Supplementary Material

Secular Economic Trends Relevant to the Pittsburgh ADHD Longitudinal Study (PALS)

The timing of the PALS study included the Great Recession, which is defined as spanning from December 1, 2007 to June 30, 2009 (https://www.nber.org/cycles/). This brings up two issues. First, if the financial functioning of PALS participants was evaluated during the Great Recession, this may have affected the level of financial distress that was observed in the full sample (e.g., increased rates of unemployment). 17% of the age 25 interviews and 19% of age 30 interviews occurred during the Great Recession, suggesting that the full sample's financial functioning may be slightly lower than it would have had all cases been evaluated outside of an economic recession. Second, if the financial functioning of either the probands or controls was more likely to have been evaluated during the Great Recession, this could confound any group differences we observed in financial functioning. However, the proportion of probands' interviews (18.5%) and controls' interviews (17.1%) that occurred within the Great Recession was quite similar, suggesting the groups received equivalent exposure to an economy in recession.

Finances Questionnaire

A questionnaire was designed for the PALS follow-up to collect data on earnings, savings, dependence on family or others, credit cards, debt, and other relevant financial habits. The self-report form included 28 items, including binary responses (e.g., "Do you own a home?"), categorical responses ("Mark the interval indicating how much debt you are in."), and open-ended responses ("How much money do you have in savings?"). Sensitivity analyses suggested results were robust to extreme values in the open-ended responses (see later section in supplement). The parent-report form included 16 items, some of which were duplicates of

questions asked on the self-report form and some of which were not present on that form (e.g., "Have you ever co-signed a loan for your son/daughter?"). Parents did not report on outcomes of which they were unlikely to have knowledge (e.g., balance of participant's savings account). All financial outcomes were measured by either self- or parent-report. Visit dates ranged from August 1999 to July 2017, indicating the need to adjust dollar amounts for inflation. All reported dollar amounts were rescaled to January 2018 USD based on the Bureau of Labor Statistics' historical consumer price index for all urban consumers (CPI-U), using the month and year that the financial questionnaire was completed. When categorical response options were used to indicate dollar amounts (e.g., $500-999, $1000-1499), response were recoded to the dollar amount in the center of the range before inflation adjustment and analysis.

Missing Data

Rate of missing data. Employment status was available for 518 participants at age 25 (86%) and for 474 participants at age 30 (78%). For the financial status questionnaire, at age 25, self-report data were available for 474 participants (22% missing) and parent-report data were available for 383 participants (37% missing). At age 30, self-report data were available for 435 participants (22% missing) and parent-report data were available for 386 participants (36% missing).

Handling of missing data. Missing data were addressed using multiple imputation by chained equations (White, Royston, & Wood, 2011) in the *mice* package (van Buuren & Groothuis-Oudshoorn, 2011), assuming data to be Missing at Random (MAR; Rubin, 1976). To increase the plausibility of the MAR assumption, the imputation model was comprehensive and included auxiliary variables that were predictive of both missingness and missing values (Collins, Schafer, & Kam, 2001). Age 25 outcomes were permitted to predict age 30 outcomes

and vice versa. ADHD status and several auxiliary variables (child sex, child race, parents' marital status, parent's education, child's estimated full-scale IQ, child's education attained by age 22, and child's delinquency in adolescence) were included as predictors of all variables to be imputed. The remaining variables were used as predictors whenever (a) they correlated at above 0.10 with either the value on the variable to be imputed or an indicator of missingness on that variable and (b) more than 50% of cases were usable. Logistic regression was used to impute missing values on binary variables; normal regression was used to imputed missing values on estimated full-scale IQ; and predictive mean matching was used to impute all other missing values. Visual comparison of the observed versus imputed data did not reveal any variables with a very discrepant or implausible pattern of results (Abayomi, Gelman, & Levy, 2008).

Significance Testing of Difference-in-Differences for Binary Outcomes

Difference-in-differences for binary outcomes were first analyzed with logistic regression, mimicking our approach for the one-wave data (i.e., group differences at age 30). However, the interaction term in these models reflects the difference-in-differences on the log-odds metric, which may not correspond with the difference-in-differences on the probability metric (Ai & Norton, 2003; Puhani, 2012). Accordingly, we also report results using the linear probability model (Cox, 1970) for comparison.

Rationale for Restriction of Sample for Projection of Lifetime Income and Net Worth at Retirement

Our sample was almost entirely male (89%). The inclusion of females in income projections complicates interpretation of results, since the employment status of females is more likely than that of males to reflect temporary differences due to pregnancy/childbirth or structural differences due to the choice to stay at home with children. For example, we would not expect to

see any difference in earnings between ADHD and control participants if they are staying at home with children, rather than in the workforce. Our sample was also primarily white (82%) or African American (10%), with very few participants in the remaining ethnic categories. Income differs by ethnicity, such that differences in the ethnic makeup from sample-to-sample would affect differences in projected income. Since we are already stratifying on age, employment status, and education, Census coverage can become weak when also stratifying on race and ethnicity variables (e.g., Asian males, age 50-54, with a graduate degree, currently employed part-time). Thus, to focus on the comparison of interest (ADHD adults vs. controls) and ensure adequate Census coverage, projections of lifetime income and net worth at retirement were restricted to only the white, male portion of the sample (N = 444).

Using Census ACS Data for Projections of Lifetime Income

We used the synthetic work-life earnings approach of Day and Newburger (2002) to project income. To build a reference dataset, we downloaded the person-level data from the Census' American Community Survey (ACS) 2016 release of past-five-year data via the Integrated Public Use Microdata Series (IPUMS) (Ruggles, Genadek, Goeken, Grover, & Sobek, 2017). This release included ACS data collected between January 1, 2012 and December 31, 2016. Reported income is pre-scaled to 2016 dollars in the IPUMS five-year release, and these estimates were then multiplied by 1.046 to further rescale them to January 2018 dollars (Bureau of Labor Statistics, 2018). Education was recoded to match the categories used in the PALS study, which required collapsing Masters, Professional, and Doctoral degrees in the ACS to the single "Graduate degree" category used in PALS.

The ACS data were filtered to include only white, non-Hispanic male respondents between the ages of 25 and 64 (N = 2,785,746), then grouped according to (a) age, (b)

employment status (unemployed / employed part-time / employed full-time, where full-time was defined as 35+ hours per week), and (c) education level. Age was defined in five-year spans (ages 25-29, 30-34, 35-39, etc.) in order to retain a larger number of respondents in each age-employment-education cell than would be left if age were defined by a single age. This procedure resulted in a total of 144 age-employment-education cells, and mean annual income (i.e., INCTOT) within each cell were calculated using the person-level sampling weights (i.e., PERWT). See Tables S2 and S3 for the resulting estimates.

