Procrastination in personal finance: Implications for estate planning and retirement satisfaction

Abstract

Despite concerns that many older adults delay essential financial decisions, there is limited population-level evidence linking measured procrastination to late-life behavior. Using the first nationwide procrastination module in the Health and Retirement Study, we show that individuals with higher procrastination scores are significantly less likely to engage in core estate-planning tasks. Procrastinators are about nine percentage points less likely to have a will or trust and report lower retirement satisfaction, controlling for demographics, income, and region. We validate the behavioral measure by showing that procrastinators report worse health and exhibit some riskier behaviors, consistent with theoretical predictions. Together, these results highlight procrastination as a meaningful behavioral constraint that shapes financial and health outcomes at older ages.

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1. Introduction

Procrastination is a widespread behavioral phenomenon with significant implications across various aspects of life. While it is commonly associated with delays in work or educational tasks, it also has an important impact on long-term investments, such as estate planning or health management. This paper explores the effects of procrastination on estate planning, retirement planning, and health, using data from the Health and Retirement Study (HRS), a recent wave of which included for the first time a module specifically designed to measure procrastination at the individual level.

Estate planning and health maintenance are domains where procrastination can have detrimental consequences. In the literature, procrastination or delayed action in such contexts has been explained with reference to task aversion, present-biased preferences, or limited attention. For example, Malmendier and Della Vigna (2006) shows that people purchase gym memberships but fail to use them because they are averse to the task. Foundational papers by O'Donoghue and Rabin (1998, 1999, 2001) describe how present-biased individuals delay immediate-cost activities or accelerate immediate-reward activities.

Understanding who is more likely to procrastinate in these areas can inform interventions and policies aimed at improving estate planning and health, particularly among older adults who are generally less studied in this context.

Our study contributes to this literature in several ways. First, most empirical work on procrastination relies on proxies for time inconsistency or self-control and focuses on students or working-age adults. The 2020 HRS module provides, for the first time, a population (people aged 50+ in the US) measure of procrastination based on a validated psychological scale (Lay 1986, Steel 2007). Second, prior research typically examines isolated outcomes, such as retirement saving or health behaviors, whereas we study estate planning, retirement satisfaction, and health in a combined analysis. This responds to calls in the literature to consider financial and health behaviors jointly because they reflect common intertemporal processes (Hoffmann and Risse 2020). Third, some of our outcomes have not yet been studied in prior literature in the context of time preference, namely on estate planning and retirement dissatisfaction. Finally, by examining known correlates of procrastination, such as smoking and self-reported health, we also validate that the HRS measure behaves as expected in this population.

We begin by using the HRS to identify the demographic and psychological characteristics of procrastinators. The survey captures procrastination by means of a continuous measure derived from a suite of 12 questions, adapted from validated procrastination scales (Lay 1986, Steel 2007). Our analysis reveals that procrastination is more prevalent among those with less than a high-school education and among individuals who identify as Hispanic ethnicity.

We then examine estate-planning behaviors, finding a significant correlation between procrastination and a lack of preparedness regarding end-of-life arrangements. Procrastinators are less likely to have a will or trust in place, less likely to intend to leave a meaningful bequest, and more likely to express dissatisfaction with their retirement. A related strand of literature including Huffman, Maurer and Mitchell (2019) and Hastings and Mitchell (2020) studies the impact of time preference (namely, impatience) on wealth, health, end-of-life provisions, and retirement behavior among older adults. Our study differs by focusing on procrastination, which, while related to discounting, reflects time-inconsistent preferences: a time discounter may simply care less about the future, whereas a procrastinator cares about the future but behaves as if the present is more important. By studying the effects of procrastination related to personal finance at older ages, we contribute to a large literature on retirement savings and self-control, including Madrian and Shea (2001), Goda et al. (2019), Brown, Farrell and Weisbenner (2016), Goda et al. (2020), Brown and Previtero (2016), Beshears et al. (2009), Brown and Previtero (2014), Newall and Peacey (2021), and Beshears et al. (2022).

The final part of our analysis extends to health. Financial and health behaviors can be analyzed jointly because both reflect forward-looking decision-making and self-regulation (Hoffmann and Risse 2020). Prior literature predicts that procrastinators should be more likely to smoke and to report worse health due to present bias and vulnerability to addictive behaviors (O'Donoghue and Rabin 2002), although most empirical evidence comes from university-age samples (e.g., Sirois 2004). Examining these relationships in older adults helps validate our measure of procrastination, since a reasonable measure should reproduce expected patterns. These relationships also connect to evidence that financial resources are linked to health outcomes at older ages (Bavafa, Mukherjee and Welch 2023). We find that procrastinators remain more likely to smoke and report worse self reported health, although drinking patterns differ, with procrastinators reporting fewer drinking days and imprecise differences in consumption on drinking days.

2. Data and empirical strategy

The HRS is a representative, longitudinal panel study conducted by the University of Michigan in partnership with the National Institute on Aging. It consists of observations for approximately 20,000 people in the US over age 50, who are interviewed every two years. The goal of the survey is to provide rich data on the financial and physical well-being of older Americans to inform policy around aging. Since 1992, the study has collected data on income, savings, work, assets, and insurance along with psychosocial data for multiple cohorts. In the present study, we use data from the 2020 wave of the HRS, which includes a special module relating to procrastination. The 2020 wave of the survey was fielded between March 2020 and June 2021, and was therefore affected by the COVID-19 pandemic; respondents filled out the surveys by mail or telephone.

In each HRS wave, after the extensive core interview, supplementary experimental modules covering a broad range of topics are administered. Among the modules in the 2020 release are supplements examining respondents' retirement knowledge, depression, time inconsistency, probability numeracy, and procrastination. Our study uses the data collected in the procrastination module—more specifically, respondents' answers to the Pure Procrastination Scale (PPS). The PPS, as outlined in Steel (2010), is a sequence of 12 statements for which individuals report their level of agreement on a Likert scale (where 1 = "strongly disagree" and 5 = "strongly agree"). The statements appear below.

1. I delay making decisions until it's too late.

2. Even after I make a decision, I delay acting upon it.

3. I waste a lot of time on trivial matters before getting to the final decisions.

4. In preparation for some deadlines, I often waste time by doing other things.

5. Even with jobs that require little else except sitting down and doing them, I find that they seldom get done for days.

6. I often find myself performing tasks that I had intended to do days before.

7. I am continually saying "I'll do it tomorrow."

8. I generally delay before starting on work I have to do.

9. I find myself running out of time.

10. I don't get things done on time.

11. I am not very good at meeting deadlines.

12. Putting things off until the last minute has cost me money in the past.

Our analysis focuses on the respondents asked these questions, and we construct our measures of procrastination from these results. For each respondent, we take the average over all PPS questions to arrive at a raw PPS score, which serves as our continuous measure of procrastination. We then create a binary measure by labeling those with a PPS score within the top 50% as procrastinators; our analysis focuses on this measure for ease of interpretation. This labeling methodology follows from prior literature, namely Rozental et al. (2022) which studies procrastination among university students using the PPS.

