Trends and Issues
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Preference Checklists: Selective and Effective Choice Architecture for Retirement Decisions

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Key Findings

- Considering the future first using a preference checklist composed of eight reasons to claim benefits later followed by eight reasons to claim benefits early encourages older Americans to delay Social Security retirement benefit claiming by roughly 18 months compared to a control condition and even by 10 months compared to a condition with a default set at the oldest claiming age.
- Considering the future first reduces the gap between when older Americans *should* claim Social Security retirement benefits (based on their expected longevity) and when they *actually prefer* to claim these benefits by 82% compared to a control condition.
- Choice architecture interventions (i.e., changes to the way decision information is presented) have a stronger and more significant effect on preferred Social Security retirement benefit claiming age than traditional economic factors, such as eligibility, education, wealth, perceived longevity risk, perceived health, job satisfaction, and job security.
- Despite the demonstrable impacts of choice architecture interventions, such as defaults and preference checklists, on preferred Social Security retirement benefit claiming age, participants report that they do not perceive any noticeable differences in their choice experience.
- A life expectancy calculator included as part of the claiming decision may function as an informal checklist that interacts with other choice architecture interventions. This underscores the importance of choice architecture: small changes to wording or ordering can have large effects on important decisions.

Executive Summary

Many of the over 30 million Americans projected to retire in the next decade have not saved sufficiently for their retirement. Compounding this problem, almost half of Americans claim Social Security retirement benefits at the earliest possible age, which reduces the amount of their monthly check and, for many, their overall lifetime benefits. Because the optimal claiming age varies depending on factors such as longevity, successful interventions need to be *effective* and *selective*: delaying claiming age for those who should delay, but not for those who should claim early. We investigate a recently developed choice architecture tool, a *preference checklist* (a list of choice-relevant factors that consumers might want to consider, but often do not).

In a study of 451 Americans, we compare a control condition (typical retirement benefits information), a default condition (information plus a default set at the oldest claiming age), an early-first checklist condition (information plus a checklist of reasons to claim benefits early followed by reasons to claim benefits later), and a later-first checklist condition (information plus a checklist of reasons to claim benefits later followed by reasons to claim benefits early). The later-first checklist significantly delays claiming—by roughly 18 months compared to the control and early-first conditions and even by 10 months compared to the default condition. Additionally, the later-first checklist reduces the average claiming "error" (i.e., the difference between when people *should* and *do* claim). Preference checklists are stronger *and* more selective than a standard intervention.

In a second study of 479 Americans, we include a short-form life expectancy calculator as part of the claiming decision. The calculator overwhelms the other interventions, suggesting that the calculator may function as an informal checklist. This finding highlights the importance of choice architecture: small changes to wording or ordering can have large effects on important decisions.

Introduction

Over the next decade, over 30 million Americans will retire (Reno & Lavery, 2009). Because Americans are living longer and retiring earlier (Burtless & Quinn, 2002; Wise, 1997), they are spending more time than ever in retirement. However, many do not save sufficiently for their retirement (NIA, 2007; Thaler & Benartzi, 2004). This leads to a number of difficult financial decisions both as retirement approaches and during retirement. The current research investigates how a recently developed intervention can help older Americans with one such decision: the decision of when to claim retirement benefits from Social Security (SS).

Claiming Retirement Benefits

Imagine you are approaching retirement. If you are eligible for SS retirement benefits based on your work history, you can claim benefits beginning at age 62. However, these benefits are structured such that the longer you wait (up to age 70), the larger your monthly benefit will be. Despite this, the majority of your fellow Americans claim benefits early, with roughly half claiming benefits at the earliest possible age (Muldoon & Kopcke, 2008; Song & Manchester, 2007). If you are like the average consumer, claiming early may be a financial mistake (Burtless & Quinn, 2002; Coile et al., 2002): It reduces the amount of your monthly benefit check as well as the amount of overall lifetime benefits you will receive. For example, imagine you are deciding between three possible ages at which you might claim benefits. If you claim benefits at age 62, your monthly benefit will be $1,098 (based on the average monthly SS retirement benefit; SSA, 2014a). If you wait until age 66 to claim benefits, your monthly benefit will be $1,464; if you wait until 70, it will be $1,932. To put these numbers in perspective, your retirement assets total $150,000 (based on the median level of retirement assets for the cohort of Americans currently facing this decision; Topoleski, 2013), which gives you a monthly income of only $500 (using standard consumption rates; Bengen, 1994). Clearly, for you and many Americans, SS retirement benefits will be the bulk of your retirement income (NIA, 2007; SSA, 2010). Additionally, this decision is likely to be similar to your other retirement benefits decisions, such as decisions about employer defined benefit and defined contribution plans (e.g., Burman, Coe, & Gale, 1999). Thus, getting the benefit claiming decision right is critically important for your financial security in retirement.