Rescaling for Method B. In Method B, estimates were rescaled based on how closely each group tracked its Census-projected growth from age 25 to age 30. *Projected* growth in income was calculated using the mean income of Census respondents at age 24-26 and 29-31, weighted to match the PALS' ADHD and control groups on education and employment. *Actual* growth in income was calculated using the monthly incomes reported by the PALS' ADHD and control groups at ages 25 and 30. Projected and actual estimates were compared to evaluate how closely each group tracked its projected increase in income. Finally, synthetic estimates of lifetime income at different ages (Table S8) were rescaled such that each group captured the same proportion of Census-projected growth between ages 30 and 64 as they did between ages 25 and 30. See Table S9 for the resulting estimates.

Using Census SIPP Data for Projections of Net Worth at Retirement (Method A)

To build a reference dataset for net worth at retirement, we downloaded the person-level data from wave 1 of the 2014 panel of the Survey on Income and Program Participation (SIPP) (https://www.census.gov/programs-surveys/sipp/data/2014-panel/wave-1.html). Reported dollar amounts were multiplied by 1.060 to rescale them to January 2018 USD (Bureau of Labor Statistics, 2018). Education was recoded to match the categories used in the PALS study, which

required collapsing Masters, Professional, and Doctoral degrees in the ACS to the single "Graduate degree" category used in PALS.

The SIPP data were filtered to include only white, non-Hispanic male respondents between the ages of 65 and 69. This age range was used to produce estimates of net worth at retirement, while still retaining a reasonable number of respondents within each educational category (see *N*s in Table S10). The SIPP interview asks about multiple months of information, so responses covering the most proximal month were used (i.e., records where MONTHCODE = 12). Employment status within this age range is confounded with retirement status. Thus, in contrast to the income projections, projections of net worth were made solely based on education. Mean net worth (i.e., TNETWORTH) within each education stratum was calculated using the person-level sampling weights (i.e., WPFINWGT). Table S10 reports the resulting estimates.

Using Census ACS Data for Projections of Net Worth at Retirement (Method B)

In the SIPP-based projections (Method A), group differences in projected net worth at retirement arise solely from group differences in education attained (e.g., fewer of those in the ADHD group obtained Bachelor's degrees). No adjustments are made for ADHD/control differences in employment status or in the amount of net worth accumulated each year, due to the nature of the SIPP dataset. In Method B, we return to the ACS-based income projections and make assumptions about savings and investing behavior in order to partially address these limitations.

Procedure. To project net worth at retirement using the ACS-based income projections, we started with the rescaled estimates of income in five-year age bands (i.e., the values in Table S6). The following procedure was then repeated for each combination of assumed savings rate

for the ADHD group (S_{adhd}), assumed savings rate for the control group (S_{ctrl}), and assumed interest rate (*ROI*). We calculated the projected net worth at retirement for each profile of ADHD-education-employment at age 30 (i.e., row in Table S6). Each row in Table S6 was converted into a vector of incomes at each age in years (a) from 25 to 64, where income within each five-year age band was constant. This vector of income at each age was converted into a vector of *contribution to savings* at each age by multiplying it by the savings rate of the respective group (i.e., S_{ctrl} or S_{adhd}). The final value (i.e., value at age 64) of this vector of contributions to savings was calculated by iterating along this vector, where total savings to date was calculated as the amount accumulated at the previous age ($a - 1$) multiplied by [1 + *ROI*], plus the contribution at the current age (a).

This procedure produced an estimated net worth at retirement (i.e., age 64) for every combination of ADHD status, education, and employment (i.e., row in Table S7). The entire procedure was repeated for various values of S_{ctrl}, S_{adhd}, and *ROI*, producing estimates under each combination of these assumptions. To compute group differences in net worth at retirement under each combination of assumptions, each PALS participant was assigned the projected net worth for their given ADHD-education-employment profile, and the means of the ADHD and control groups were then calculated. Projections for the ADHD and control groups under different assumptions are reported in Table S6 and shown in Figure S2.

Upper bound on projected estimates. Projections (Table S6 and Figure S2) include some implausibly large estimates of savings at retirement. While these follow from the assumptions, these assumptions may not mimic real-world saving and investing habits. For example, very few Americans save 10% of their salary every year. The SIPP data can be used to calculate an upper bound on projected estimates as follows. The mean net worth at retirement in

the entire SIPP data (i.e., among white males) was $523k, suggesting the *population-level* mean difference in net worth associated with ADHD should be no more than $581k (assuming 10% of individuals have ADHD, and these 10% have a mean net worth of $0). Thus, deficits greater than $600k only reflect the differences that *would* be manifest if the assumptions were true.

Sensitivity Analysis #1: Adjusting for Intelligence

Probands exhibited lower intelligence quotients than controls at baseline (Table S1), as would be expected based on past literature (Frazier, Demaree, & Youngstrom, 2004; Jepsen, Fagerlund, & Mortensen, 2009). Since lower performance on intelligence tests may be at least in part caused by the ADHD syndrome, adjusting for intelligence when examining the association of ADHD with outcomes is a questionable practice (Meehl, 1971). Much like the effect of ADHD when adjusting for impulsivity (i.e., equating probands and controls on impulsivity) would not be particularly meaningful, the marginal effect of ADHD when adjusting for performance on an intelligence test is difficult to interpret.

Nonetheless, we reran the analyses reported in Table 1 and included intelligence quotient as a covariate. Considering the pattern of statistical significance in the final two columns of Table 1, only two (of a possible 28) results changed. Two ADHD-control differences at age 30 were no longer statistically significant: adult report of “Regularly receives money from parents/family” and parent report of “Ever moved back home after first leaving.” The pattern of statistical significance in difference-in-differences remained identical. Thus, our conclusions were not affected by the difference in intelligence observed at baseline.

Sensitivity Analysis #2: Winsorizing Extreme Response Values

Several financial outcome variables had unrestricted response formats, such that analyses might be vulnerable to the influence of outliers. For example, while 95% of respondents

indicated less than $20k in savings, one respondent indicated $300k. To probe the potential impact of outliers, analyses were repeated for this subset of outcome variables after Winsorizing the upper tail of the distribution. All responses above the 95th percentile were recoded to the value at the 95th percentile, and this recoding was conducted separately for the age 25 and age 30 data.