Table 1 presents summary statistics for the outcomes and controls included in our analysis. The table further subsets the summary statistics into those for all respondents in our sample in columns 1 and 2, for all the non-procrastinators in our sample in columns 3 and 4, and for all the procrastinators in our sample in columns 5 and 6. Column 7 reports the significance level for the difference between procrastinators and non-procrastinators based on Bonferroni adjusted p-values.

We first report summary statistics for our continuous and binary measures of procrastination *Procrastination (Raw PPS)* and *Procrastinator (Binary)*, our focal variables. The raw PPS score average is about 3.1 for those who are procrastinators (the maximum possible score is 5), versus 1.6 for those who are non-procrastinators. We classify nearly 53% of the sample as procrastinators. The table also reports summary statistics for demographic, wealth and income, health, and retirement and estate planning variables. The demographic variables include marital status, gender, age, educational attainment, race (where *Race: Other* corresponds to individuals who identify themselves as neither White nor Black), and number of children. We observe that procrastinators are more likely to have education less than high school (22% versus 8%) and are more likely to report being Hispanic (21% versus 10.5%).

TABLE 1. SUMMARY STATISTICS

	All		Non-procrastinators		Procrastinators		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Mean	SD	Mean	SD	Mean	SD	Difference
Procrastination							
Procrastination (Raw PPS)	2.389	0.961	1.568	0.376	3.128	0.690	
Procrastinator (Binary)	0.526	0.500	0.000	0.000	1.000	0.000	
Demographics							
Marital Status: Couple	0.553	0.497	0.567	0.496	0.540	0.499	-
Female	0.628	0.484	0.619	0.486	0.636	0.482	-
Age	67.44	10.23	67.59	10.04	67.30	10.50	-
Education: HS	0.288	0.453	0.281	0.450	0.294	0.456	-
Education: Less than HS	0.154	0.361	0.082	0.274	0.220	0.414	***
Race: Other	0.093	0.291	0.071	0.257	0.114	0.318	-
Race: Black	0.219	0.414	0.221	0.415	0.217	0.413	-
Ethnicity: Hispanic	0.160	0.367	0.105	0.307	0.210	0.407	***
Number of Children	2.862	1.862	2.716	1.796	2.995	1.912	-
Wealth & Income							
Wealth in $MN	0.601	1.25	0.747	1.45	0.469	1.01	***
IHS(Wealth in $MN)	0.418	0.568	0.500	0.620	0.345	0.505	***
Social Security Income (in $10K)	0.827	0.902	0.872	0.947	0.787	0.858	-
Health							
Smokes Now	0.241	0.428	0.199	0.400	0.275	0.447	-
Alcohol Days per Week	1.947	2.212	2.202	2.318	1.697	2.075	**
Drinks per Day When Drinking	0.844	1.399	0.854	1.282	0.835	1.498	-
Self-Reported Health	3.961	0.861	4.181	0.799	3.778	0.869	***
Retirement & Estate Planning							
Has Will or Trust	0.455	0.498	0.543	0.499	0.377	0.485	***
Has LTCI	0.112	0.315	0.134	0.341	0.091	0.289	-
Thinks About Retirement	2.503	1.181	2.512	1.168	2.495	1.194	-
Thinks A Lot About Retirement	0.266	0.442	0.256	0.437	0.274	0.447	-
Planned Bequest $10K	65.76	38.84	71.78	36.30	60.25	40.27	***
Retirement Dissatisfaction	1.601	0.628	1.464	0.580	1.720	0.644	***
Observations	1252		593		659		

Notes: Procrastinator (Binary) indicates whether a respondent is classified as a procrastinator in our sample; it takes a value 1 if a respondent's average PPS score is in the upper median of scores and 0 if not. Columns 1 and 2 report means and standard deviations for all respondents in our sample. Columns 3 and 4 report means and standard deviations for the non-procrastinators in our sample. Columns 5 and 6 report the analogous information for procrastinators, identified as individuals with Pure Procrastination Scale (PPS) scores in the top 50%. Column 7 reports the level of significance for the difference between procrastinators and non-procrastinators (columns 3 and 5) based on t-tests with Bonferroni adjustment for multiple comparisons; * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. IHS(Wealth in $MN) denotes wealth in millions transformed with the Inverse Hyperbolic Sine function; we include summary statistics for this variable as it is included in our regression models. LTCI stands for long-term care insurance. Retirement Dissatisfaction is only asked of those retired, and is phrased as "Retirement Satisfaction" in the Health and Retirement Study and takes integer values 1–3, with 1="Very" and 3="Not at All". We present this as "Dissatisfaction" to facilitate interpretation.

The wealth and income variables include wealth in millions of dollars (which represents a household's total wealth less debt), the Inverse Hyperbolic Sine (IHS) transformation of wealth (which accounts for negative values of wealth and is included in our regressions), and Social Security income in tens of thousands of dollars (this enters as zero for those who do not receive Social Security income or have not yet claimed). Note that we use Social Security income as a control in our analyses rather than wealth or current income, because this measure is less "endogenous" if procrastination affects job prospects or wealth management directly. Not everyone in our sample receives Social Security benefits, so the appendix tables in Section A4 show the staggered regressions—there turns out to be little effect coming from this variable. Procrastinators appear to have much less wealth ($470,000 versus $747,000). The health variables we consider include smoking behavior, where *Smokes Now* is an indicator variable for whether the respondent currently smokes cigarettes (asked only of people who responded as having ever smoked); the number of days per week the respondent drinks any alcohol; the number of drinks the respondent has on days when she drinks any alcohol; and a self-reported health score, where a higher score (on the integer range 1–5) indicates better self-reported health. We observe that procrastinators are more likely to be current smokers (27.5% versus 20%), and to report worse self-reported health (3.8 versus 4.2).

Last, we report summary statistics for retirement and estate-planning variables. These include an indicator variable for whether the respondent has either a will or trust, an indicator variable for whether the respondent has any long-term care insurance (LTCI), measures of how much the respondent thinks/thought about retirement (*Thinks About Retirement* takes an integer value 1–4, with a higher reported value indicating less consideration of retirement, while *Thinks A Lot About Retirement* is a binary variable equal to 1 if the respondent reports a value of 1 from the previous question and to 0 if the respondent reports any other value), the respondent's self-reported likelihood of bequeathing at least $10K, and a measure of the respondent's dissatisfaction with

their retirement if they have retired (a higher value on the integer range 1–3 indicates less satisfaction). We observe that procrastinators in the raw data are less likely to have a will or trust (38% versus 54%), less likely to hold LTCI (9% versus 13%), and less likely to plan a bequest greater than $10K (60% versus 72%). They also report higher retirement dissatisfaction (1.7 versus 1.5).

