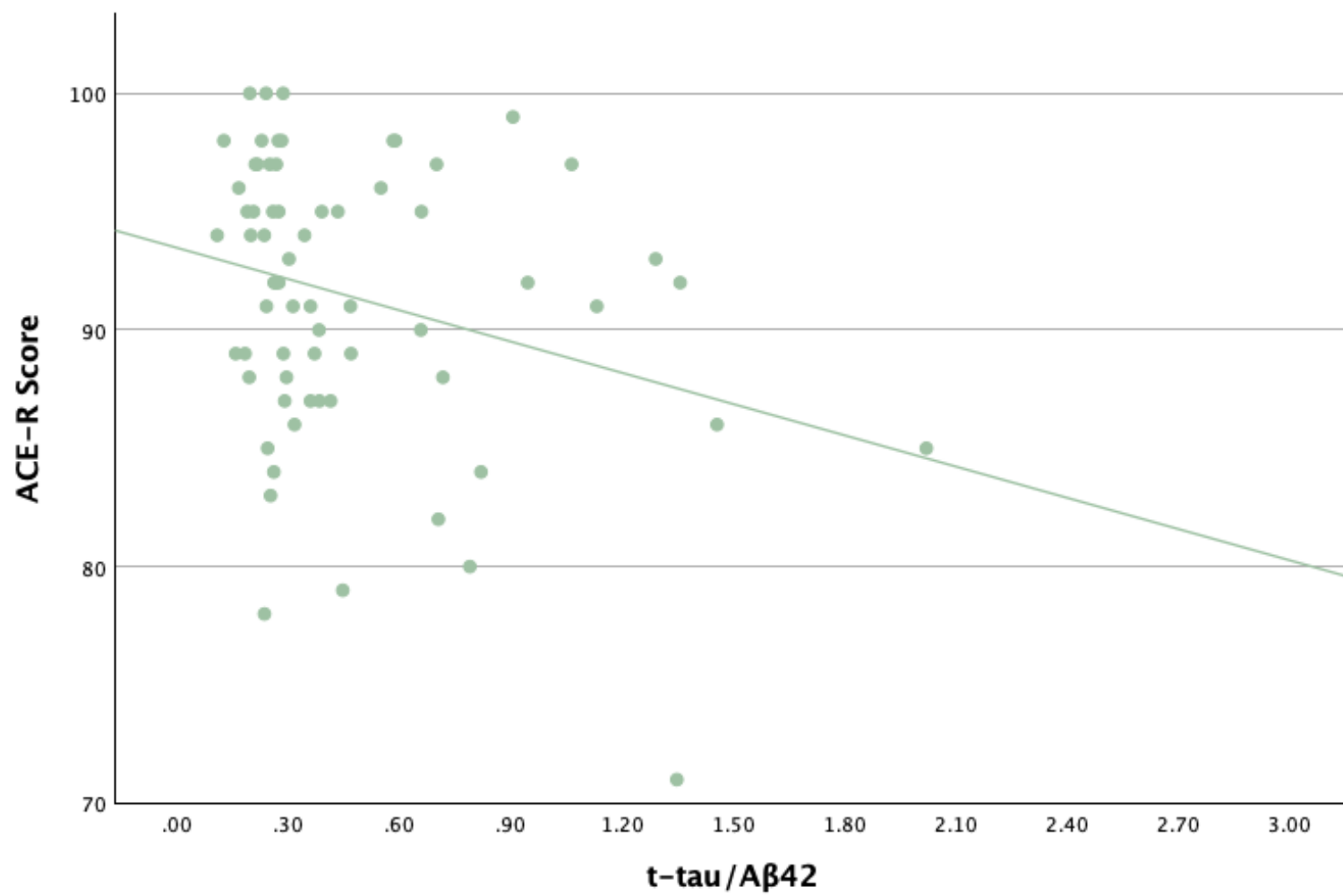
a. Dependent Variable: ACE-R Score

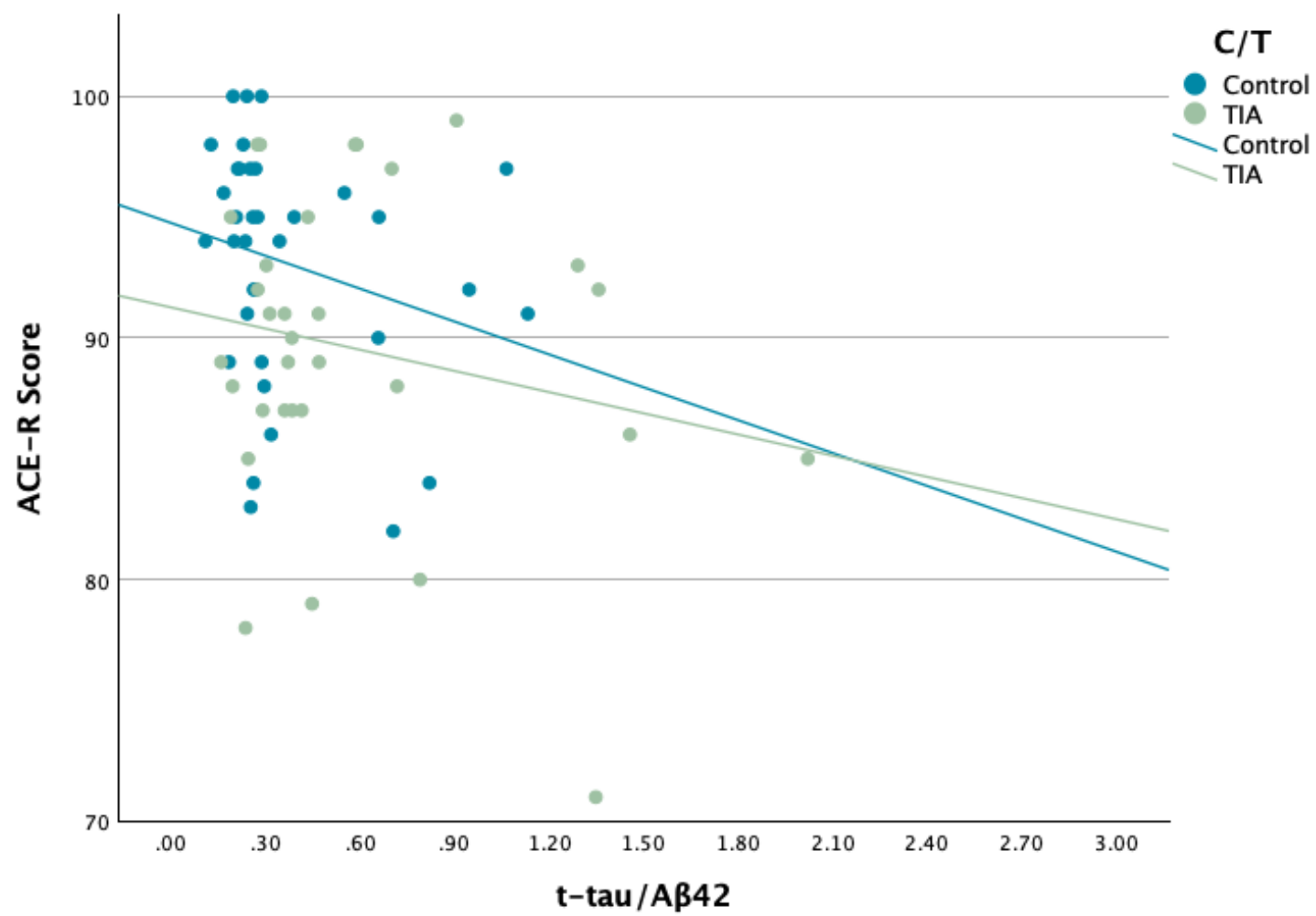
b. Predictors: (Constant), t-tau/A β 42, C/T, Age

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	107.889	4.780		22.569	<.001
	Age	-.227	.078	-.360	-2.921	.005
	C/T	-2.575	1.357	-.218	-1.898	.062
	t-tau/A β 42	-.934	1.990	-.059	-.469	.640

a. Dependent Variable: ACE-R Score





Linear regression predicting ACE-R test scores based on p-tau/A β 42 concentrations, controlling age and group status

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.482 ^a	.232	.196	5.329

a. Predictors: (Constant), p-tau/A β 42, C/T, Age

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	540.807	3	180.269	6.348	<.001 ^b
	Residual	1789.104	63	28.398		
	Total	2329.910	66			