Results. The exact same pattern of statistical significance was obtained for both ADHD-control differences at age 30 and difference-in-differences (i.e., the rightmost columns of Table 1 were unchanged). The group means were lower in the Winsorized analyses, as would be expected from recoding the highest values. Thus, sensitivity analyses suggest that results are robust to the influence of extreme values on financial outcomes.

Back-of-the-Envelope Calculations of Societal Impact

Mean person-level income in the United States was $44,328.21 in the 2016 ACS 5-year release, which we adjusted to January 2018 USD ($46,377.83). Population of the United States between ages 18 and 64 was 200,339,058 in 2016 (https://www.census.gov/quickfacts/fact/table/US/PST045217). Ratio of mean income in ADHD and control groups was 0.63 at age 30 in PALS data. Assuming a prevalence rate of 8.4% (Danielson et al., 2018), and that the income ratio (0.63) is constant over time, we solved for the mean income in ADHD and non-ADHD groups on a national level, then multiplied this discrepancy by the prevalence rate and the overall adult population of 200,339,058. The resulting estimates was $301,068,100,000.

References

Abayomi, K., Gelman, A., & Levy, M. (2008). Diagnostics for multivariate imputations. *Journal of the Royal Statistical Society: Series C (Applied Statistics), 57*, 273–291.

Ai, C., & Norton, E. C. (2003). Interaction terms in logit and probit models. *Economics Letters, 80*, 123–129.

Barkley, R. A., Fischer, M., Smallish, L., & Fletcher, K. (2006). Young adult outcome of hyperactive children: Adaptive functioning in major life activities. *Journal of the American Academy of Child & Adolescent Psychiatry*, *45*, 192–202.

Biederman, J., Petty, C. R., Woodworth, K. Y., Lomedico, A., Hyder, L. L., & Faraone, S. V. (2012). Adult outcome of attention-deficit/hyperactivity disorder: A controlled 16-year follow-up study. *The Journal of Clinical Psychiatry*, *73*, 941–950.

Collins, L. M., Schafer, J. L., & Kam, C.-M. (2001). A comparison of inclusive and restrictive strategies in modern missing data procedures. *Psychological Methods, 6*, 330–351.

Cox, D. R. (1970). Simple regression. In *Analysis of Binary Data* (pp. 33–42). London: Methuen.

Danielson, M. L., Bitsko, R. H., Ghandour, R. M., Holbrook, J. R., Kogan, M. D., & Blumberg, S. J. (2018). Prevalence of parent-reported ADHD diagnosis and associated treatment among U.S. children and adolescents, 2016. *Journal of Clinical Child & Adolescent Psychology*, *47*, 199–212.

Day, J. C., & Newburger, E. C. (2002). *The big payoff: Educational attainment and synthetic estimates of work-life earnings* (No. P23-210). Washington, D.C.: U.S. Census Bureau.

Frazier, T. W., Demaree, H. A., & Youngstrom, E. A. (2004). Meta-analysis of intellectual and neuropsychological test performance in Attention-Deficit/Hyperactivity Disorder. *Neuropsychology*, *18*, 543–555.

Hechtman, L., Swanson, J. M., Sibley, M. H., Stehli, A., Owens, E. B., Mitchell, J. T., … Nichols, J. Q. (2016). Functional adult outcomes 16 years after childhood diagnosis of Attention-Deficit/Hyperactivity Disorder: MTA results. *Journal of the American Academy of Child & Adolescent Psychiatry*. https://doi.org/10.1016/j.jaac.2016.07.774

Jepsen, J. R. M., Fagerlund, B., & Mortensen, E. L. (2009). Do attention deficits influence IQ assessment in children and adolescents with ADHD? *Journal of Attention Disorders, 12*, 551–562.

Klein, R. G., Mannuzza, S., Olazagasti, M. A. R., Roizen, E., Hutchison, J. A., Lashua, E. C., & Castellanos, F. X. (2012). Clinical and functional outcome of childhood Attention-Deficit/Hyperactivity Disorder 33 years later. *Archives of General Psychiatry, 69*, 1295–1303.

Meehl, P. E. (1971). High school yearbooks: A reply to Schwarz. *Journal of Abnormal Psychology, 77*, 143–148.

Molina, B. S. G., Hinshaw, S. P., Swanson, J. M., Arnold, L. E., Vitiello, B., Jensen, P. S., … Houck, P. R. (2009). The MTA at 8 years: Prospective follow-up of children treated for combined-type ADHD in a multisite study. *Journal of the American Academy of Child & Adolescent Psychiatry*, *48*, 484–500.

Molina, B. S. G., Sibley, M. H., Pedersen, S. L., & Pelham, W. E. (2016). The Pittsburgh ADHD Longitudinal Study. In L. T. Hechtman (Ed.), *Attention-Deficit Hyperactivity Disorder: Adult Outcomes and its Predictors*. New York, NY: Oxford University Press.

Owens, E. B., Zalecki, C., Gillette, P., & Hinshaw, S. P. (2017). Girls with childhood ADHD as adults: Cross-domain outcomes by diagnostic persistence. *Journal of Consulting and Clinical Psychology*, *85*, 723–736.

Puhani, P. A. (2012). The treatment effect, the cross difference, and the interaction term in nonlinear “difference-in-differences” models. *Economics Letters*, *115*, 85–87.

Rubin, D. B. (1976). Inference and missing data. *Biometrika*, *63*, 581–592.

Ruggles, S., Genadek, K., Goeken, R., Grover, J., & Sobek, M. (2017). *Integrated Public Use Microdata Series: Version 7.0 [dataset]*. Minneapolis, MN: University of Minnesota.

van Buuren, S. van, & Groothuis-Oudshoorn, K. (2011). mice: Multivariate imputation by chained equations in R. *Journal of Statistical Software*, *45*, 1–67.

White, I. R., Royston, P., & Wood, A. M. (2011). Multiple imputation using chained equations: Issues and guidance for practice. *Statistics in Medicine*, *30*, 377–399.

Table S1
Comparison of Controls and Probands at Baseline

Variable	**Controls (*N* = 240)**	**Probands (*N* = 364)**
Female	11 %	10 %
Race		
White	85 %	81 %
Black	9 %	11 %
Other	6 %	8 %
Estimated Full-Scale IQ	111 (14.4)	101 (15.8)
Highest parent education		
No high school	8 %	13 %
High school grad / GED	10 %	7 %
Partial college	12 %	17 %
Associates / 2-year degree	8 %	13 %
Bachelor's degree	26 %	26 %
Graduate training	35 %	24 %

Note. IQ = intelligence quotient, GED = General Education Diploma. IQ is reported as mean (standard deviation). All other values are proportion of group meeting criterion.