We now turn to our empirical strategy as specified in the linear regression model below. We regress our chosen outcomes on our binary measure of procrastination *(Procrastinator)*, where Y is a vector of outcomes and X is a vector of controls that includes demographic, income, and region variables. The demographic variables include gender, age, race, education level, number of children, and marital status; the income variables include Social Security income; and the region variables include indicator variables for census regions. In Section 4.1, our outcomes of interest include whether the respondent has a will or trust and her likelihood of having a bequest. In Section 4.2, our outcomes include wealth (transformed with the inverse hyperbolic sine function), how much the respondent thinks/thought about retirement, and retirement dissatisfaction. In Section 4.3, our outcomes include whether the respondent has LTCI, self-reported health, and smoking and alcohol behavior.

$$Y_i = \beta_0 + \beta_1 \text{Procrastinator}_i + \beta_2 X_i + \varepsilon_i \qquad (1)$$

The coefficient β_i is our estimate of interest, providing us with the effect of procrastination on our chosen outcomes. This is the estimate reported in our results.

Figure 1 shows the summary plots for four of our key outcomes. These are simply stylized facts without controls to illustrate the patterns in the raw data. Panel (a) shows that procrastinators are much less likely to have a will or trust; panel (b) shows that they are much less likely to plan to bequest at least $10,000; panel (c) shows that they experience much higher retirement dissatisfaction; and panel (d) shows that they report worse health.

FIGURE 1. STYLIZED FACTS ON PROCRASTINATOR BEHAVIORS

(a)

(b)

(c)

(d)
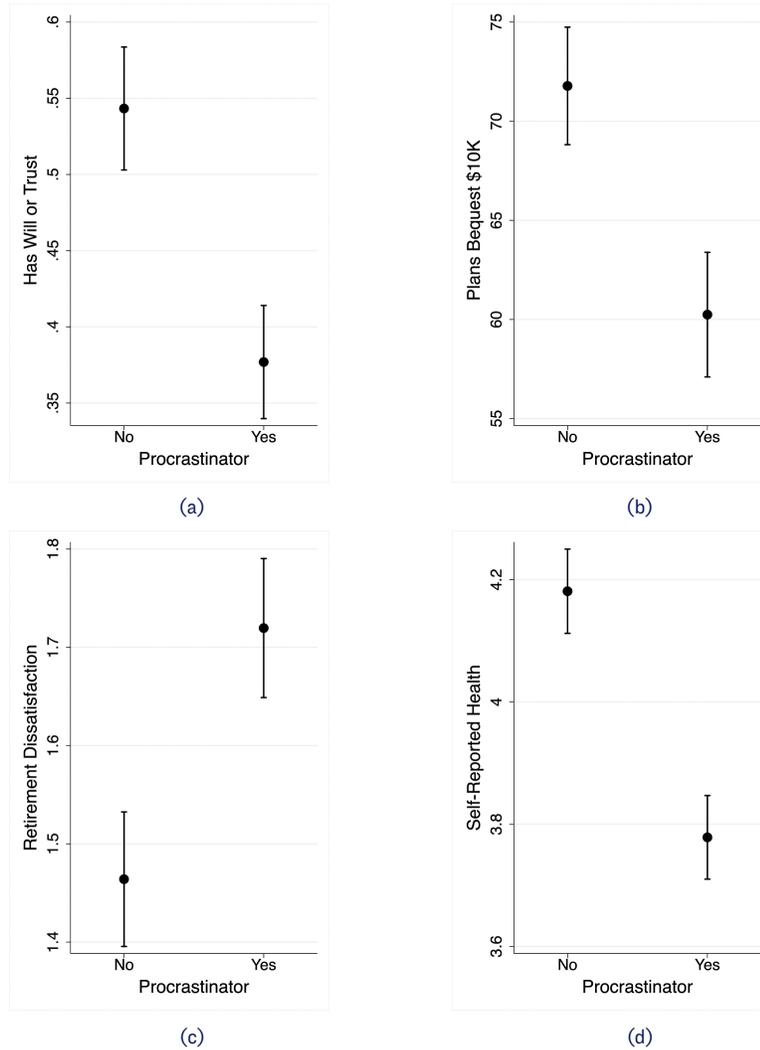
3. Procrastinator profiles

Using our binary measure of procrastination, we begin by empirically characterizing the subset of procrastinators in the surveyed sample. We employ linear models using the following estimating equation:

$$\mathbf{Procrastinaton}_i = \beta_0 + \beta_1 \mathbf{X}_i + \varepsilon_i \qquad (2)$$

in which the outcome variable is our binary (or continuous) measure of procrastination and controls consist of demographic, income, and region explanatory variables described for equation 1. Looking at column 1 in Table 2, we observe that education and ethnicity are significantly associated with procrastination. We see that individuals with a high-school education are 8.7 percentage points more likely than those educated with at least some college to be procrastinators; however, the effect is much more pronounced—nearly three times as large—when comparing those who achieved less than a high-school education with those who completed some college.

We do not find any effects on race, but those reporting their ethnicity as Hispanic are much more likely to be a procrastinator. The estimate on the coefficient is 0.104, which based on the mean of 0.526 (Table 1) suggests a nearly $\frac{0.104}{0.526} \approx 20\%$ increase in the likelihood of being a procrastinator. Next we look at income, and we find no impact of the amount of Social Security income on the respondent's likelihood of being a procrastinator or the raw PPS score. Similarly, we find no effect of respondent age.

In addition to using our binary measure of procrastination as an outcome in a linear probability model, we include estimates from a similar regression with our continuous measure of procrastination as the outcome variable in column 2 and estimates from a logistic regression with our binary measure of procrastination as the outcome variable in column 3. Our findings for education and ethnicity are robust under this alternative specification.