Choice Architecture Interventions

These troubling statistics about retirement financial decision-making, along with the encouragement of the National Commission on Fiscal Responsibility and Reform (also known as the Simpson-Bowles Commission) to "consider behavioral economics approaches" (2010, p. 47), have spurred recent research on the topic. Indeed, there has been a surge of interest in how choice architecture (the way decision information is presented) and nudges (choice architecture interventions which can change behavior) may be able to help older Americans with these types of difficult decisions.

Recent research confirms that choice architecture can influence the age at which people prefer to claim SS retirement benefits (Knoll, Appelt, Johnson, & Westfall, 2015; Brown, Kapteyn, & Mitchell, 2011; Liebman & Luttmer, 2009). For example, asking people to consider the future first (i.e., to think about claiming later before thinking about claiming early) encourages people to claim later (Knoll at al., 2015). More specifically, considering the future first leads to average claiming delays of roughly nine months (Knoll et al., 2015). Returning to our earlier example, if you delay claiming for nine months after age 62, you will receive an extra $55 *per month* ($1,153, rather than $1,098 at age 62). If you live to age 85, this adds up to $4,776 in additional benefits. If you live to age 100, this grows to $14,658 in additional benefits. In other words, even waiting a few months to claim benefits can have a large impact on the amount of lifetime benefits you will receive. Therefore, helping individuals like you find their most economically beneficial claiming age, whether earlier or later, can substantially improve their financial security in retirement. Over 38 million Americans receive SS retirement benefits each month (SSA, 2014b). If interventions that make simple changes to the way decision information is presented can positively help even a small proportion of these people, the impact will be phenomenal.

At the same time, it is important that nudges should not act bluntly, affecting both people for whom a behavior change is beneficial *and* those for whom it is harmful. For example, your optimal retirement benefit claiming age depends upon many factors, such as how long you expect to live, your income and retirement savings, and your job satisfaction and security. In other words, your optimal claiming age is specific to you—based on your circumstances, either claiming early or claiming late may be the right decision. Thus, successful interventions need to act selectively to help people identify

the choice option that is best for *them*, given their individual circumstances and preferences. In the case of retirement benefits, interventions should delay claiming for those who should delay, but not delay claiming for those who should claim early, such as those with a shorter life expectancy.

To date, research has not looked at whether choice architecture interventions affect different people differently and, more importantly, whether they encourage individuals to claim at the right age for their circumstances. The current research investigates whether a newly developed choice architecture intervention is effective *and* selective—whether it successfully encourages people to claim later if they should claim later, but not if they should claim early.

Considering the Future First

Query theory (Weber et al., 2007) suggests that people make decisions by considering one option at a time, beginning with the one that is most salient or prominent. People tend to come up with more reasons in favor of the first option they consider and fewer reasons in favor of options they consider later. Thus, the balance of support tends to be weighted heavily in favor of the first option considered and people tend to choose that option. In previous research (Knoll et al., 2015), we found that this process explains the general preference for early claiming: People tend to think about why they want to claim benefits early before they think about why they want to claim benefits later; this leads them to have more reasons in favor of claiming early, which, in turn, leads them to choose to claim benefits early.

Query theory predicts that if people instead consider a different option first, their preference for the most salient or prominent option will weaken or even be reversed (Weber et al., 2007). Considering the future first applies this to the claiming decision: Asking people to consider later claiming before considering early claiming (i.e., to consider the future first) reduces the prominence of the early-claiming option and encourages people to delay claiming (Knoll et al., 2015). As described earlier, in one study this intervention successfully delayed preferred claiming age by nine months on average. This intervention is effective, but the standard implementation is to ask people to list or even type out their thoughts one by one. This may require more time and effort than is practical in many situations.

In response, we developed a new choice architecture tool: a *preference checklist* (Appelt, Knoll, Johnson, & Westfall, 2015). Preference checklists are lists of choice-relevant factors that consumers might want to consider when making a decision, but often do not due to various factors such as time pressure or lack of information. Rather than typing out their own thoughts, people simply read and respond to lists of typical, choice-relevant thoughts. As suggested by query theory, checklist items are grouped into factors supporting one option (e.g., supporting early claiming) or another (e.g., supporting later claiming). To consider the future first, people are asked to read and respond to later-first checklists (i.e., items supporting later claiming followed by items supporting early claiming). Initial research suggests that considering the future first works equally effectively, whether it occurs via typing out your own thoughts or via reading and responding to typical, relevant thoughts. In fact, in one study, later-first checklists delayed claiming age by over 13 months compared to the more typical process of considering early claiming first (i.e., a checklist of pro-early items followed by a checklist of pro-later items; Appelt, Knoll, et al., 2015).

