

Making the Best Laid Plans Better:
How Plan-Making Increases Follow-Through

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Abstract

Many intend to stay fit but fail to exercise or eat healthfully; students intend to earn good grades but study too little; citizens intend to vote but fail to turnout. How can policy-makers help people follow through on intentions like these? Plan-making, a tool that leverages research on memory and cognition as well as mechanical benefits of scheduling, is one underappreciated solution. We review experiments showing that forming specific, concrete plans increases follow-through across a range of domains – from vaccinations to voting. Plan-making prompts are simple, inexpensive, and powerful tools for changing behavior, which preserve the autonomy of decision-makers.

How can policy makers and managers facilitate people's follow-through on their oft unfulfilled intentions to engage in beneficial behaviors? Middle-aged adults intend to exercise and eat healthfully, but they often fail to; students regularly intend to study hard so they can learn and earn good grades but do not make the requisite time; citizens intend to complete tax forms, register their cars, and submit applications for food stamps and Federal student aid before stated deadlines, but many neglect to do so punctually (if at all); and new parents frequently intend to formulate a will or buy life insurance but never get around to it. Each of these follow-through failures can be costly for individuals and society. Our objective in this brief report is to highlight a powerful, yet often overlooked, tool that can be employed to increase follow-through on a wide range of beneficial behaviors by leveraging behavioral scientists' understanding of human memory and cognition. The tool we describe is simple and inexpensive to implement, has been proven effective across a wide range of domains, and does not infringe on the autonomy of decision makers. We view it as a new entry into behavioral scientists' existing toolbox of "nudges," or methods that use insights about human behavior to guide choices in utility-maximizing directions without infringing on individual liberty (Thaler & Sunstein, 2008). The tool is grounded in the following insight: *making a concrete plan helps people follow through on their intentions.*

The Psychology of Plan-Making

Merely asking people if they intend to engage in a beneficial behavior can increase their likelihood of follow-through (Fitzsimons & Morwitz, 1996; Greenwald, Carnet, Beach, & Young, 1987; Nelson & Norton, 2005). Guiding people to concretely "unpack" the when, where, and how of fulfilling a goal can increase their likelihood of following through even more (Gollwitzer, 1999). Plan-making facilitates increased follow-through for two reasons. First, on a mechanical level, plan-making encourages people to develop strategies for overcoming logistical obstacles. This is especially valuable in light of people's general tendency to procrastinate (O'Donoghue and Rabin, 1999; Milkman, Rogers, and Bazerman, 2008) and be overly optimistic about how long tasks will take to accomplish (Buehler, Griffin, & Ross, 1994). For example, imagine that Craig intends to get a flu vaccination, which requires an hour of travel to and from his health clinic. Prompting Craig to make a plan for receiving a flu vaccination may compel him to block an hour off on his calendar and coordinate with his colleagues to ensure that his responsibilities will be covered during the time he is away. This logistical aspect of making a plan increases the probability that Craig will follow through on his good intentions (Kruger & Evans, 2004).

Second, on a cognitive level, plan-making helps people both to remember their goals at appropriate times and to activate pre-determined strategies for overcoming challenges they anticipate facing while pursuing their goals. Plan-making creates links in memory between anticipated future moments (e.g., a specific time of day, the moment when a certain event occurs or when a specific feeling or thought arises) and the behaviors required to achieve goals. These moment-behavior pairs often take the following form: "if situation Y arises, then engage in behavior X" (Gollwitzer, Bayer, & McCulloch, 2005; Gollwitzer & Sheeran, 2006a). Imagine that Craig makes an initial plan to receive his flu shot next Tuesday after dropping his son at daycare, as well as a contingency plan in case this plan becomes infeasible. His initial plan is likely to come to mind as he drives away from daycare on the appointed Tuesday, increasing the chance that his goal (getting a flu shot) will be remembered. If he finds himself leaving his son's daycare later than expected, then he may recall that his contingency plan entailed calling his

colleagues at work to alert them of his delay. Having this contingency plan will therefore increase his likelihood of following through on his intention to receive a flu shot.

Despite the fact that making a plan helps people accomplish their goals, people often fail to generate concrete plans. Ironically, this tendency to under-plan is especially common when people begin with strong intentions to achieve a goal. Recent research suggests that when people most staunchly intend to perform a behavior, they are most prone to undervalue factors like plan-making, which could help them translate their intentions into actions. This is because people mistakenly believe that the strength of their intentions will propel them to engage in the desired future behavior, making strategies that could help translate their intentions into action unnecessary (Koehler, White, & John, 2011). Thus, paradoxically, people are prone to under-plan for the behaviors they would most like to accomplish, further underscoring the notion that encouraging plan-making can improve social welfare.