TABLE 2. PROCRASTINATOR CHARACTERISTICS

	Procrastinator (Binary)	Procrastination (Raw PPS)	Procrastinator (Binary)
	OLS (1)	OLS (2)	Logit (3)
Demographics			
Marital Status: Couple	-0.027	-0.054	0.893
	(0.03)	(0.057)	(0.115)
Female	-0.005	0.039	0.979
	(0.03)	(0.057)	(0.125)
Age	0.001	0.004	1.003
	(0.002)	(0.004)	(0.008)
Education: HS	0.087***	0.254***	1.420**
	(0.033)	(0.063)	(0.197)
Education: Less than HS	0.241***	0.710***	2.902***
	(0.045)	(0.085)	(0.593)
Race: Other	0.044	0.123	1.221
	(0.054)	(0.101)	(0.287)
Race: Black	0.004	0.005	1.011
	(0.038)	(0.072)	(0.161)
Hispanic	0.104**	0.230***	1.586**
	(0.046)	(0.087)	(0.317)
Number of Children	0.007	0.003	1.032
	(0.008)	(0.015)	(0.036)
Income			
Social Security Income (in $10K)	-0.030	-0.055	0.883
	(0.021)	(0.039)	(0.077)
Census Region			
Northeast	-0.022	0.010	0.912
	(0.049)	(0.092)	(0.187)
Midwest	0.004	0.078	1.017
	(0.044)	(0.082)	(0.187)
South	-0.006	0.013	0.972
	(0.050)	(0.093)	(0.204)
Constant	0.413***	1.912***	0.692
	(0.132)	(0.248)	(0.385)
Observations	1171	1171	1171
Adjusted R^2	0.046	0.096	-
Pseudo R^2 (McFadden)	-	-	0.043

Notes: Procrastinator (Binary) indicates whether a respondent is classified as a procrastinator in our sample; it takes a value 1 if a respondent's average PPS score is in the upper median of scores and 0 if not. Columns 1 and 2 show OLS regression coefficients with standard errors in parentheses. Column 1 reports the estimates for a binary measure of procrastination, while column 2 reports the estimates for a continuous measure. Column 3 shows odds ratios (exponentiated coefficients) from logistic regression using our binary measure with standard errors in parentheses. Census region "West" is omitted.
* p <0.10, ** p <0.05, *** p <0.01.

4. Results

4.1. Estate planning

An integral component of long-term financial planning is estate planning—preparations for intrafamily redistribution of assets in the form of wills, which outline how assets should be distributed to beneficiaries; trusts, which hold assets with oversight by a third party; and bequests, which are gifts made through a will or trust. In our sample, 45% of the respondents indicated having any will or trust at the time of the survey. This is striking given the benefits of estate planning, which include full discretion over the allocation of personal assets, tax benefits for heirs, avoidance of the probate process, and more.

Why do retirement-age people in the U.S. not engage in estate planning at higher rates? We posit that procrastination plays a role. Estate planning involves discussions of events that are uncomfortable, namely, death or incapacitation. Thinking about these events may be painful, and so individuals may wish to avoid the associated mental and emotional costs. Further, there is no deadline for estate planning or any sort of mandate that individuals have a will or trust. These characteristics of estate planning—the high costs and absence of time constraints—mean that it is likely to be put off indefinitely. In Table 3, our results confirm this hypothesis. We see that procrastinators are less likely to have a will or trust and less likely to leave bequests of at least $10K to their beneficiaries.

Specifically, we see that procrastinators are 9.3 percentage points ($p < 0.01$) less likely to have either a will or a trust. Additionally, we find that procrastinators are over 4.00 percentage points ($p < 0.10$) less likely to bequeath at least $10K to their spouse or children. These results indicate a meaningful impact of procrastination on estate planning. Namely, procrastinators are less prepared in old age for the redistribution of their wealth and less likely to capitalize on planning mechanisms that might benefit their families. To the extent that estate planning is an effective forward-looking action for the management of personal and household finance, the results in Table 3 signal financial mismanagement resulting from procrastination.

TABLE 3. IMPACTS OF PROCRASTINATION ON ESTATE-PLANNING OUTCOMES

	Has Will or Trust (1)	Plans Bequest $10K (2)
Procrastinator (Binary)		
	-0.093***	-4.628*
	(-3.70)	(-2.19)
Demographics		
Marital Status: Couple	0.080**	9.734***
		(4.44)
Female	0.018	-6.390**
	(0.69)	(-2.93)
Age	0.014***	-0.092
	(8.49)	(-0.68)
Education: HS	-0.162***	-14.20***
	(-5.64)	(-5.88)
Education: Less than HS	-0.232***	-25.25***
	(-5.89)	(-7.58)
Race: Other	-0.026	-6.914
	(-0.56)	(-1.79)
Race: Black	-0.261***	-17.50***
	(-7.99)	(-6.43)
Ethnicity: Hispanic	-0.255***	-17.15***
	(-6.42)	(-5.13)
Number of Children	0.003	-0.867
	(0.45)	(-1.46)

TABLE 3. IMPACTS OF PROCRASTINATION ON ESTATE-PLANNING OUTCOMES (CONTINUED)

	Has Will or Trust (1)	Plans Bequest $10K (2)
Income		
Social Security Income (in $10K)	0.043*	2.734
	(2.42)	(1.82)
Census Region		
Northeast	0.036	-6.037
	(0.85)	(-1.71)
	-0.003	-1.770
	(-0.07)	(-0.56)
	-0.006	-0.977
	(-0.14)	(-0.27)
Constant	-0.332**	90.98***
	(-2.93)	(9.50)
Observations	1168	1135
Adjusted R^2	0.296	0.200

Notes: OLS regression coefficients are reported with t-statistics in parentheses. *Procrastinator (Binary)* indicates whether a respondent is classified as a procrastinator in our sample; it takes a value 1 if a respondent's average PPS score is in the upper median of scores and 0 if not. *Has Will or Trust* is a binary variable, and so the coefficient estimates can be interpreted in percentage terms. *Plans Bequest $10K* is the self-reported probability that the individual will bequest least $10K. As we kept the scales of the variables the same as in the HRS, column 1 is a binary outcome and column 2 goes from 0 to 100. Census region "West" is omitted. p <0.10, ** p <0.05, *** p <0.01.

4.2. Retirement planning

In this section, we examine the impacts of procrastination on retirement planning, broadly, in the form of total wealth, respondents' propensity to think about retirement prior to retiring, and their reported dissatisfaction with retirement. These outcomes can be split into two groups: total wealth comprises the financial side of retirement planning, while thinking about retirement and retirement dissatisfaction make up the mental side. It is important to study both the financial and mental components of retirement planning because both may be impacted by procrastination for various reasons and both are included under the broader umbrella of retirement planning (Lusardi 2014, Yeung and Zhou 2017). Procrastinators may have less total wealth than their non-procrastinating peers potentially because they delay acting on high-return activities such as job promotions and investment opportunities. Additionally, procrastinating individuals might feel more dissatisfied with their retirement given the previously hypothesized relationships between procrastination and wealth. For example, retired individuals with lower wealth may find themselves less satisfied with their retirement. Table 4 shows our results, which we discuss below.

In columns 1 and 3, we observe statistically significant effects of procrastination on wealth and retirement dissatisfaction. Namely, we find that being a procrastinator is associated with having less wealth (p < 0.10) and being more dissatisfied with retirement (p < 0.01). We find no significant effect of procrastination on thinking about retirement in column 2.

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1   We investigate wealth as a potential underlying mechanism for this effect in Section A2.