Many standard choice interventions work best when decision-makers are least involved in the decision. For example, setting a default (i.e., pre-selecting a choice option) is most effective when decision-makers are not paying attention and thus leave the pre-selected option selected. In contrast, preference checklists ask people to more fully consider their options and think about which factors are relevant to them. Because of this important distinction, this type of intervention may be more responsive to individuals' differing needs than more standard nudges. Thus, in Study 1, we compare preference checklists to a control condition as well as a standard nudge to test their relative efficacy *and* selectivity. In other words, we ask both how well preference checklists work on average and how well preference checklists respond to individuals' differing circumstances. In Study 2, we layer on an additional intervention: asking participants to complete a life expectancy calculator before the claiming decision.

Study 1

Previous research indicates that preference checklists are an effective intervention (Appelt et al., 2016). However, this research has focused on changes in the average impact of interventions, rather than exploring how many people are helped and by how much and how many people are harmed

and by how much. Thus, in Study 1, we investigate both the effectiveness of preference checklists *and* their selectivity.

Although the majority of Americans should delay claiming to maximize lifetime benefits (Burtless & Quinn, 2002; Coile, Diamond, Gruber, & Jousten, 2002), the optimal claiming age varies based on individual needs and preferences. Factors such as expected longevity, income, retirement savings, and job satisfaction and security have differing effects on optimal claiming age. For many of them, there is no consensus about if and how much they should affect claiming age; for example, exactly how dissatisfied with your current job should you be to retire early and claim reduced benefits? There is consensus, however, on the impact of life expectancy—the longer you are expected to live, the later you should claim benefits (up to the age of 70). Thus, we focus on the ideal claiming age based on expected longevity. In Study 1, we estimate participants' ideal claiming age based on their life expectancy to compare the efficacy and selectivity of preference checklists to both a control condition (i.e., retirement benefits information with no additional nudge) and a standard nudge—a default set at the oldest claiming age.

Methods

Studies 1 and 2 are *framed field studies* (Harrison & List, 2004) where decision-makers from the population of interest make realistic, but hypothetical decisions of high personal relevance using materials that are similar to the actual choice materials. Similar methods are used in both studies. We explain the methodology in detail for Study 1 and then only describe differences in methodology for Study 2. Each study uses unique participants who have not participated in any of the other studies.

Participants

We use a web-based sample of Americans (N = 451) for our 20-minute study. To ensure the benefit claiming decision is relevant to all participants, we screen potential participants based on age and benefit eligibility. Participants are invited to continue the study if they are: (1) between the ages of 45 years old and 65 years old, and (2) either already eligible or expecting to become eligible for SS retirement benefits.

Procedure

After completing the screening questionnaire and providing consent to participate, participants are randomly assigned to one of four conditions: a control condition (claiming decision), a default condition (claiming decision with a default set at the oldest claiming age), an early-first checklist condition (claiming decision is preceded by a checklist of eight reasons to claim benefits early and eight reasons to claim benefits later), and a later-first checklist condition (claiming decision is preceded by a checklist of eight reasons to claim benefits later and eight reasons to claim benefits early). After the claiming decision, participants complete a series of post-choice questionnaires to assess their choice experience and ascertain demographic information.

Retirement Benefits Scenario. In all conditions, participants are presented with a hypothetical SS retirement benefit claiming scenario that asks participants to imagine that they are approaching retirement and are eligible for SS retirement benefits based on their previous years of work (Knoll et al., 2015). Similar to information provided by the Social Security Administration, we use both text and a graph to explain how claiming benefits at different ages between 62 and 70 would affect the monthly benefit amount participants would receive for the rest of their lives. This information is identical across all conditions.

Preference Checklists. The preference checklists are constructed from the most frequently listed choice-relevant thoughts from prior work (Knoll et al., 2015; for a list of checklist items, see the Appendix). Participants are asked to read each checklist item and evaluate whether it is something they would consider when making the claiming decision. The checklist items are clustered into a group of eight reasons supporting claiming benefits early and a group of eight reasons supporting claiming benefits later. In the early-first checklist condition (i.e., the typical order in which people consider the decision), participants respond first to the eight reasons supporting claiming benefits early and then to the eight reasons supporting claiming benefits later. In the later-first checklist condition (i.e., the reverse or "consider the future first" order), participants respond first to the eight reasons supporting claiming benefits later and then to the eight reasons supporting claiming benefits early.

Hypothetical Claiming Decision. In all conditions, participants are asked to indicate at which age between 62 and 70 they would prefer to claim benefits. In the default condition, the oldest possible claiming age (i.e., age 70) is pre-selected. In the other three conditions, no option is pre-selected.