Evidence for the Efficacy of Plan-Making

Plan-making has been shown to increase follow-through on a wide range of beneficial behaviors including exercise (Milne, Orbell, & Sheeran, 2002), dieting (Achtziger, Gollwitzer, & Sheeran, 2008) and test preparation (Bayer & Gollwitzer, 2007). Below we summarize several large-scale field experiments that demonstrate the power of plan-making to influence socially meaningful behaviors on a large scale.

Consider the impact of plan-making as a tool for mobilizing citizens to vote. In the United States hundreds of millions of dollars are spent encouraging citizens to vote each election cycle. Increasing participation affects who wins a given election contest, and it also affects which groups of citizens have the most influence over legislation. Nickerson and Rogers (2010) randomly assigned 287,000 people during the 2008 Democratic Primary election in Pennsylvania to one of several experimental groups. Those in the *control* group were not contacted. Those in the *standard* group were called and were a) reminded of the upcoming election, b) encouraged to vote, and c) asked if they intended to vote. Finally, those in the *plan-making* group were called, run through the same script as those in the *standard* group, and asked three additional plan-making questions: *when* they would vote, *how* they would get to their polling place, and *where* would they be coming from when they went to vote. Because voting records are public, the researchers assessed actual voting in the election. The *standard* call increased turnout by 2.0 percentage points relative to the *control* group, while the *plan-making* call boosted turnout by 4.1 percentage points relative to the *control* group. In short, adding three simple plan-making questions made the *plan-making* call more than twice as effective as the *standard* call. Further analyses suggested that plan-making was particularly effective because of its powerful impact on those citizens who had not already developed a plan for getting to their polling place; citizens who lived without other eligible voters were the least likely to have previously developed a voting plan and were therefore the most responsive to the plan-making intervention.

Plan-making has also been shown to alter important health behaviors. Consider two large-scale plan-making field experiments conducted in collaboration with Evive Health, a company that sends the employees of its client corporations reminder mailings when they are due to receive immunizations and medical exams. The first experiment involved encouraging employees to receive flu shots (Milkman, Beshears, Choi, Laibson, & Madrian, 2011). Seasonal influenza leads to more than 30,000 hospitalizations and more than 25,000 deaths in the United States each year (Thompson et al., 2004; Thompson et al., 2009). However, the frequency of these adverse incidents could be greatly reduced by increasing influenza vaccination rates – flu

shots are widely available, inexpensive, and effective. Thousands of employees from a Mid-western company received mailings encouraging them to receive free flu shots, which were offered at a variety of on-site work clinics. Each mailing provided details about the date(s), time(s) and location of the clinic relevant to the employee to whom it was addressed. Employees were randomly assigned to one of two experimental conditions. Those in a *control* condition received a mailing with only the personalized clinic information described above; those in the *plan-making* condition also received a prompt to make a plan by writing down the date and time when they intended to attend a clinic – in a box printed on the mailing. Clinic attendance sheets were used to track the receipt of flu shots. This subtle plan-making prompt costlessly increased flu shot uptake from 33 percent of targets in the *control* condition to 37 percent in the *plan-making* condition. Further analysis revealed that the prompt was most effective for the subset of employees whose on-site flu shot clinics were only open for a single day, as opposed to three or five days. For this population there was little margin for error – the window of opportunity to receive a flu shot was fleeting, making failure to follow through especially costly. In this subpopulation, the planning prompt increased flu shot take-up from 30% to 38%, suggesting that plan-making interventions may be most potent when there is a narrow window of opportunity for achieving a given goal.