TABLE 4. IMPACTS OF PROCRASTINATION ON RETIREMENT PLANNING

	Procrastinator (Binary)	Procrastination (Raw PPS)	Procrastinator (Binary)
	IHS(Wealth in $MN) (1)	Thinks About Retirement (2)	Retirement Dissatisfaction (3)
Procrastinator (Binary):			
	-0.073*	-0.105	0.204***
	(-2.41)	(-1.48)	(3.88)
Demographics:			
Marital Status: Couple	0.218***	-0.112	-0.144**
	(6.93)	(-1.52)	(-2.72)
Female	-0.038	0.062	-0.066
	(-1.23)	(0.84)	(-1.18)
Age	0.003	-0.001	-0.009**
	(1.72)	(-0.16)	(-2.80)
Education: HS	-0.217***	0.238**	0.161**
	(-6.27)	(2.94)	(2.79)
Education: Less than HS	-0.260***	0.403***	0.178*
	(-5.49)	(3.59)	(2.25)
Race: Other	-0.049	-0.114	0.006
	(-0.88)	(-0.87)	(0.05)
Race: Black	-0.269***	-0.022	0.103
	(-6.85)	(-0.24)	(1.50)
Hispanic	-0.247***	0.154	0.026
	(-5.19)	(1.37)	(0.29)
Number of Children	-0.013	0.061**	-0.009
	(-1.52)	(3.06)	(-0.58)
Income			
Social Security Income (in $10K)	0.036	0.000	-0.089*
	(1.67)	(0.00)	(-2.55)
Census Region			
Northeast	-0.142**	-0.004	0.158
	(-2.80)	(-0.04)	(1.88)
Midwest	-0.094*	0.035	0.092
	(-2.07)	(0.33)	(1.20)
South	0.119*	0.064	0.093
	(2.33)	(0.53)	(1.03)
Constant	0.399**	2.291***	2.213***
	(2.92)	(7.14)	(8.74)
Observations	1171	1130	563
Adjusted R^2	0.222	0.027	0.111

Notes: OLS regression coefficients are reported with t-statistics in parentheses. Procrastinator (Binary) indicates whether a respondent is classified as a procrastinator in our sample; it takes a value 1 if a respondent's average PPS score is in the upper median of scores and 0 if not. Thinks About Retirement takes integer values 1–5, with 1="A Lot" and 5="Hardly at all". Retirement Dissatisfaction is only asked of those retired, and the original variable name is "Retirement Satisfaction" in the Health and Retirement Study. It takes integer values 1–3, with 1="Very" and 3= "Not at All". We present this as "Dissatisfaction" to facilitate interpretation. Census region "West" is omitted. p <0.10, ** p <0.05, *** p <0.01.

4.3. Health

Last, we examine whether procrastination affects health outcomes. Specifically, we focus on respondents' propensity to have long-term care insurance (LTCI), self-reported health status, and the incidence of both alcohol use and smoking. Similarly to a will or trust, LTCI is a retirement planning tool that can provide a multitude of benefits. It primarily pays for old-age healthcare such as assisted living, in-home care, and nursing-home care. We find that only 11% of individuals have any LTCI. The product insures against unforeseen health issues that may cause individuals to need special assistance, something that they may again find uncomfortable to think about, potentially leading them to procrastinate purchasing this kind of insurance. Whether procrastination is related to LTCI has not been previously studied, though the connection

is plausible—procrastinators may delay or not purchase long-term care insurance, even if they desire it. With regard to health outcomes, the link between procrastination and risky behavior has been previously researched, with a handful of studies finding that smoking is correlated with present-biased preferences (Kang and Ikeda 2014, Burks et al. 2012, Grignon 2009). We build on this work by examining the impact of procrastination on alcohol use and self-reported health. The literature finds that procrastinators often delay medical care (Steinvik, Svartdal and Johnsen 2023, Sirois, Melia-Gordon and Pychyl 2003, Sirois 2004), and so we might expect the procrastinators in our sample to report lower health scores. We present our results below in Table 5.

TABLE 5. IMPACT OF PROCRASTINATION ON LTCI AND HEALTH OUTCOMES

	Has LTCI (1)	Self-Reported Health (2)	Smokes Now (3)	Days/Week Drinks (4)	Drinks/Day When Drinking (5)
Procrastinator (Binary):					
	-0.023	-0.331***	0.036	-0.371*	0.016
	(-1.23)	(-6.49)	(1.06)	(-2.25)	(0.20)
Demographics					
Marital Status: Couple	0.017	0.048	-0.077*	0.243	-0.063
		(0.91)	(-2.23)	(1.40)	(-0.73)
Male	0.009	-0.012	-0.012	-0.617***	-0.555***
	(0.47)	(-0.23)	(-0.36)	(-3.66)	(-6.53)
Age	0.003**	-0.001	-0.011***	0.003	-0.019***
	(2.61)	(-0.29)	(-5.05)	(0.27)	(-3.68)
Education: HS	-0.068**	-0.249***	0.013	-0.002	-0.084
	(-3.14)	(-4.28)	(0.36)	(0.01)	(-0.89)
Education: Less than HS	-0.061*	-0.505***	0.184***	-0.470	-0.332*
	(-2.04)	(-6.47)	(3.79)	(-1.61)	(-2.58)
Race: Other	-0.008	-0.069	0.055	-0.729*	-0.207
	(-0.23)	(-0.76)	(0.87)	(-2.32)	(-1.38)
Race: Black	-0.000	-0.131*	0.144***	-0.785***	-0.152
	(-0.00)	(-1.99)	(3.48)	(-3.50)	(-1.43)
Hispanic	-0.014	-0.062	-0.058	-0.615*	0.107
	(-0.46)	(-0.79)	(-1.07)	(-2.37)	(0.83)
Number of Children	-0.010	0.001	-0.002	0.078	-0.013
	(-1.96)	(0.03)	(-0.18)	(1.64)	(-0.57)

TABLE 5. IMPACT OF PROCRASTINATION ON LTCI AND HEALTH OUTCOMES (CONTINUED)

	Has LTCI (1)	Self-Reported Health (2)	Smokes Now (3)	Days/Week Drinks (4)	Drinks/Day When Drinking (5)
Income					
Social Security Income (in $10K)	-0.010	-0.001	0.032	-0.024	-0.025
	(-0.76)	(-0.03)	(1.37)	(-0.21)	(-0.42)
Census Region					
Northeast	-0.010	-0.091	0.121*	-0.299	-0.0978
	(-0.33)	(-1.07)	(2.11)	(-1.12)	(-0.71)
Midwest	-0.043	-0.077	0.084	0.076	-0.074
	(-1.52)	(-1.01)	(1.63)	(0.31)	(-0.61)
South	-0.061	-0.025	0.005	0.310	-0.260
	(-1.88)	(-0.29)	(0.08)	(1.15)	(-1.88)
Constant	0.002	4.449***	0.827***	2.282**	2.787***
	(0.03)	(19.21)	(5.47)	(3.00)	(7.55)
Observations	1151	1069	617	710	1164
Adjusted R^2	0.021	0.105	0.114	0.065	0.052