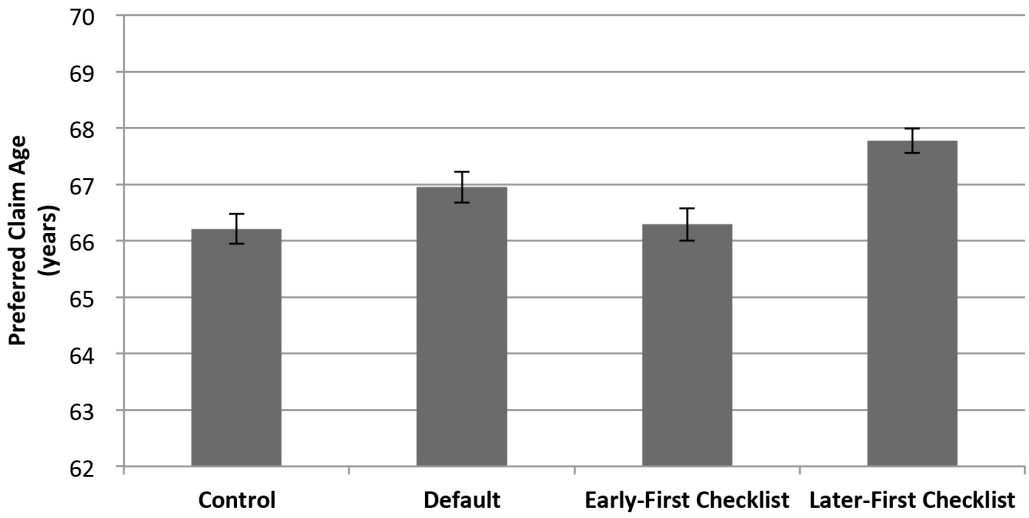
Post-Choice Questionnaires. In all conditions, participants complete a series of post-choice questionnaires. First, participants are asked to evaluate their choice experience and report their demographics. This section includes Ungar and Foster's (n.d.) short-form life expectancy calculator recommended for financial decision-making as well as subjective life expectancy measures to estimate participants' own self-generated life expectancies (Payne, Sagara, Shu, Appelt, & Johnson, 2013).

Results

Intervention Efficacy

We first compare the relative strength of the different interventions. As shown in Figure 1, participants in the later-first checklist condition prefer to claim benefits roughly 18 months later than participants in the control condition. Replicating the standard default effect, participants in the default condition prefer to claim benefits 8 months later than participants in the control condition; importantly, this is still 10 months earlier than participants in the later-first checklist condition. Participants in the early-first checklist condition prefer to claim at roughly the same age as participants in the control condition, confirming that the early-first checklist procedure is analogous to the procedure decision-makers typically use when faced with this choice. Compared to typical decision information alone and compared to a popular nudge (i.e., a default), considering the future first is more effective at encouraging decision-makers to claim benefits later. Additional analyses confirm that the choice architecture interventions have a stronger influence on preferred claiming age than traditional economic factors, such as eligibility, education, wealth, perceived longevity risk, perceived health, job satisfaction, and job security.

Figure 1. Average Preferred Claiming Age, by condition, Study 1



Intervention Selectivity

We next compare the interventions on selectivity—to what extent do they nudge individuals in the right direction for their specific circumstances? As outlined above, we focus our analyses on the ideal claiming age based on expected longevity because of the clear effect of longevity on the optimal claiming age.

We calculate each individual's longevity-based ideal claiming age based on: the age at which she will be eligible for full retirement benefits (determined by year of birth), the amount of the full retirement benefit for which she will be eligible (estimated using the cohort average; Smith et al., 2010), and her life expectancy (calculated using the short-form life expectancy calculator). After calculating the monthly benefit a participant would receive if she claimed at each age between 62 and 70, we identify the longevity-based ideal claiming age as the age that would provide the maximum lifetime benefits. We subtract participants' longevity-based ideal claiming age from their preferred claiming age to measure the size of their error. Using this measure, negative numbers indicate participants prefer to claim before the longevity-based ideal claiming age (i.e., earlier than optimal); positive numbers indicate participants prefer to claim after the longevity-based ideal claiming age (i.e., later than optimal).

We evaluate the selectivity of the different interventions by comparing the size of this error: More selective interventions will produce smaller errors. As shown in Figure 2, participants in the later-first checklist condition prefer to claim only 4 months earlier than their longevity-based ideal claiming age, whereas the error is roughly 22 months for participants in the control and early-first checklist conditions and 13 months for participants in the default condition. Compared to a popular nudge (i.e., a default), considering the future first tends to have a more selective effect—it minimizes the difference between when participants should claim benefits based on their life expectancy and when they actually prefer to claim benefits.

We repeat this analysis looking separately at individuals who would benefit from claiming late and individuals who would benefit from claiming early. In other words, according to their longevity-based ideal claiming age, some individuals should claim their benefits early (i.e., before reaching their full retirement age), whereas other individuals should claim their benefits later (i.e., after reaching their full retirement age). As expected, among participants who should claim late, we replicate the results for the overall sample: Participants in the later-first checklist condition show a significantly smaller error than participants in the control, early-first checklist, and default conditions, as shown in Figure 3. Among participants who should claim early, participants in the early-first checklist condition prefer to claim closest to their longevity-based ideal claiming age, even compared to participants in the control condition. Participants in the later-first checklist condition prefer to claim closer to their longevity-based ideal claiming age than participants in the default condition.