Table S2
Probands' and Controls' Educational Attainment at Age 25

Education	**Controls (N = 240)**	**Probands (N = 364)**
No high school diploma	1 %	9 %
High school diploma or GED	3 %	19 %
Some college	33 %	47 %
Associate's degree	7 %	12 %
Bachelor's degree	53 %	14 %
Graduate degree	3 %	0 %

Note. Based on participant report at age 25 visit. Difference between controls and probands is statistically significant, $\chi^2(5) = 139.13$, $p < .001$.

Table S3

Financial Outcomes at Age 30 for Controls, Probands with Desistant Childhood ADHD, and Probands with Persistent Childhood ADHD

Inform.	Outcome	Descriptive Statistics at Age 30				Inference		
			Probands by Status of DSM Symptoms of ADHD					
		Controls *N* = 240	Complete Desistance[a] *N* = 103	Any Desistance[b] *N* = 227	Persistence[c] *N* = 70	Controls vs. Probands significant?	Controls vs. Any Desistance significant?	Controls vs. Complete Desistance significant?
Adult	Currently employed full-time	80%	69%	69%	56%	*	*	*
	Currently unemployed	13%	17%	18%	31%	*		
	Living with parents/family	12%	30%	28%	39%	*	*	*
	Regularly receives money from parents/family	5%	4%	10%	11%	*		
	Monthly rent/housing expenses	$ 852 [436, 1204]	$ 593 [172, 918]	$ 525 [53, 731]	$ 426 [0, 642]	*	*	*
	Receiving welfare/government assistance	6%	5%	8%	15%			
	Monthly income	$ 3530 [1724, 4548]	$ 2749 [1588, 4244]	$ 2426 [869, 4160]	$ 1726 [413, 2622]	*	*	*
	Money in savings account	$ 9970 [13, 8545]	$ 5215 [0, 4246]	$ 4741 [0, 2296]	$ 1769 [0, 1042]	*	*	
	Number of credit cards	2.68 [1, 4]	1.52 [0, 2]	1.68 [0, 2]	1.08 [0, 1]	*	*	*
	Number of times rejected for credit card	0.83 [0, 1]	1.39 [0, 1]	2.11 [0, 2]	1.79 [0, 2]	*	*	
	Number of times credit card cancelled by issuer	0.25 [0, 0]	0.23 [0, 0]	0.33 [0, 0]	0.26 [0, 0]			
	Ever moved back home after first leaving	28%	29%	28%	35%			
	How many times moved back home after first leaving	0.36 [0, 1]	0.41 [0, 1]	0.39 [0, 1]	0.51 [0, 1]			
	Has debt	41%	33%	40%	35%			
	Money in debt	$ 2299 [0, 3400]	$ 2064 [0, 3377]	$ 2270 [0, 3377]	$ 1807 [0, 845]			
	Ever received emergency funds from parents	35%	27%	37%	40%			
	Number of times in past year received emergency funds from parents	0.40 [0, 0]	0.29 [0, 0]	0.60 [0, 0]	1.03 [0, 1]			
	Money in emergency funds received in past year from parents	$ 414 [0, 0]	$ 156 [0, 0]	$ 466 [0, 0]	$ 473 [0, 354]			
	Owns a home	42%	32%	26%	10%	*	*	
Parent	Living with parents/family	9%	24%	26%	35%	*	*	*
	Regularly receives money from parents/family	8%	16%	19%	32%	*	*	
	Ever received emergency funds from parents	37%	43%	51%	71%	*	*	
	Number of times in past year received emergency funds from parents	0.95 [0, 1]	1.11 [0, 1]	1.72 [0, 2]	3.11 [0, 5]	*		
	Money in emergency funds received in past year from parents	$ 1169 [0, 210]	$ 1000 [0, 223]	$ 1020 [0, 536]	$ 884 [0, 1042]			
	Parent ever co-signed loan	7%	12%	9%	5%			
	Other adult provides financial assistance	7%	18%	20%	25%	*	*	*
	Ever moved back home after first leaving	27%	38%	38%	49%	*	*	
	How many times moved back home after first leaving	0.37 [0, 1]	0.70 [0, 1]	0.66 [0, 1]	1.11 [0, 1]	*	*	*

Note. Inform. = informant. Values in "Descriptive Statistics" section are either percentage of sample responding "yes" to criterion, or mean [25th percentile, 75th percentile]. Rightmost three columns indicate statistical significance of group comparisons ($\alpha = .05$, all tests two-sided). The "Controls vs. Probands significant?" column is reproduced from Table 1 for reference.

[a] *Complete desistance* defined as neither participant nor parent endorsing *any* DSM symptoms of ADHD.
[b] *Any desistance* defined as maximum number of DSM symptoms of either inattention or hyperactivity/impulsivity, per either participant or parent report, being less than 5.
[c] *Persistence* defined as the maximum number of DSM symptoms of either inattention or hyperactivity/impulsivity, per either participant or parent report, being equal to or greater than 5.

Table S4
Results of Statistical Mediation Analyses

Financial Outcome	Effect	Estimate [95% CI]	Statistical Significance
Monthly income (in thousands)	*a*	-1.141 [-1.323, -0.959]	***
	b	0.459 [0.299, 0.619]	***
	Direct effect (*c'*)	-0.796 [-1.200, -0.392]	***
	Indirect effect (*a*b*)	-0.523 [-0.725, -0.321]	***
	Total effect	-1.319 [-1.683, -0.955]	***
Money in savings account (in thousands)	*a*	-1.141 [-1.323, -0.959]	***
	b	2.914 [1.262, 4.566]	***
	Direct effect (*c'*)	-2.655 [-6.949, 1.639]	
	Indirect effect (*a*b*)	-3.324 [-5.282, -1.366]	**
	Total effect	-5.979 [-9.811, -2.147]	**
Living with parents/family (combined report)	*a*	-1.141 [-1.333, -0.949]	***
	b	-0.220 [-0.334, -0.106]	***
	Direct effect (*c'*)	0.554 [0.234, 0.874]	**
	Indirect effect (*a*b*)	0.251 [0.115, 0.387]	***
	Total effect	0.805 [0.513, 1.097]	***
Regularly receiving money from parents/family (combined report)	*a*	-1.141 [-1.333, -0.949]	***
	b	-0.114 [-0.240, 0.012]	†
	Direct effect (*c'*)	0.480 [0.134, 0.826]	**
	Indirect effect (*a*b*)	0.130 [-0.016, 0.276]	†
	Total effect	0.610 [0.300, 0.920]	***