Notes: OLS regression coefficients are reported with t-statistics in parentheses. Procrastinator (Binary) indicates whether a respondent is classified as a procrastinator in our sample; it takes a value 1 if a respondent's average PPS score is in the upper median of scores and 0 if not. Has LTCI is a binary variable equal to 1 if the respondent has long-term care insurance. Self-Reported Health is a measure of health taking integer values from 1 to 5, with 1="Poor" and 5="Excellent". Smokes Now is a binary variable equal to 1 if the respondent currently smokes cigarettes. Census region "West" is omitted. $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

In column 1, we observe that procrastination is not linked to LTCI purchase. Perhaps it is the case that the decision to not purchase LTCI is rational given certain market characteristics such as high premiums. Further, frequent entry and exit among insurers may contribute to trepidation around purchasing LTCI in our surveyed sample (Brown, Goda and McGarry 2012). Similarly to what we find about the impact of procrastination on retirement dissatisfaction in Section 4.2, we see evidence of a broader impact of procrastination on health in column 2 of Table 5. Procrastinators report lower values for self-reported health, corresponding to poorer health (see the table notes for more details). This result may be explained by prior literature finding that procrastinators often delay healthcare appointments; we may expect that putting off medical care has negative consequences for physical health, especially in a population that suffers from chronic conditions at higher rates (Ansah and Chiu 2023). This result complements our analysis of estate and retirement planning as it presents procrastination as a contributor to multifaceted outcomes for aging Americans, not only those related to their personal and household finances.

In column 3, we find that procrastinators in our sample are not significantly more likely to be smokers, though the direction of the effect is in line with previous literature (Kang and Ikeda 2014, Grignon 2009). Moving to the alcohol use outcomes in columns 4 and 5, we find that procrastinators drink on fewer days per week and show no difference in the number of drinks when drinking. This result is slightly counterintuitive if we think that procrastinators should exhibit more risky behaviors in areas including alcohol consumption, as has been found in prior research (Westgate et al. 2017, Takahashi et al. 2009). It is important to note, however, that our measures of alcohol use taken from the HRS may be imperfect because they do not allow us to reliably differentiate between "healthy" versus "problematic" drinking patterns. Further, our data are self-reported, and to the extent that respondents may under-report their frequency of engaging in risky behaviors such as alcohol use, our estimates may be biased downward.

5. Discussion

This study examines the relationship between procrastination and financial and health behaviors among older adults. Using the HRS procrastination module, we document that individuals with higher procrastination scores, who are more likely to have less than a high-school education and to identify as Hispanic, are less likely to prepare wills or trusts and less likely to plan meaningful bequests. Procrastinators also report lower retirement satisfaction, consistent with evidence linking self-control to financial well-being (Strömbäck et al. 2017), and worse self-reported health. These patterns align with models in which present-biased or time-inconsistent preferences lead individuals to delay tasks without firm deadlines (O'Donoghue and Rabin 2001, 1999). Although some theoretical frameworks can rationalize delayed action under specific conditions (Fischer 2001), the empirical evidence in our setting suggests that procrastination generates financial and health-related costs at older ages.

Our results have several practical implications. Interventions shown to reduce procrastination in other domains, such as temptation bundling (Milkman, Minson and Volpp 2014) and reminder-based approaches (Rogers and Milkman 2016), could be adapted to estate-planning and retirement contexts. States and employers have used mailed prompts and simplified will templates, and some workplace retirement programs offer optional estate-planning sessions during benefits enrollment. Community organizations, including AARP chapters, provide financial-education workshops targeted to older adults. Related research finds that greater financial literacy predicts more retirement planning (Ye et al. 2025) and that financial advice can mitigate portfolio-choice biases (Pak and Chatterjee 2016). Approaches that encourage individuals to consider their future selves, such as age-progressed images tested in Robalino et al. (2023), may also be relevant for estate-planning and health-maintenance decisions. These examples outline feasible applications of behavioral tools that may address the patterns documented in this study.

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Additional materials

A1.Pure Procrastination Scale (PPS) Confirmatory Factor Analysis

To intentionally engage with the psychometric literature, we conduct a confirmatory factor analysis (CFA) to assess the validity and reliability of the PPS as a measure of procrastination. Specifically, we wish to evaluate the relationship between our observed PPS items and our underlying construct of procrastination. To do this, we estimate a single-factor CFA to construct a latent measure of procrastination from the twelve PPS items (as seen in Section 2). The measurement model is:

$$PPSi = \lambda_i Procrastination + \varepsilon_i$$

where PPS_i denotes each observed PPS item, $Procrastination$ is the latent factor, λ_i are factor loadings estimated through CFA, and ε_i are item-specific error terms. In this measurement model, variation in latent procrastination generates variation across the PPS items. The factor loadings, λ_i, quantify the strength of the relationship between each item and the underlying procrastination construct.

To estimate the factor loadings, we use the *semopy* package in Python which allows for estimation of structural equation models (Igolkina and Meshcheryakov 2020). Through Maximum Likelihood Estimation, *semopy* estimates the factor loadings by choosing parameters such that the modelimplied covariance matrix of the PPS items matches the observed covariance matrix as closely as possible. Table A1 below presents the estimated factor loadings, λ_i.

TABLE A1. PPS FACTOR LOADINGS

	Standardized Estimate	Standard Error
PPS 1	0.616***	-
PPS 2	0.694***	(0.056)
PPS 3	0.670***	(0.055)
PPS 4	0.684***	(0.055)
PPS 5	0.730***	(0.058)
PPS 6	0.708***	(0.059)
PPS 7	0.747***	(0.060)
PPS 8	0.753***	(0.058)
PPS 9	0.613***	(0.059)
PPS 10	0.696***	(0.054)
PPS 11	0.678***	(0.052)
PPS 12	0.577***	(0.055)

Notes: Standardized factor loadings from a onefactor CFA of the 12-item Procrastination Scale. Robust standard errors in parentheses. PPS 1 is the reference item, so its standardized loading does not have an associated standard error. * p <0.10, ** p <0.05, *** p <0.01.

Following the guidelines in Hair et al. 2019 and Kline 2016, we observe that the factor loadings, for each PPS item, are greater than 0.5 and so we claim that each of the PPS items is substantively meaningful and we do not need to remove any items from our analysis; there are no "low-loading" items with λ_i < 0.4. We further present model fit statistics and reliability metrics below in Table A2.