Considering the future first is not perfectly selective and it does nudge some people to claim later than they should. This is especially the case among people who should claim early due to a shorter life expectancy. However, even among this group, considering the future first tends to produce a smaller error than a blanket default. Thus, considering the future first may be a more selective choice architecture tool than a default.

Figure 2. Average Claiming Error in Years, by condition, Study 1

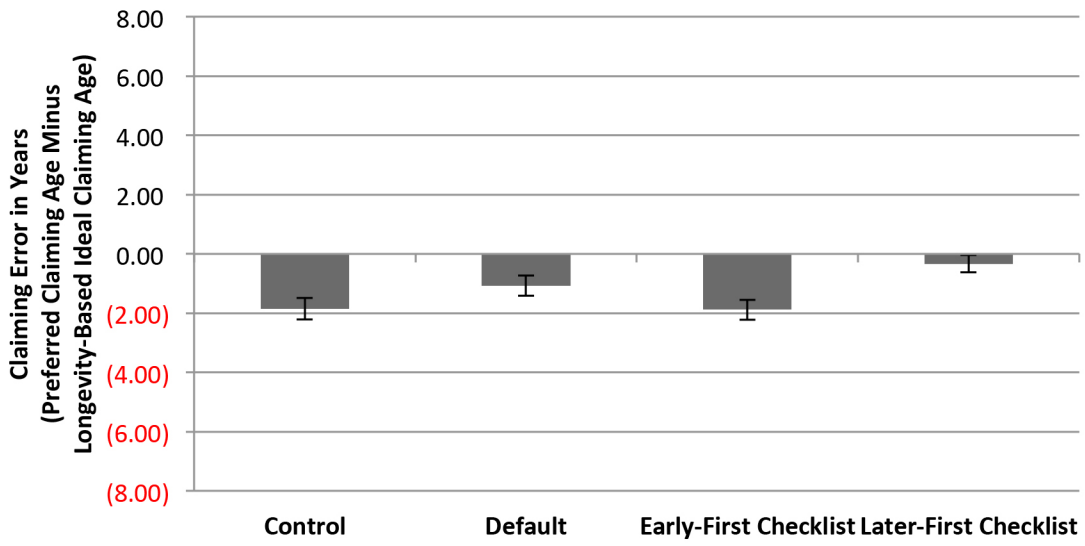
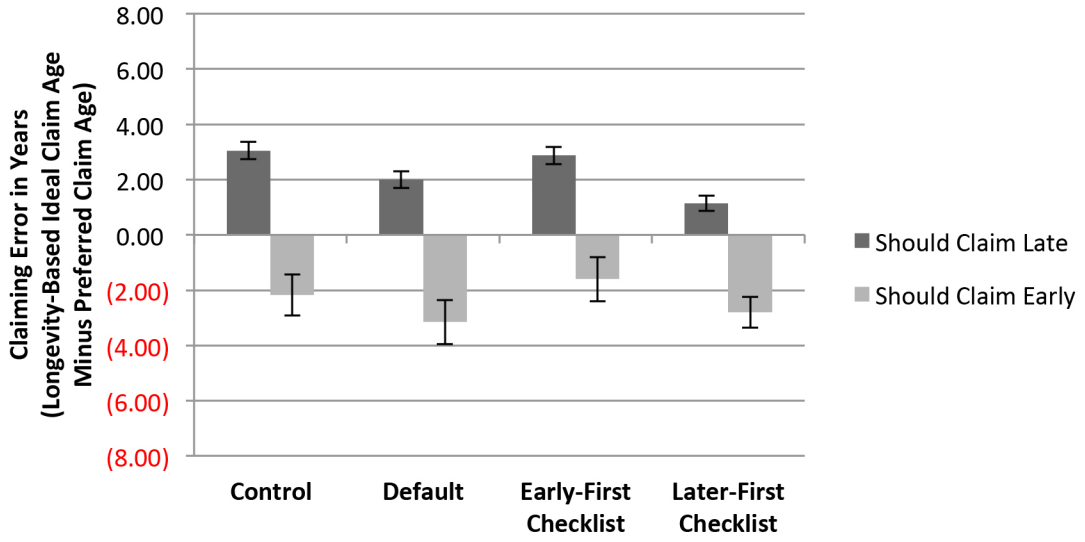


Figure 3. Average Claiming Error in Years, by condition and by group, Study 1



Perceived Impact

We also investigate how the different interventions impact participants' choice experiences. Replicating work in other contexts, such as health insurance choice (Appelt, Gao, Johnson, & von Glahn, 2015), participants do not report differences in their choice experience (i.e., how confident they feel about their decision, how easy they feel the decision is, how much control they feel they have over the decision, and how satisfied they feel with the decision process and outcome) based on condition, even though there are measurable differences in their decision outcomes between conditions.