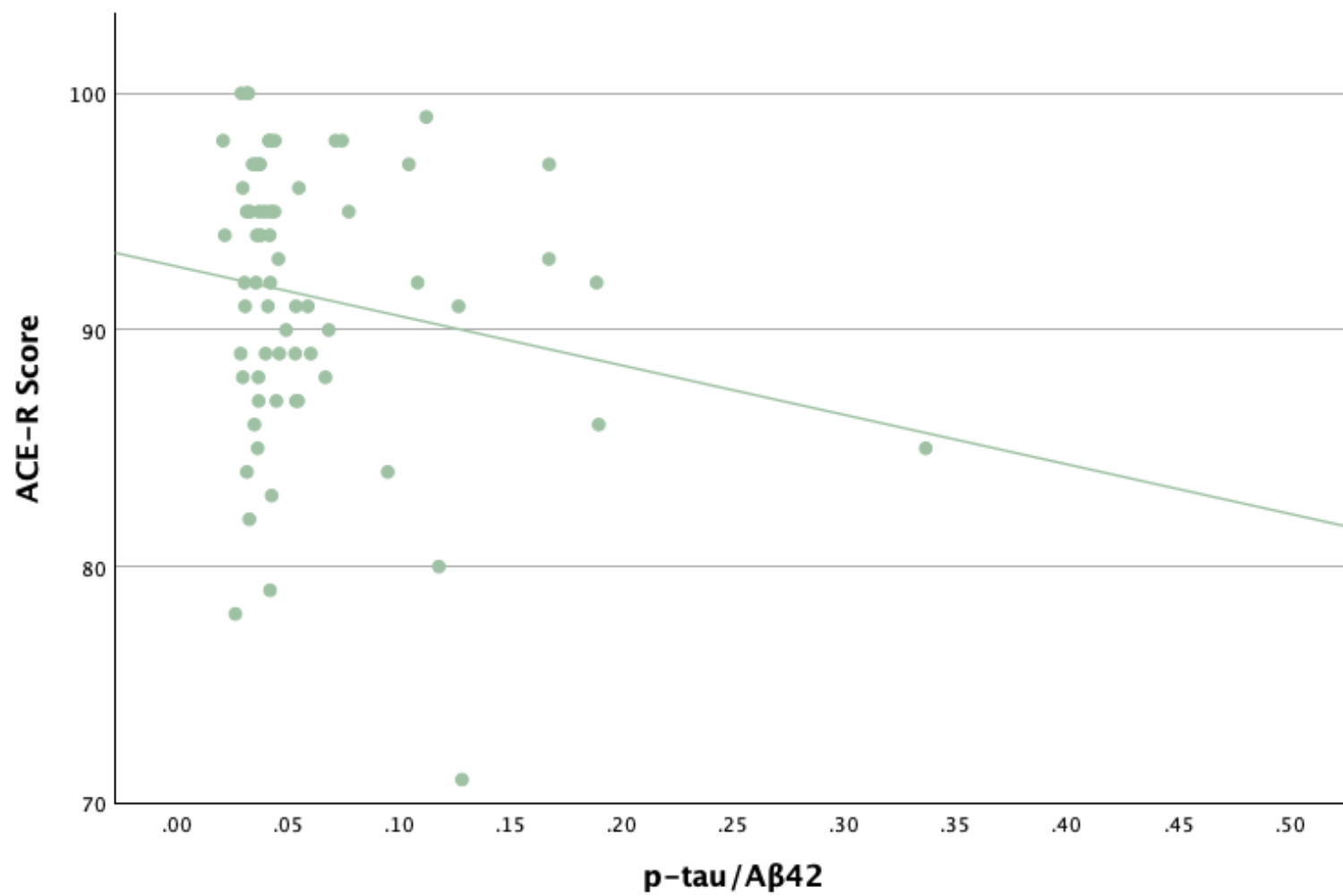
a. Dependent Variable: ACE-R Score

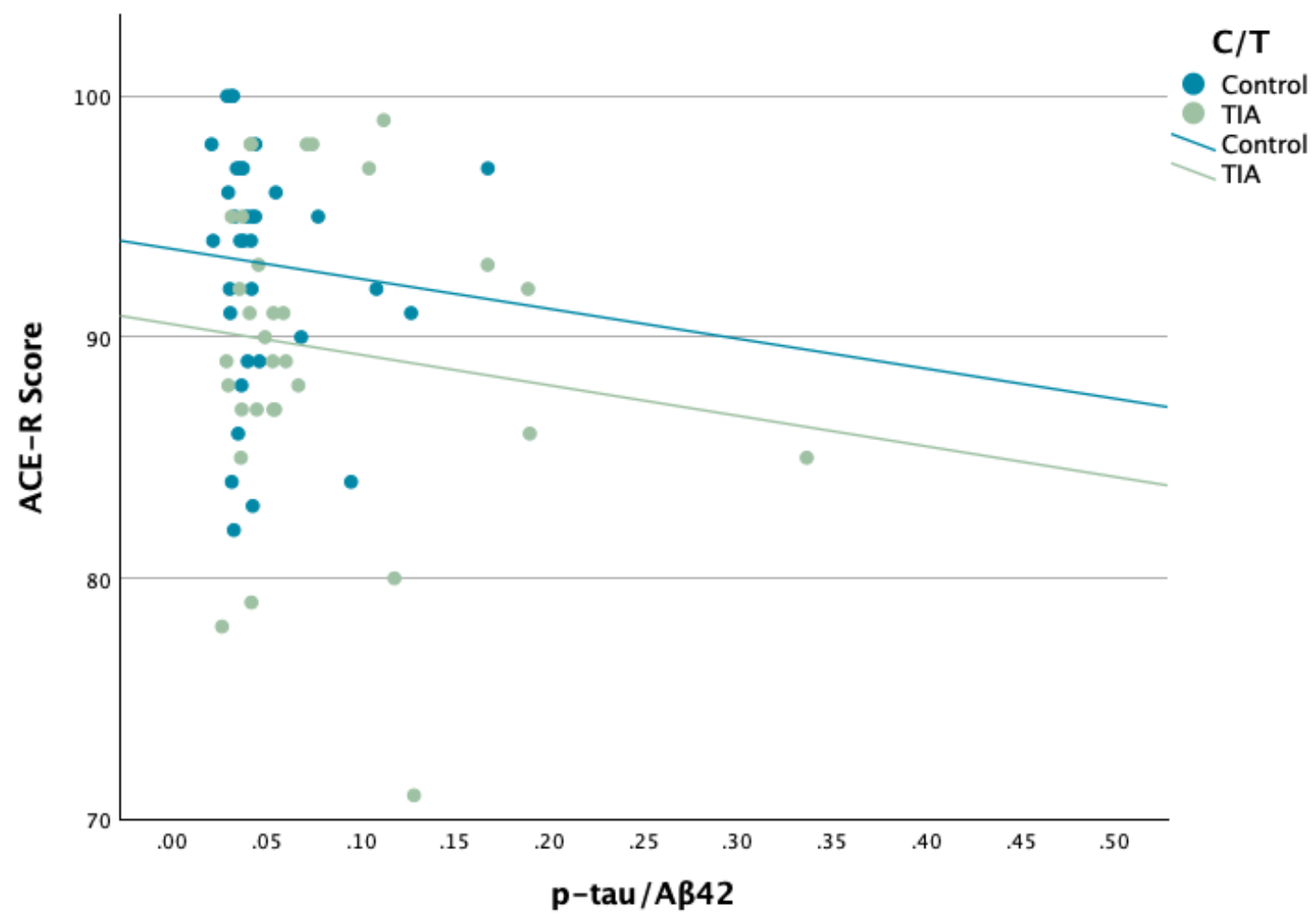
b. Predictors: (Constant), p-tau/A β 42, C/T, Age

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	108.823	4.716		23.074	<.001
	Age	-.250	.076	-.397	-3.305	.002
	C/T	-2.809	1.359	-.238	-2.067	.043
	p-tau/A β 42	4.044	13.998	.036	.289	.774

a. Dependent Variable: ACE-R Score





Linear regression predicting ACE-R test scores based on ATI concentrations, controlling age and group status

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.482 ^a	.232	.195	5.330

a. Predictors: (Constant), Amyloid-Tau Index (ATI), C/T, Age

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	540.231	3	180.077	6.339	<.001 ^b
	Residual	1789.679	63	28.408		
	Total	2329.910	66			

a. Dependent Variable: ACE-R Score

b. Predictors: (Constant), Amyloid-Tau Index (ATI), C/T, Age

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	107.452	6.248		17.198	<.001
	Age	-.234	.078	-.372	-3.015	.004
	C/T	-2.618	1.383	-.222	-1.893	.063
	Amyloid-Tau Index (ATI)	.323	1.285	.032	.251	.802

a. Dependent Variable: ACE-R Score