TABLE A2. CFA MODEL FIT AND RELIABILITY STATISTICS

	Estimate
Model Fit	
Comparative Fit Index (CFI)	0.916
Reliability	
Cronbach's a	0.912

To assess the fit of our measurement model above, we report the Comparative Fit Index (CFI). CFI evaluates the improvement of model fit compared to a baseline (null) model that assumes no correlation among observed indicators. Values greater than 0.95 generally indicate good fit (Hu and Bentler (1999)). We recover a value of 0.916 for CFI, indicating that while our model does not meet the commonly accepted threshold of 0.95, it does come close; we therefore are comfortable concluding our model has moderate fit. In assessing reliability of the PPS (i.e. the internal consistency of the measure), we report Cronbach's alpha which

measures the degree to which the PPS items measure the single latent construct of procrastination rather than unrelated behaviors. Specifically, it reflects the inter-item correlation within a scale with higher values indicating the items measure a common construct. We find a value of Cronbach's alpha of 0.912, falling within the commonly used range of 0.70-0.95 (Netemeyer, Bearden and Sharma (2003); Tavakol and Dennick (2011)). This indicates that the PPS items are highly reliable in measuring procrastination.

In this section, we conducted Confirmatory Factor Analysis (CFA) on the Pure Procrastination Scale (PPS) to quantify the strength of the relationship between each PPS item and the latent construct of procrastination through factor loadings estimated via structural equation estimation. We find that all PPS items are meaningful and we are confident in proceeding with the analysis presented in this paper. Further, we find that the PPS items are internally consistent and reliably measure procrastination.

A2. Exploration of retirement dissatisfaction mechanism

In this section we explore a potential mechanism behind our observed impact of procrastination on retirement dissatisfaction. In Table 4 of section 4.2 we report a positive and statistically significant impact of procrastination on retirement dissatisfaction for respondents in our sample. We hypothesize that wealth may play a role. Here, we investigate this further by reporting OLS regression coefficients from three different specifications in Table A3 below.

TABLE A3. WEALTH AS A POTENTIAL MEDIATOR OF THE IMPACT OF PROCRASTINATION ON RETIREMENT DISSATISFACTION

		IHS(Wealth $MN)	Retirement Dissatisfaction
	(1)	(2)	(3)
Procrastinator (Binary)			
	-0.073*	0.204***	0.159*
	(-2.41)	(3.88)	(2.41)
Wealth	-	-	-0.277***
	-	-	(-4.30)
Procrastinator × Wealth	-	-	0.048
	-	-	(0.50)
Controls			
Demographics	X	X	X
Income	X	X	X
Marital Status & Children	X	X	X
Education	X	X	X
Census Region	X	X	X
Observations	1171	563	563
Adjusted R-squared	0.222	0.111	0.145

Notes: OLS regression coefficients are reported with t-statistics in parentheses. Column (1) shows the impact of procrastination on wealth and is identical to Column (1) from Table 4. Columns (2) and (3) show the impact of procrastination on retirement dissatisfaction. Column (2) is identical to Column (3) from Table 4. Column (3) includes wealth and the interaction between procrastination and wealth as controls. Wealth denotes IHS(Wealth $MN). * p <0.10, ** p <0.05, *** p <0.01.

Columns 1 and 2 replicate our main findings from Section 4.2. Specifically, we find that procrastinators have less wealth and are more dissatisfied in retirement. However, this observed effect on dissatisfaction may be driven by wealth, rather than operating purely through procrastination. To test the potential role of wealth as a mediator of our observed effect, we include wealth as an explanatory variable and present the results in column 3. If wealth does indeed mediate the effect, we would expect the coefficient estimate on wealth to be negative (indicating an inverse relationship between wealth and retirement dissatisfaction) and significant. Further, we would expect our estimate on procrastination to attenuate. Our results are consistent with these expectations. In column 2, the effect of being a procrastinator on retirement dissatisfaction was approximately 0.2 and significant at the 1% level. However, upon including wealth as a regressor, the effect size falls to 0.16 in column 3 and only remains significant at the 10% level. Simultaneously, the impact of wealth on retirement dissatisfaction is negative and significant at the 1% level.

While these results point to wealth as the mechanism through which procrastination may affect dissatisfaction in retirement, we hesitate in accepting this interpretation outright. In our context, wealth is plausibly endogenous. It is likely jointly determined with retirement dissatisfaction, partly a consequence of procrastination (as we have shown), and may even be influenced by retirement dissatisfaction itself. Further, we are unable to control for all variables that may be highly correlated with wealth and affect both wealth and retirement dissatisfaction. For example, one's level of financial literacy is likely to play a large role in our context. As a result, controlling for wealth may introduce bias rather than identifying a mediation channel.

A3. Additional variation explained by binary measure of procrastination for all outcomes

TABLE A4. STEPWISE CONTRIBUTION OF PROCRASTINATION TO MODEL FIT

	Adj. R^2 (Controls)	Adj. R^2 (w/ Procrast)	Change	Relative Increase (%)
Estate Planning				
Has Will or Trust	0.2880	0.2957	0.0077	2.69
Planned Bequest $10K	0.1968	0.1995	0.0027	1.37
Retirement Planning				
IHS(Wealth in $MN)	0.2192	0.2224	0.0032	1.47
Thinks About Retirement	0.0260	0.0270	0.001	3.96
Retirement Dissatisfaction	0.0878	0.1106	0.0228	26.00
Health				
Has LTCI	0.0207	0.0212	0.0004	2.12
Self-Reported Health	0.0700	0.1049	0.0349	49.76
Smokes Now	0.1142	0.1144	0.0002	0.17
Alcohol Days per Week	0.0600	0.0655	0.0054	9.06
Drinks per Day When Drinking	0.0529	0.0521	-0.0008	-1.50

Notes: This table reports the adjusted R^2 from regressions including only controls in the first column, then including the median-split procrastination indicator in the second column. Change shows the absolute improvement in model fit; relative increase (%) divides the improvement by the controls-only Adj. R^2 and multiplies by 100.

TABLE A5. IMPACT OF PROCRASTINATION ON RESPONDENTS' HAVING A WILL OR TRUST

	Having a Will or Trust					
	(1)	(2)	(3)	(4)	(5)	(6)
Procrastinator (Binary)						
	-0.166***	-0.127***	-0.125***	-0.121***	-0.098***	-0.093***
	(0.028)	(0.025)	(0.025)	(0.025)	(0.025)	(0.026)
Controls						
Demographics		X	X	X	X	X
Income			X	X	X	X
Marital Status & Children				X	X	X
Education					X	X
Census Region						X
Observations	1247	1245	1245	1197	1191	1168
Adjusted R-squared	0.027	0.253	0.257	0.273	0.302	0.296

Notes: OLS regression coefficients are reported with standard errors in parentheses. * p <0.10, ** p <0.05, *** p <0.01.