Life Expectancy

As outlined above, life expectancy is an important determinant of when people should claim their benefits. Unfortunately, life expectancy is also extremely difficult to calculate with any certainty. In Study 1, we do not provide participants with an estimate of how long they might expect to live. Instead, we explore participants' own self-generated estimates of how long they expect to live. For these analyses, we create a measure of self-generated life expectancy using a Weibull procedure that estimates the age at which each participant believes they have a 50% chance of being alive (for a detailed description of the Weibull procedure, see Payne et al., 2013).

As expected, participants incorporate their self-generated life expectancy estimates in their claiming decision, but do not incorporate the calculated life expectancy estimates (which they do not see). Unfortunately, evidence about the accuracy of the self-generated life expectancy estimates is mixed. Although the self-generated estimates match up well with the calculated estimates on average ($M_{\text{self-generated life expectancy}} = 83.52$ vs. $M_{\text{calculated life expectancy}} = 83.44$), the self-generated estimates show an implausibly wide range ($Range_{\text{self-generated life expectancy}} = 53$ to 121 vs. $Range_{\text{calculated life expectancy}} = 73$ to 94) and are only modestly correlated with the calculated life expectancy estimates. Of course, the accuracy of life expectancy estimates can only be determined definitively after the fact (i.e., once the person is deceased). It is plausible that some participants have relevant private information (e.g., current health, family history, etc.) that may improve the accuracy of their self-generated life expectancy estimates over those of a short calculator that does not exhaustively query personal history. However, given the implausible range of ages in the self-generated estimates, it seems likely that many participants, whether or not they have relevant private information, produce inaccurate estimates of their life expectancy. Combining these results, Study 1 suggests that many participants may produce flawed estimates of how long they expect to live and then use this faulty information when considering the claiming decision.

Discussion

A preference checklist intervention successfully influences retirement benefit claiming preferences. We ask participants to consider the future first by perusing a checklist composed of reasons to claim benefits later followed by reasons to claim benefits early. This later-first checklist encourages older Americans to delay preferred Social Security retirement benefit claiming by roughly 18 months compared to a control condition, and even by 10 months compared to a condition with a default set at the oldest claiming age. It also reduces the gap between when older Americans *should* claim Social Security retirement benefits (based on their expected longevity) and when they *actually prefer* to claim these benefits, by 82% compared to a control condition and by 70% compared to the default condition. Thus, compared to a standard nudge, the later-first checklist is both more effective (has a larger average effect) and more selective (responds more to individual circumstances).

Study 2

In Study 1, we do not provide calculated life expectancy estimates for participants considering when to claim SS retirement benefits. Participants either make the claiming decision without considering this key piece of information or with their own self-generated estimates, which are often unreliable. In Study 2, we ask participants to complete Ungar and Foster's (n.d.) short-form life expectancy calculator prior to the claiming decision. In three conditions, we provide participants with their calculated life expectancy estimates and encourage them to use this information when considering the age at which they prefer to claim benefits.

Methods

Participants

We again use a web-based sample of Americans (N = 479) for our 20-minute study. As in Study 1, participants are invited to continue the study if they are: (1) between the ages of 45 years old and 65 years old, and (2) either already eligible or expecting to become eligible for SS retirement benefits.

Procedure

The procedure is the same as in Study 1, except that: (1) the short-form life expectancy calculator precedes the typical SS retirement benefits information (rather than being included in the expanded demographics questionnaire at the end of the study); (2) after reading the typical SS retirement benefits information, participants are randomly assigned to one of *five* conditions: a control condition (unaltered from Study 1), a life expectancy condition (new to Study 2), a default condition (unaltered from Study 1), an early-first checklist plus life expectancy condition (early-first checklist condition from Study 1 modified to include the calculated life expectancy estimate), and a later-first checklist plus life expectancy condition (later-first checklist condition from Study 1 modified to include the calculated life expectancy estimate); and (3) the post-choice questionnaires are modified to exclude the short-form life expectancy calculator.