In the second experiment with Evive, thousands of employees overdue for a colonoscopy received a mailing encouraging them to receive this procedure (Beshears, Choi, Laibson, Madrian, & Milkman, 2011). Colon cancer is the second leading cause of cancer death in the United States, resulting in approximately 50,000 fatalities per year, and 38% of these deaths could be prevented each year if all those advised to receive colonoscopies complied. The mailings provided personalized details about the cost of a colonoscopy and how to schedule an appointment. They also included a yellow sticky note affixed to the top right-hand corner, which recipients were prompted to use as a reminder to schedule and keep their colonoscopy appointment. For those randomly assigned to the *plan-making* condition, this yellow note also included a plan-making prompt with blank lines on which employees could write down when and with whom their colonoscopy appointment would take place. For those randomly assigned to a *control* condition, the yellow note was blank. Approximately seven months after these reminders were mailed, 6.2% of employees who received the *control* mailing had received a colonoscopy, while 7.2% of employees who received the *plan-making* mailing had received a colonoscopy. Increasing colonoscopy take-up from 6.2% to 7.2% would be expected to save 271 life-years for every 100,000 people who national guidelines indicate should receive a colonoscopy (Zauber et al., 2008). Further, the *plan-making* mailer's impact was most potent among the sub-populations predicted to be the most at risk of forgetfulness, populations like older adults and those who did not comply with previous reminders.

Making the Best-Laid Plans Better

We have described several studies demonstrating that plan-making can dramatically increase people's follow-through on important behaviors. But when is plan-making most likely to be effective, and how can plan-making be made even more powerful? Table 1 summarizes a set of key takeaways from the many studies exploring when and how the power of plan-making can be maximized (see Beshears et al., 2011; Gollwitzer & Sheeran, 2006b; Milkman et al., 2011; Nickerson & Rogers, 2009).

*****[TABLE 1 ABOUT HERE]*****

Conclusion

Taken together, the research reviewed here suggests that prompting plan-making can increase the impact of policies designed to bolster individuals' follow-through on beneficial, but under-performed, behaviors. An extra benefit of plan-making prompts is that they can often be added to existing messaging aimed at changing behavior at zero marginal cost. Plan-making is just one of many tools in behavioral scientists' toolbox for facilitating behavior change, but we argue it is an often overlooked and cost effective one. In light of the widely-documented effectiveness of plan-making, it is somewhat puzzling that plan-making has not been more broadly adopted by policy-makers. While there are doubtless many reasons for this underutilization, two seem particularly likely.

First, much of the discussion about "nudges" has occurred between policy-makers and economists, while research on plan-making has been conducted predominantly by cognitive and social psychologists. A lack of cross-discipline communication likely slowed the spread of knowledge about this powerful behavioral lever. This is unfortunate, as evidenced by the promise of the plan-making interventions described above. It is also indicative of a larger problem to which *Behavioral Science and Policy* offers a promising solution: many disciplines within behavioral science produce research with significant implications for policy, but not all disciplines are equally effective at disseminating this knowledge to those who shape policy.

The second reason we suspect plan-making has not been on the radar of those who influence policy is that most plan-making research published prior to 2010 suffered from one or more of the following limitations with regard to external validity: (a) using only undergraduate college students as participants; (b) including very small samples of participants; and (c) examining outcomes that are not of specific policy relevance. While these features are not threats to the legitimacy or rigor of past plan-making research, they likely limit its perceived credibility and applicability in the eyes of those who shape policy.

Large-scale, natural field experiments studying the impact of psychologically-informed interventions – such as plan-making – on behavior can help psychology influence policy. From the perspective of basic behavioral science, such research can help establish the robustness of behavioral phenomena and has the potential to unearth important moderators that might be difficult to explore in laboratory settings. For those interested in societal change, this type of research can deepen our understanding of the causes of social problems, while also generating scalable, cost-effective interventions with the ability to help people make better choices.

Table 1.

Plan-making will be most potent when...	Because plan-making...
...the target already intends to accomplish the goal.	...facilitates follow-through on pre-existing intentions.
...the plan is stated concretely.	...embeds the plan in memory so that when a concrete cue (e.g., where, when) arises, it triggers a recollection of the goal intention.
...the plan is stated publicly.	...enhances commitment when declared to others.
...the planning involves thinking in detail about how to overcome specific obstacles.	...fosters the development of strategies to overcome obstacles and makes those strategies accessible when they are most needed.
...the target has not <i>already</i> made a plan.	...is redundant for people who have already formed plans.
...fulfilling the goal is relatively complicated, with at least a few obstacles.	...helps people follow through on intentions that they otherwise would struggle to fulfill.
...there are precise, unique moments when the implementation behaviors must be initiated.	...works best when the initiation of the plan is cognitively linked to a specific situation or moment.
...there are limited time windows in which to perform the implementation behaviors.	...increases the likelihood of initiating specific behaviors when they are cognitively linked to specific times.
...the target is at high risk of forgetfulness.	...is most valuable to individuals who are most in need of follow-through aids (e.g., the elderly and those who have been non-responsive to previous reminders)..

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