Note. See Figure S3 for diagram of path analysis model that was fit. *a* is the regression coefficient relating childhood ADHD to educational attainment at age 25. *b* is the regression coefficient relating educational attainment at age 25 to the financial outcome at age 30. The direct effect (*c'*) is the component of the effect of childhood ADHD on the financial outcome at age 30 that is not mediated by educational attainment at age 25. The indirect effect (*a*b*) is the component of the effect of childhood ADHD on financial outcome at age 30 that is mediated educational attainment at age 25. Estimates are from unstandardized solution. Confidence intervals are estimate plus or minus two standard errors; statistical significance column is based on the asymptotic normal theory test of estimate and its standard error. For continuous outcomes (income and savings), model was fit using the maximum likelihood (ML) estimator. For binary outcomes (living with parents/family and regularly receiving money from parents/family), model was fit using the weighted least squares mean and variance adjusted (WLSMV) estimator and the delta parameterization. The interaction between childhood ADHD and educational attainment was not statistically significant in any model and so was not included (Mackinnon et al., in press).
† $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$

Table S5

Confidence Intervals for Proband/Control Differences at Age 30 and Difference-in-Differences from Age 25 to 30

Inform.	Outcome	Difference at age 30		Difference-in-difference from age 25 to 30	
		Coefficient [95% CI]	Sig.	Coefficient [95% CI]	Sig.
Adult	Currently employed full-time	-0.7788 [-1.2022, -0.3554]	*	0.1929 [-0.3629, 0.7487]	
	Currently unemployed	0.6626 [0.1577, 1.1676]	*	0.0352 [-0.6196, 0.6901]	
	Living with parents/family	1.244 [0.715, 1.773]	*	0.7090 [0.0542, 1.3637]	*
	Regularly receives money from parents/family	0.7793 [0.0066, 1.5520]	*	0.6627 [-0.2901, 1.6155]	
	Monthly rent/housing expenses	-362.84 [-469.07, -256.61]	*	-314.58 [-420.53, -208.63]	*
	Receiving welfare/government assistance	0.7477 [-0.0502, 1.5456]		-1.176 [-2.554, 0.201]	
	Monthly income	-1319.00 [-1676.51, -961.49]	*	-1008.49 [-1342.20, -674.77]	*
	Money in savings account	-5979.37 [-9740.85, -2217.89]	*	-4319.45 [-7937.90, -701.00]	*
	Number of credit cards	-1.169 [-1.625, -0.714]	*	-0.9303 [-1.3886, -0.4719]	*
	Number of times rejected for credit card	1.295 [0.176, 2.414]	*	1.053 [0.005, 2.102]	*
	Number of times credit card cancelled by issuer	0.0604 [-0.1183, 0.2390]		0.0477 [-0.1223, 0.2177]	
	Ever moved back home after first leaving	0.0660 [-0.3481, 0.4802]		-0.2450 [-0.8469, 0.3569]	
	How many times moved back home after first leaving	0.0724 [-0.0667, 0.2114]		0.0132 [-0.1157, 0.1420]	
	Has debt	-0.1006 [-0.4852, 0.2840]		-0.2486 [-0.7757, 0.2785]	
	Money in debt	-135.87 [-808.49, 536.76]		-150.47 [-808.40, 507.46]	
	Ever received emergency funds from parents	0.1062 [-0.2832, 0.4957]		-0.1672 [-0.7182, 0.3839]	
	Number of times in past year received emergency funds from parents	0.3064 [-0.0045, 0.6172]		0.2793 [-0.0321, 0.5907]	
	Money in emergency funds received in past year from parents	91.50 [-324.20, 507.20]		85.21 [-331.81, 502.23]	
	Owns a home	-0.9251 [-1.3317, -0.5185]	*	-0.7140 [-1.3239, -0.1040]	*
Parent	Living with parents/family	1.410 [0.795, 2.026]	*	1.060 [0.329, 1.791]	*
	Regularly receives money from parents/family	1.219 [0.555, 1.884]	*	0.7045 [-0.1612, 1.5702]	
	Ever received emergency funds from parents	0.7708 [0.3562, 1.1853]	*	0.4067 [-0.1737, 0.9871]	
	Number of times in past year received emergency funds from parents	1.155 [0.356, 1.954]	*	0.9855 [0.1863, 1.7847]	*
	Money in emergency funds received in past year from parents	90.09 [-1340.71, 1520.90]		81.89 [-1352.56, 1516.34]	
	Parent ever co-signed loan	0.1716 [-0.6214, 0.9646]		0.5270 [-0.5335, 1.5874]	
	Other adult provides financial assistance	1.298 [0.596, 2.000]	*	0.7783 [-0.1266, 1.6833]	
	Ever moved back home after first leaving	0.6370 [0.2040, 1.0699]	*	-0.0003 [-0.6376, 0.6370]	
	How many times moved back home after first leaving	0.4256 [0.1785, 0.6726]	*	0.3309 [0.0834, 0.5784]	*

Note. Inform. = informant, Sig. = statistical significance. Values correspond to the significance tests reported in rightmost two columns of Table 1. For difference at age 30, coefficient is that on ADHD in OLS regression for nonbinary outcomes and in logistic regression for binary outcomes (see Methods). For difference-in-difference from age 25 to 30, coefficient is that on ADHD in OLS regression for nonbinary outcomes and that on the interaction between ADHD status and timepoint in logistic regression for nonbinary outcomes (see Methods).