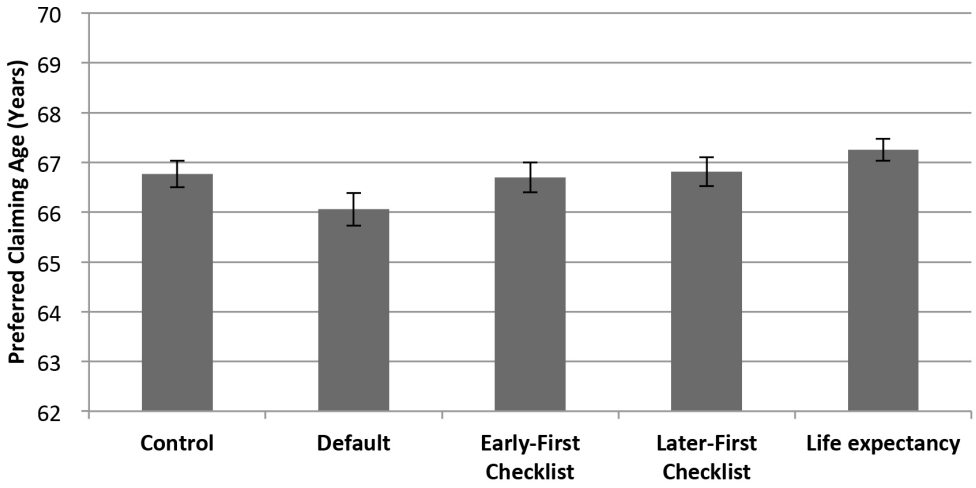
Life expectancy. In the life expectancy condition, early-first checklist plus life expectancy condition, and later-first checklist plus life expectancy condition, we use the short-form life expectancy calculator (Ungar & Foster, n.d.) described in Study 1 to estimate the 50th percentile age (i.e., the age at which participants have a 50% chance of being alive or deceased). In the life expectancy condition, participants see this information after reading the retirement benefits information and before reaching the claiming decision. In the checklist conditions, this information is added to the checklists as the first item. Because previous research indicates that life expectancy is a constructed belief susceptible to framing (Payne et al., 2013), we use different frames in the two checklist conditions to make the life expectancy information consistent with the checklist: Because "die by" frames are associated with shorter life expectancies, we use this frame in the early-first checklist as part of the set of reasons supporting claiming benefits early (for a list of checklist items, see the Appendix). Complementarily, because "live to" frames are associated with longer life expectancies, we use this frame in the later-first checklist as part of the set of reasons supporting claiming benefits later.

Results

Efficacy

We first compare the relative strength of the different interventions. As shown in Figure 4, participants in all of the conditions prefer to claim at roughly the same age; in other words, the interventions do not impact preferred claiming age. However, traditional economic predictors do impact preferred claiming age. This indicates that participants take the decision seriously, even if the interventions do not affect their choices. Importantly, although participants are presented with their calculated life expectancy estimate in only three conditions, participants in all five conditions complete the life expectancy calculator questions immediately prior to reading the retirement benefits information and considering the claiming decision. Thus, all participants are cued to consider life expectancy. The life expectancy calculator questions may function as an informal checklist which has the unintended consequence of nullifying the effects of the other interventions.

Figure 4. Average Preferred Claiming Age, by condition, Study 2



Life Expectancy

Unexpectedly, participants do not seem to use either their self-generated life expectancy estimates or calculated life expectancy estimates in their claiming decision. Once again, evidence about the accuracy of the self-generated life expectancy estimates is mixed. Although the self-generated estimates match up well with the calculated estimates on average ($M_{\text{self-generated life expectancy}}$ = 84.64 vs. $M_{\text{calculated life expectancy}}$ = 83.27), the self-generated estimates show an implausibly wide range ($Range_{\text{self-generated life expectancy}}$ = 55 to 120 vs. $Range_{\text{calculated life expectancy}}$ = 74 to 95). Importantly, there is a difference by condition: in the conditions where participants are given the calculated estimate, their later self-generated life expectancy estimates are more strongly correlated with the calculated life expectancy estimate than in the other conditions. This indicates that participants are using the calculated estimates when producing their self-generated estimates. This also provides further support for the claim that life expectancy estimates are constructed rather than stored (Payne, Sagara, Shu, Appelt, & Johnson, 2013) and underscores the importance of helping participants with difficult calculations and decisions.

Discussion

In Study 2, including a life expectancy calculator immediately preceding the claiming decision overwhelms other interventions that have previously been successful in Study 1 and prior research (Appelt et al., 2016; Knoll et al., 2015). We speculate that the life expectancy calculator questions may function as an informal checklist and this may obscure the effects of the other interventions. This finding underscores the importance of choice architecture and the need for additional research investigating the impact of measuring life expectancy and revealing calculated life expectancy estimates.

General Discussion

There is growing evidence that behavioral economics approaches can substantially improve financial outcomes for important decisions, like Social Security retirement benefit claiming (e.g., Knoll et al., 2015; Brown et al., 2011; Liebman & Luttmer, 2009). However, there is also concern that these approaches may ignore individual circumstances and preferences and nudge everyone in the same direction. This is an especially valid concern for retirement benefit claiming, where person-specific factors such as life expectancy mean that some individuals should claim late, but other individuals should claim early. The current research offers hope that not all choice architecture interventions are blunt tools. Compared to defaults, preference checklists may work as a more selective tool that has the biggest impact on those who would benefit most.

