

# GETTING THE RICH AND POWERFUL TO GIVE

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## Abstract

What motivates the rich and powerful to exhibit generosity? We explore this important question in a large field experiment. We solicit donations from 32,174 alumni of an Ivy League university, including thousands of rich and powerful alumni. Consistent with past psychology research, we find that the rich and powerful respond dramatically, and differently than others, to being given a sense of agency over the use of donated funds. Gifts from rich and powerful alumni increase by 200-300 percent when they are given a sense of agency. Results suggest that motivating the rich and powerful to act may require tailored interventions.

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What motivates the decisions of the rich and powerful? This is a fundamental question about human behavior with considerable policy relevance. The policy relevance of understanding the motives of the rich and powerful is readily apparent: the rich and powerful have the resources and influence to dramatically affect society.<sup>1</sup> High-SES individuals have the capacity to benefit others by funding the government through honest tax reporting (see, e.g., [Cox 1984](#)), affecting elections and government policies through donations and lobbying (see, e.g., [Gilens and Page 2014](#)), and privately providing public goods through charitable gifts (the focus of this paper).

An open question is whether the rich and powerful respond to the same psychological forces that motivate others. If the rich and powerful are motivated by the same forces as others, then the large literature examining behavioral forces that shift individuals' choices on average may be sufficient to explain the motivations of the rich and powerful. If the rich and powerful respond to different behavioral interventions than other populations, however, this finding would invite additional work exploring the ways in which high-SES individuals differ from the rest of society.<sup>2</sup>

We investigate what motivates the rich and powerful in the context of charitable giving. We focus on charitable giving for four related reasons. First, charitable giving is important in its own right: charitable giving accounts for over 2 percent of GDP ([Giving USA 2015](#)), and over two-thirds of households in the United States give to charity each year. Second, studies of charitable giving offer general insights about the provision of public goods and prosocial behavior. Third, charitable giving has proven a fertile environment for the study of behavioral phenomena, making it a natural setting in which to explore behavioral forces affecting the rich and powerful.<sup>3</sup> Fourth, the large literature in both psychology and economics devoted to studying charitable giving has focused primarily on giving by the typical, rank-and-file donor (for overviews, see [Andreoni 2006](#); [List 2011](#); and [Andreoni and Payne 2013](#)); however, charitable donations by the rich and powerful make up a disproportionately

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<sup>1</sup>Over one-third of wealth and around one-fifth of income in the U.S. is held by the top one percent of individuals ([Atkinson et al. 2011](#); [Bricker et al. 2016](#)).

<sup>2</sup>See [Mullainathan and Shafir \(2013\)](#) for similar research about individuals at the opposite end of the socioeconomic spectrum.

<sup>3</sup>See impressive work in charitable giving exploring social pressure ([Landry et al. 2006](#); [Landry et al. 2010](#); [Meer 2011](#); [Meer and Rosen 2011](#); [DellaVigna et al. 2012](#); [Andreoni et al. 2017a](#)); information about others giving, including seed money ([List and Lucking-Reiley 2002](#)), matching gifts ([Karlan and List 2007](#)), previous donations ([Frey and Meier 2004](#); [Shang and Croson 2009](#)), and announcements of support ([Kessler 2017](#)); identity ([Gneezy et al. 2012b](#); [Kessler and Milkman 2016](#)); gift exchange ([Falk 2007](#)); social recognition ([Karlan and McConnell 2014](#)); pivotal donations ([Gee and Schrek 2015](#)); habit formation ([Meer 2013](#)); consistency ([Gneezy et al. 2012a](#)); and shared social responsibility ([Gneezy et al. 2010](#)).

large fraction of total giving in the United States.<sup>4</sup> And there is evidence that giving from the rich could be even higher than it is now; high-income households donate a far smaller percentage of their income to charity than lower-income households (James III and Sharpe 2007; Piff et al. 2010; List 2011) and generally exhibit less generosity than others.<sup>5</sup> Despite the importance of donations from wealthy individuals, there has been relatively little research on charitable giving in this sub-population. This paper aims to fill this relative void.<sup>6</sup>