* $p < .05$

Table S6
Projected Savings for White Males at Age 64 by Group

Assumptions			Results			
Interest Rate	Savings Rate		Projected Savings at 64		Ctrl-ADHD Difference	Percent Reduction
	Ctrl	ADHD	Ctrl	ADHD		
3%	3%	3%	166,800	96,200	70,600	42%
3%	5%	3%	278,000	96,200	181,800	65%
3%	5%	5%	278,000	160,300	117,700	42%
3%	7%	3%	389,200	96,200	293,000	75%
3%	7%	5%	389,200	160,300	228,900	59%
3%	7%	7%	389,200	224,500	164,800	42%
5%	3%	3%	255,100	149,700	105,400	41%
5%	5%	3%	425,200	149,700	275,500	65%
5%	5%	5%	425,200	249,500	175,600	41%
5%	7%	3%	595,200	149,700	445,500	75%
5%	7%	5%	595,200	249,500	345,700	58%
5%	7%	7%	595,200	349,400	245,900	41%
7%	3%	3%	403,100	240,900	162,300	40%
7%	5%	3%	671,900	240,900	431,000	64%
7%	5%	5%	671,900	401,400	270,400	40%
7%	7%	3%	940,600	240,900	699,700	74%
7%	7%	5%	940,600	401,400	539,200	57%
7%	7%	7%	940,600	562,000	378,600	40%
10%	3%	3%	841,200	515,600	325,600	39%
10%	5%	3%	1,402,000	515,600	886,400	63%
10%	5%	5%	1,402,000	859,300	542,700	39%
10%	7%	3%	1,962,800	515,600	1,447,200	74%
10%	7%	5%	1,962,800	859,300	1,103,500	56%
10%	7%	7%	1,962,800	1,203,000	759,700	39%

Note. Values are in 2018 USD, rounded to nearest $100. Based on rescaled ACS income projections (Table S9). Includes all white male participants, regardless of employment status (N = 444). See text of supplementary material for discussion of plausibility of these projections.

Table S7
Census Estimates of Mean Total Income Between Ages 25-64 for Education and Employment Profiles in White Males

Education	Work Status		
	Unemployed $ USD	**Employed part-time $ USD**	**Employed full-time $ USD**
9th to 12th grade	405,000	797,300	1,817,500
High school graduate	576,900	976,000	2,139,700
Some college	762,000	1,177,900	2,608,000
Associates degree	834,500	1,244,100	2,696,500
Bachelors degree	1,222,200	1,850,200	4,184,100
Graduate training	1,631,500	2,779,200	5,570,000

Note. Values are weighted means in 2018 USD, rounded to nearest $100. Based on 2012-2016 American Community Survey (ACS). "Graduate training" combines Masters, Professional, and Doctoral degree categories in ACS.

Table S8

Census Estimates of Mean Annual Income Across Ages 25-64 for Education and Employment Profiles in White Males

		Mean Annual Income in 5-Year Spans of Age in Years							
Work Status	**Education**	**25 to 29**	**30 to 34**	**35 to 39**	**40 to 44**	**45 to 49**	**50 to 54**	**55 to 59**	**60 to 64**
Unemployed	9th to 12th grade	6,600	7,400	8,300	8,700	9,400	10,700	12,900	17,200
	High school graduate	8,800	9,700	11,200	11,600	13,300	15,100	19,800	26,100
	Some college	10,200	13,000	14,900	15,900	18,900	20,700	26,300	32,900
	Associates degree	11,100	14,400	16,200	17,900	20,200	22,800	28,300	36,600
	Bachelors degree	13,700	19,100	22,800	28,900	30,800	35,200	44,600	49,700
	Graduate training	13,000	19,300	31,900	38,400	47,400	47,800	61,900	67,200
Employed part-time	9th to 12th grade	13,300	17,600	17,100	20,200	21,100	20,700	23,300	26,300
	High school graduate	15,100	18,100	21,200	23,000	25,200	26,000	30,500	36,000
	Some college	16,900	20,600	24,100	27,600	31,000	34,300	38,300	42,400
	Associates degree	17,200	21,400	24,700	29,300	33,900	35,400	43,200	43,300
	Bachelors degree	19,500	30,100	37,400	46,800	51,700	58,500	63,100	62,200
	Graduate training	20,500	36,200	57,800	74,100	82,800	89,400	97,300	97,400
Employed full-time	9th to 12th grade	32,600	38,600	43,700	46,800	47,100	49,400	50,200	54,400
	High school graduate	37,900	45,000	52,000	54,300	57,600	59,300	60,700	61,000
	Some college	41,300	51,700	61,800	67,400	72,200	74,400	76,100	76,100
	Associates degree	44,500	55,200	64,000	68,800	73,800	77,800	78,200	77,100
	Bachelors degree	57,300	77,600	99,300	111,700	122,100	126,500	124,400	117,700
	Graduate training	65,000	95,200	129,100	150,200	165,400	171,100	173,000	167,800

Note. Values are weighted means in 2018 USD, rounded to nearest $100. Based on 2012-2016 American Community Survey (ACS). "Graduate training" combines Masters, Professional, and Doctoral degree categories in ACS.

Table S9

Rescaled Census Estimates of Mean Annual Income Across Ages 25-64 for Education and Employment Profiles in White Males

			Mean Annual Income in 5-Year Spans of Age in Years							
Work Status	**Education**	**Group**	**25 to 29**	**30 to 34**	**35 to 39**	**40 to 44**	**45 to 49**	**50 to 54**	**55 to 59**	**60 to 64**
Unemployed	9th to 12th grade	Control	6,600	7,200	8,000	8,300	8,800	9,900	11,700	15,100
		ADHD	6,600	7,000	7,400	7,600	7,900	8,600	9,600	11,700
	High school graduate	Control	8,800	9,500	10,700	11,100	12,400	13,800	17,600	22,700
		ADHD	8,800	9,200	10,000	10,200	11,000	11,900	14,200	17,200
	Some college	Control	10,200	12,400	14,000	14,800	17,200	18,600	23,100	28,400
		ADHD	10,200	11,600	12,500	13,000	14,400	15,300	18,000	21,200
	Associates degree	Control	11,100	13,700	15,100	16,500	18,400	20,500	24,900	31,500
		ADHD	11,100	12,700	13,500	14,400	15,500	16,800	19,400	23,500
	Bachelors degree	Control	13,700	18,000	21,000	25,800	27,400	30,900	38,400	42,500
		ADHD	13,700	16,300	18,100	21,100	22,000	24,100	28,700	31,200
	Graduate training	Control	13,000	18,000	28,100	33,300	40,500	40,800	52,100	56,400
		ADHD	13,000	16,000	22,200	25,300	29,700	29,900	36,700	39,300
Employed part-time	9th to 12th grade	Control	13,300	16,700	16,400	18,800	19,600	19,200	21,300	23,700
		ADHD	13,300	15,400	15,200	16,600	17,100	16,900	18,200	19,600
	High school graduate	Control	15,100	17,500	19,900	21,400	23,200	23,900	27,400	31,800
		ADHD	15,100	16,600	18,000	18,900	20,000	20,400	22,600	25,200
	Some college	Control	16,900	19,800	22,700	25,500	28,200	30,800	34,000	37,300
		ADHD	16,900	18,700	20,400	22,100	23,800	25,300	27,300	29,300
	Associates degree	Control	17,200	20,500	23,200	26,900	30,500	31,700	38,000	38,100
		ADHD	17,200	19,200	20,800	23,000	25,300	26,000	29,800	29,900
	Bachelors degree	Control	19,500	28,000	33,800	41,300	45,300	50,800	54,400	53,700
		ADHD	19,500	24,600	28,200	32,800	35,100	38,500	40,700	40,300
	Graduate training	Control	20,500	33,100	50,300	63,400	70,400	75,700	82,000	82,100
		ADHD	20,500	28,100	38,600	46,500	50,700	54,000	57,800	57,800
Employed full-time	9th to 12th grade	Control	32,600	37,400	41,500	44,000	44,200	46,100	46,700	50,100
		ADHD	32,600	35,500	38,000	39,500	39,600	40,800	41,100	43,200
	High school graduate	Control	37,900	43,600	49,200	51,000	53,700	55,000	56,100	56,400
		ADHD	37,900	41,300	44,700	45,900	47,400	48,300	48,900	49,100
	Some college	Control	41,300	49,600	57,700	62,200	66,100	67,800	69,200	69,200
		ADHD	41,300	46,400	51,300	54,000	56,300	57,400	58,200	58,200
	Associates degree	Control	44,500	53,100	60,100	63,900	68,000	71,200	71,500	70,600
		ADHD	44,500	49,700	54,000	56,300	58,700	60,700	60,900	60,300
	Bachelors degree	Control	57,300	73,500	90,900	100,900	109,200	112,700	111,000	105,600
		ADHD	57,300	67,100	77,700	83,700	88,800	90,900	89,800	86,600
	Graduate training	Control	65,000	89,100	116,300	133,200	145,400	149,900	151,500	147,300
		ADHD	65,000	79,600	96,100	106,300	113,700	116,400	117,400	114,800