However, this research also shows that preference checklists are not perfectly selective: Among people who should claim early, the later-first checklist encourages some people to claim later than they should (although not significantly later than they would claim if presented with typical SS-provided retirement benefits information). This suggests that a further improvement would be the development of a "smart," dynamic tool that responds to individuals' circumstances to provide a tailored nudge. For example, someone with a shorter life expectancy might complete the assessment and be presented with the early-first checklist to guide them toward an appropriate early claiming age, whereas someone with a longer life expectancy might complete the assessment and be presented with the later-first checklist to guide them toward an appropriate later claiming age. Although this tool might initially focus on life expectancy due to its clear and measurable effect on the financially optimal claiming age, it could also incorporate additional considerations, such as income, retirement savings, job satisfaction, and job security.

This research also highlights the impact of choice architecture; small changes to wording or ordering can have large effects because, even for important decisions, preferences are often constructed and malleable rather than stored and stable. Additional research is needed to further investigate the impact of measuring life expectancy (before and after important choices) and revealing calculated life expectancy estimates (before and after important choices). This research will be particularly important given the plethora of online life expectancy calculators and the tendency to couple them with retirement decision tools, such as retirement benefits information. Although life expectancy calculators are generally provided with the intention of helping consumers make more informed decisions, these calculators may have unintended consequences, such as interacting with and even overwhelming carefully designed interventions.

Given the importance of SS retirement benefits to most Americans' retirement portfolios, guiding individuals toward the claiming age that best fits their needs would have a

significant impact on the financial security of the millions of Americans retiring over the next decade. More generally, the techniques underlying customizable choice architecture (i.e., developing a "smart," dynamic architecture that adapts to individuals' needs and guides them toward the most appropriate choice, rather than a one-size-fits-all answer) could easily be applied to other contexts where consumers struggle to make the right choice, such as saving for retirement, allocating a limited budget, choosing a health insurance plan, et cetera.

Appendix

Preference Checklist Items, Study 1

Items supporting claiming benefits early	Items supporting claiming benefits later
I want to collect benefits as soon as possible because Social Security may run out of money soon.	Since people usually need more money to spend on medical bills as they get older, I'll delay claiming as long as possible—that way I'll have more money when I'll probably need it most.
I don't want to have to work until I'm old—I want to enjoy some non-work time with friends and family.	I will probably work part-time as the years go on—that way I can put off collecting my benefits.
My family does not have a history of living long, so I don't expect to live a long time either.	My family has a history of living long, so I expect to live a long time too—I wouldn't want to run out of money when I'm old.
I don't like my job anymore, so claiming benefits now would let me leave that bad situation.	I want to work as long as I physically can—only health problems would stop me from working.
Instead of waiting until 70 years old to get the highest benefits, it is best to claim early and invest the money.	As long as I am doing something I really like, I want to keep working past my full retirement age.
Waiting to claim benefits does not increase the check that much, so it's not worth waiting.	Social Security is the best annuity out there, and waiting longer to collect gets you more money and makes it even better.
A lot of my friends and peers have already retired and claimed benefits.	I've been paying into Social Security my whole life, and now I want to get as much money back as possible.
Due to the economy and scarcity of jobs, I might be forced to start collecting early.	I am comfortable with my current income level, so I can afford to delay claiming as long as possible.

Preference Checklist Items, Study 2

Items supporting claiming benefits early	Items supporting claiming benefits later
There is a 50% chance that I will die by age {LifeExpResult50}. (Note: The life expectancy calculator produced this personalized estimate based on your age, gender, race, marital status, and smoking, exercise, and driving habits.)*	There is a 50% chance that I will live past age {LifeExpResult50}. (Note: The life expectancy calculator produced this personalized estimate based on your age, gender, race, marital status, and smoking, exercise, and driving habits.)*
I want to collect benefits as soon as possible because Social Security may run out of money soon.	Since people usually need more money to spend on medical bills as they get older, I'll delay claiming as long as possible—that way I'll have more money when I'll probably need it most.
I don't want to have to work until I'm old—I want to enjoy some non-work time with friends and family.	I will probably work part-time as the years go on—that way I can put off collecting my benefits.
My family does not have a history of living long, so I don't expect to live a long time either.	My family has a history of living long, so I expect to live a long time too—I wouldn't want to run out of money when I'm old.
I don't like my job anymore, so claiming benefits now would let me leave that bad situation.	I want to work as long as I physically can—only health problems would stop me from working.
Instead of waiting until 70 years old to get the highest benefits, it is best to claim early and invest the money.	As long as I am doing something I really like, I want to keep working past my full retirement age.
Waiting to claim benefits does not increase the check that much, so it's not worth waiting.	Social Security is the best annuity out there, and waiting longer to collect gets you more money and makes it even better.
A lot of my friends and peers have already retired and claimed benefits.	I've been paying into Social Security my whole life, and now I want to get as much money back as possible.
Due to the economy and scarcity of jobs, I might be forced to start collecting early.	I am comfortable with my current income level, so I can afford to delay claiming as long as possible.

*Note: The "die by" item appeared only in the early-first checklist condition, whereas the "live to" item appeared only in the later-first checklist condition. All other items are the same as in Study 1.

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