TABLE A6. IMPACT OF PROCRASTINATION ON RESPONDENTS' BEQUESTING $10K

	Bequest $10K					
	(1)	(2)	(3)	(4)	(5)	(6)
Procrastinator (Binary)						
	-11.536***	-8.821***	-8.678***	-7.498***	-5.060**	-4.628**
	(2.210)	(2.126)	(2.126)	(2.136)	(2.095)	(2.115)
Controls						
Demographics		X	X	X	X	X
Income			X	X	X	X
Marital Status & Children				X	X	X
Education					X	X
Census Region						X
Observations	1212	1209	1209	1163	1157	1135
Adjusted R-squared	0.021	0.116	0.118	0.146	0.201	0.200

Notes: OLS regression coefficients are reported with standard errors in parentheses. * p <0.10, ** p <0.05, *** p <0.01.

TABLE A7. IMPACT OF PROCRASTINATION ON IHS(WEALTH IN MILLIONS)

	IHS (Wealth in Millions)					
	(1)	(2)	(3)	(4)	(5)	(6)
Procrastinator (Binary)						
	-0.155***	-0.125***	-0.124***	-0.110***	-0.078**	-0.073**
	(0.032)	(0.031)	(0.031)	(0.031)	(0.031)	(0.030)
Controls						
Demographics		X	X	X	X	X
Income			X	X	X	X
Marital Status & Children				X	X	X
Education					X	X
Census Region						X
Observations	1252	1249	1249	1200	1194	1171
Adjusted R-squared	0.018	0.114	0.114	0.158	0.198	0.222

Notes: OLS regression coefficients are reported with standard errors in parentheses. * p <0.10, ** p <0.05, *** p <0.01.

TABLE A8. IMPACT OF PROCRASTINATION ON RESPONDENTS' THINKING ABOUT RETIREMENT

	Thinking About Retirement					
	(1)	(2)	(3)	(4)	(5)	(6)
Procrastinator (Binary)						
	-0.017	-0.042	-0.041	-0.052	-0.093	-0.105
	(0.068)	(0.069)	(0.069)	(0.070)	(0.070)	(0.071)
Controls						
Demographics		X	X	X	X	X
Income			X	X	X	X
Marital Status & Children				X	X	X
Education					X	X
Census Region						X
Observations	1204	1201	1201	1158	1153	1130
Adjusted R-squared	-0.001	0.006	0.005	0.016	0.029	0.027

Notes: OLS regression coefficients are reported with standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

TABLE A9. IMPACT OF PROCRASTINATION ON RETIREMENT DISSATISFACTION

	Retirement Dissatisfaction					
	(1)	(2)	(3)	(4)	(5)	(6)
Procrastinator (Binary)						
	0.256***	0.232***	0.226***	0.236***	0.207***	0.204***
	(0.050)	(0.050)	(0.050)	(0.051)	(0.052)	(0.052)
Controls						
Demographics		X	X	X	X	X
Income			X	X	X	X
Marital Status & Children				X	X	X
Education					X	X
Census Region						X
Observations	599	599	599	568	567	563
Adjusted R-squared	0.040	0.070	0.077	0.096	0.111	0.111

Notes: OLS regression coefficients are reported with standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

TABLE A10. IMPACT OF PROCRASTINATION ON RESPONDENTS' HAVING LTCI

	Has LTCI					
	(1)	(2)	(3)	(4)	(5)	(6)
Procrastinator (Binary)						
	-0.043**	-0.037**	-0.037**	-0.033*	-0.027	-0.023
	(0.018)	(0.018)	(0.018)	(0.019)	(0.019)	(0.019)
Controls						
Demographics		X	X	X	X	X
Income			X	X	X	X
Marital Status & Children				X	X	X
Education					X	X
Census Region						X
Observations	1227	1224	1224	1179	1173	1151
Adjusted R-squared	0.004	0.008	0.008	0.013	0.019	0.021

Notes: OLS regression coefficients are reported with standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

TABLE A11. IMPACT OF PROCRASTINATION ON SELF-REPORTED HEALTH

	Self-Reported Health					
	(1)	(2)	(3)	(4)	(5)	(6)
Procrastinator (Binary)						
	-0.403***	-0.384***	-0.383***	-0.379***	-0.334***	-0.331***
	(0.050)	(0.050)	(0.050)	(0.051)	(0.050)	(0.051)
Controls						
Demographics		X	X	X	X	X
Income			X	X	X	X
Marital Status & Children				X	X	X
Education					X	X
Census Region						X
Observations	1142	1140	1140	1092	1087	1069
Adjusted R-squared	0.053	0.063	0.062	0.065	0.106	0.105

Notes: OLS regression coefficients are reported with standard errors in parentheses. * p <0.10, ** p <0.05, *** p <0.01.

TABLE A12. IMPACT OF PROCRASTINATION ON CURRENT SMOKING BEHAVIOR

	Smokes Now					
	(1)	(2)	(3)	(4)	(5)	(6)
Procrastinator (Binary)						
	0.077**	0.066**	0.067**	0.062*	0.037	0.036
	(0.033)	(0.032)	(0.032)	(0.033)	(0.033)	(0.033)
Controls						
Demographics		X	X	X	X	X
Income			X	X	X	X
Marital Status & Children				X	X	X
Education					X	X
Census Region						X
Observations	664	663	663	638	633	617
Adjusted R-squared	0.006	0.087	0.088	0.092	0.113	0.114

Notes: OLS regression coefficients are reported with standard errors in parentheses. * p <0.10, ** p <0.05, *** p <0.01

TABLE A13. IMPACT OF PROCRASTINATION ON ALCOHOL DAYS PER WEEK

	Alcohol Days Per Week					
	(1)	(2)	(3)	(4)	(5)	(6)
Procrastinator (Binary)						
	-0.504***	-0.432***	-0.433***	-0.452***	-0.413**	-0.371**
	(0.160)	(0.158)	(0.158)	(0.161)	(0.163)	(0.165)
Controls						
Demographics		X	X	X	X	X
Income			X	X	X	X
Marital Status & Children				X	X	X
Education					X	X
Census Region						X
Observations	760	757	757	729	725	710
Adjusted R-squared	0.012	0.065	0.064	0.067	0.066	0.065

Notes: OLS regression coefficients are reported with standard errors in parentheses. * p <0.10, ** p <0.05, *** p <0.01.

TABLE A14. IMPACT OF PROCRASTINATION ON NUMBER OF DRINKS PER DAY WHEN RESPONDENT DRINKS

	Drinks per Day When Drinking					
	(1)	(2)	(3)	(4)	(5)	(6)
Procrastinator (Binary)						
	0.077**	0.066**	0.067**	0.062*	0.037	0.036
	(0.033)	(0.032)	(0.032)	(0.033)	(0.033)	(0.033)
Controls						
Demographics		X	X	X	X	X
Income			X	X	X	X
Marital Status & Children				X	X	X
Education					X	X
Census Region						X
Observations	1244	1241	1241	1193	1187	1164
Adjusted R-squared	-0.001	0.046	0.045	0.051	0.054	0.052

Notes: OLS regression coefficients are reported with standard errors in parentheses. * p <0.10, ** p <0.05, *** p <0.01

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