Note. Values are weighted means in 2018 USD, rounded to nearest $100. Based on 2012-2016 American Community Survey (ACS). "Graduate training" combines Masters, Professional, and Doctoral degree categories in ACS. ADHD adults rescaled to capture 49% of Census-projected increases in income, and controls rescaled to capture 80% of Census-projected increases in income.

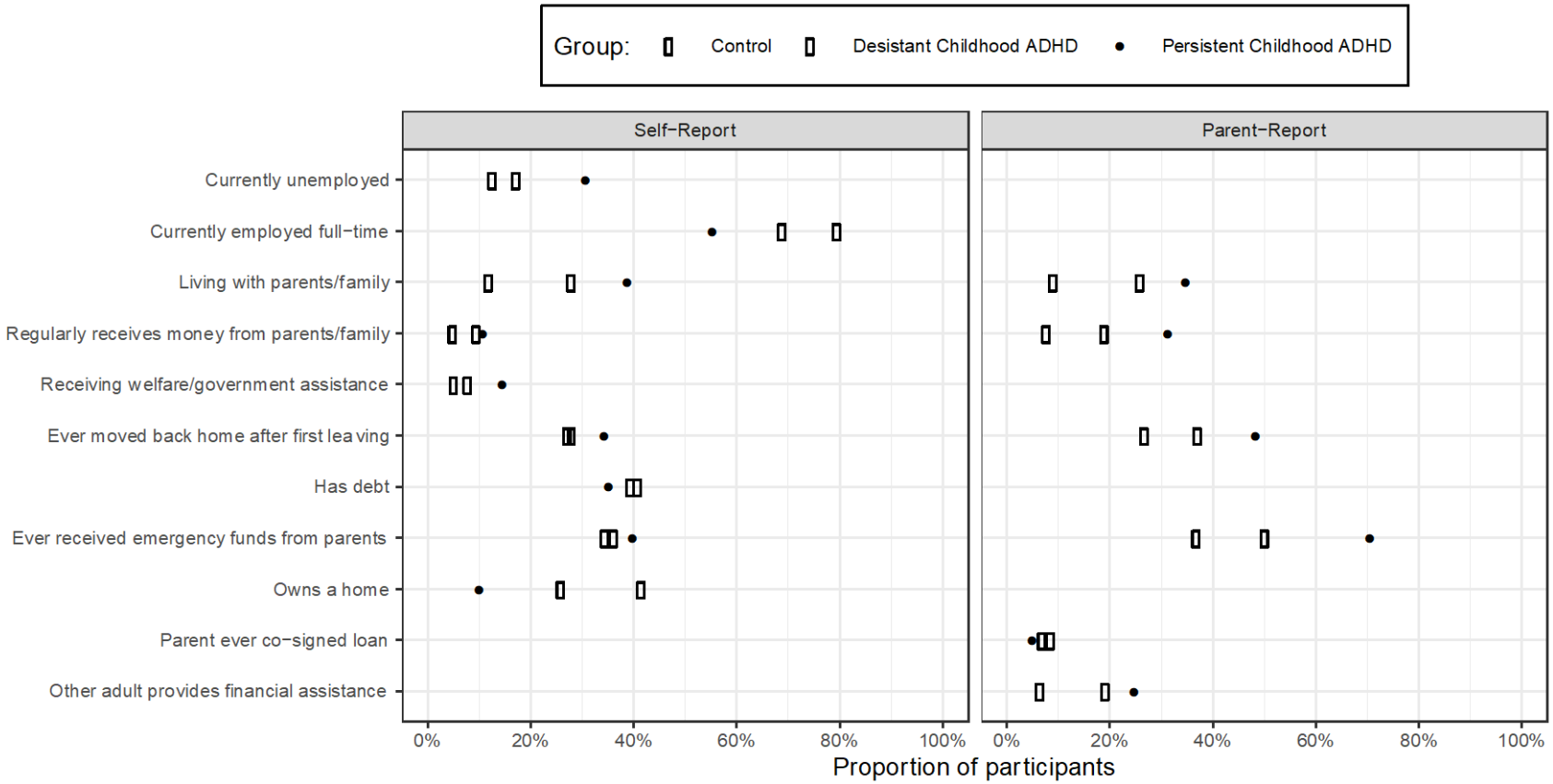
Table S10
Census Estimates of Mean Net Worth of White Males, Ages 65-69

Education	Number of Persons	Total Assets	Total Debts	Net Worth
9th to 12th grade	78	187,700	17,700	170,000
High school graduate	394	299,500	35,000	264,500
Some college	265	379,300	49,500	329,800
Associates degree	104	416,900	51,500	365,400
Bachelors degree	254	802,500	72,600	729,900
Graduate training	211	1,183,500	120,600	1,062,900

Note. Values are weighted means in 2018 USD, rounded to nearest $100. Based on wave 1 of 2014 panel of the Survey of Income and Program Participation (SIPP). "Graduate training" combines Masters, Professional, and Doctoral degree categories in SIPP. Because the SIPP sample size is much smaller than the ACS, number of persons contributing to each estimate are reported in the second column. Only net worth was used in the current study; total assets and total debts are provided for reference only.

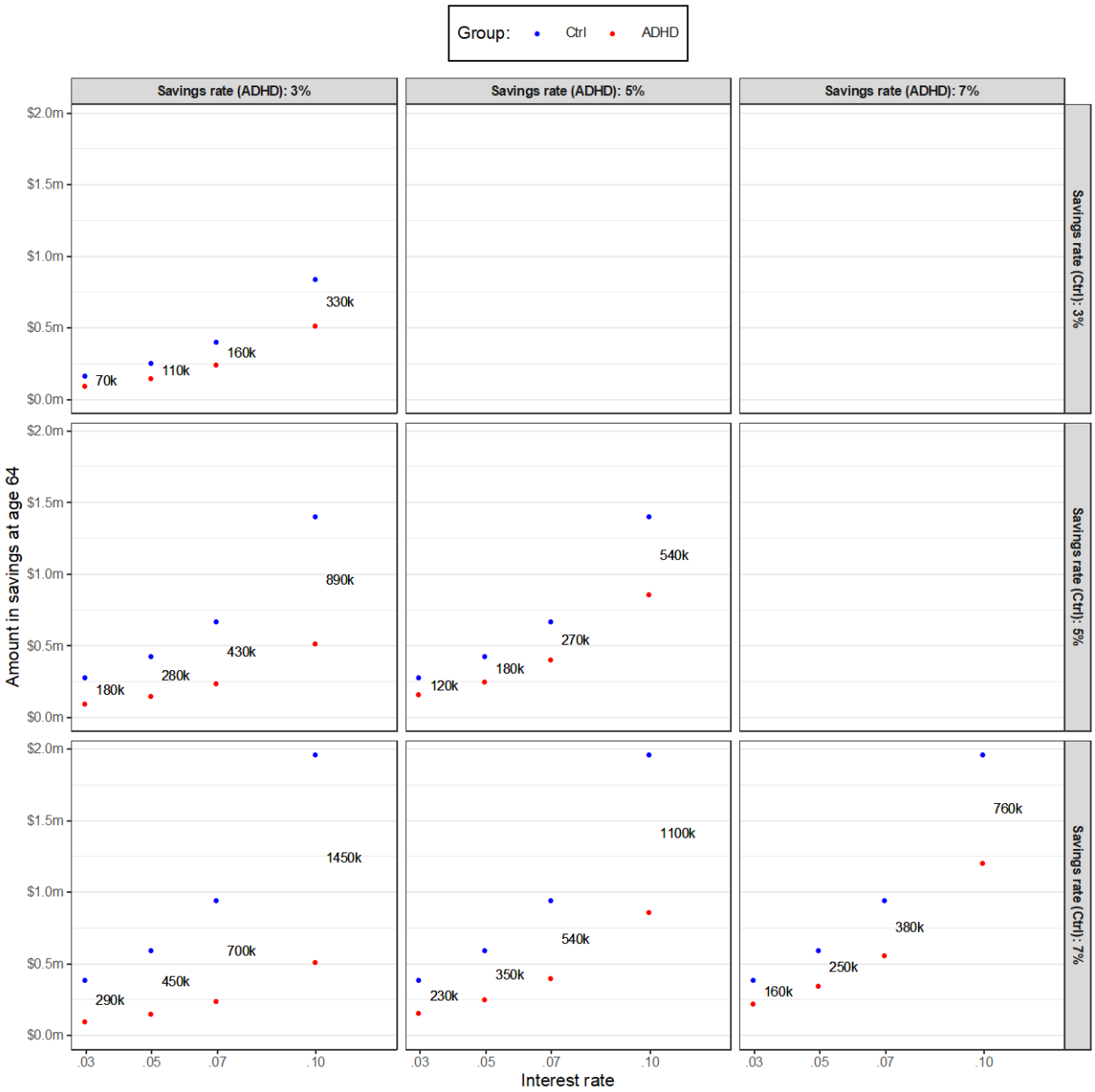
Figure S1

Binary Financial Indicators at Age 30 for Controls, Probands with Desistant Childhood ADHD, and Probands with Persistent Childhood ADHD



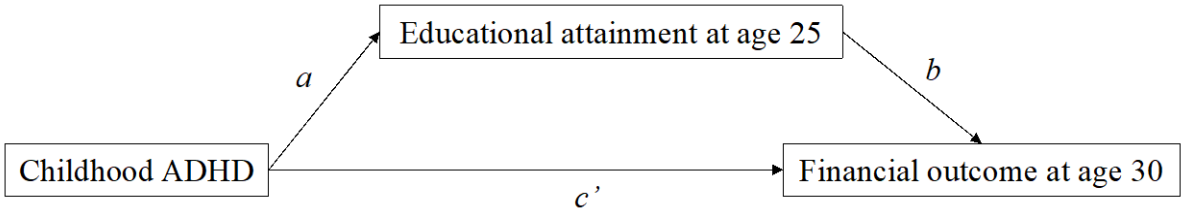
Note. N = 240 for controls, N = 227 for desistant childhood ADHD, N = 70 for persistent childhood ADHD. Desistance and persistence were defined via DSM symptoms. Exact values are reported in Table S3.

Figure S2
Projected Savings for Males at Age 64 by Group



Note. Each panel depicts projected ADHD-control gap in savings assuming a specific savings rate in ADHD group (columns) and a specific savings rate in control group (rows). Panels above the diagonal are blank because they reflect conditions in which the savings rate in the ADHD group is higher than the savings rate in the control group, which is implausible. Numbers inside panels are the control-ADHD difference, rounded to the nearest ten-thousand. Exact values are reported in Table S6. Based on rescaled ACS income projections (Table S9). Includes all white male participants, regardless of employment status (N = 444). See text of supplementary material for discussion of plausibility of these projections.

Figure S3
Statistical Mediation Model Fit in Analysis 1



Note. This model was fit separately for four financial outcomes: monthly income, money in savings, living with parents/family, and regularly receiving money from parents/family. Estimates are reported in Table S4.