In particular, we explore the impact of giving potential donors a sense of agency over the use of their donated funds and specifically examine whether the rich and powerful respond differentially to this sense of agency than others. Previous research has highlighted the importance individuals place on agency (Bandura 2000, 2009) and has shown its effect on charitable behavior in certain settings. While agency is not always associated with increased giving (see Butera and Houser 2016), donors do give significantly larger donations when they have the option to direct their gift to a specific college within a university (Eckel et al. 2017) or to direct their gift to government organizations that support specific causes (Li et al. 2015), and people exhibit increased neural activity in the pleasure centers of the brain when they are given the option to donate rather than forced to make transfers to others (Harbaugh et al. 2007).<sup>7</sup> Agency may be especially important to the rich and powerful. Wealth is associated with feelings of independence and autonomy and has been theorized to increase the extent to which people focus on their own goals (Kraus et al. 2012). Emphasizing personal goals rather than shared goals in charitable appeals has been shown to particularly encourage high-SES individuals to give or to give more (Whillans et al. 2017). Similarly, positions

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<sup>4</sup>For example, the top 3 percent of earners make more than 35 percent of charitable donations reported on tax returns (Congressional Budget Office 2011). Other estimates suggest that over 56 percent of donations come from the top 2.3 percent of households (The Center on Philanthropy, Indiana University 2007).

There is also evidence of a strong positive correlation between alumni who are firm executives and alumni giving (Ehrenberg and Smith 2003; Wunnava and Okunade 2013).

<sup>5</sup>People who self-identify as high-SES give less to others, and individuals who are primed to think of themselves as being high-SES exhibit less support for charity (Piff et al. 2010). Miller et al. (2015) find that children from wealthier families gave less generously than those from less wealthy families. Erkal et al. (2011) find that participants who earn money from winning a tournament are less likely to give than those who come in second and earn less.

<sup>6</sup>Concurrent work includes Andreoni et al. (2017b) on whether the rich and poor differ in ethical behavior, in particular how they respond to receiving mis-delivered mail with visible cash inside; Levin et al. (2016) on how high capacity donors respond to a charitable giving appeals over the course of multiple years; and Smeets et al. (2015) on how millionaires respond in dictator games and ultimatum games with the poor and with other millionaires.

<sup>7</sup>The importance of agency has also been demonstrated in other domains. People are more likely to comply with paying taxes and exert effort towards improving future outcomes (e.g. savings and health) when they believe in their own ability to influence their actions and personal circumstances (Ghosal et al. 2015; Lamberton et al. 2014).

of advantage shift the psychology of an actor towards an agentic orientation (Rucker et al. 2016), increasing the value she places on achieving her own goals, and powerful people have been shown to focus more on their own goals than others (Fiske 1993; Lee and Tiedens 2001; Keltner et al. 2003).

We designed and conducted a large field experiment that solicited 32,174 alumni of an Ivy League university for donations. Alumni in our experiment were randomly assigned to either a control group that received a standard donation solicitation or a treatment group that received the same mailing except with the option to express their charitable giving priorities on the reply card—giving those alumni in the treatment group a sense of agency. We say the treatment gave alumni a *sense of agency*, rather than agency, since it allowed a donor to have a voice about the donated funds rather than direct control.<sup>8</sup> By asking alumni in the treatment group to express their charitable giving priorities, our treatment implicitly suggested that their voices, and specifically the priorities they identified, mattered to the university. While not explicitly stated on the mailing, alumni might infer that their response would be associated with an “earmark” of their donations or otherwise impact the allocations of resources. In reality, donations were not earmarked by the university and were treated as unrestricted dollars, regardless of what donors indicated.<sup>9</sup> For this reason, we refer to our treatment as instilling a sense of agency. To investigate whether the rich and powerful responded differently to this sense of agency, we classified alumni as rich if they lived in the highest-earning U.S. census tracts and classified them as powerful if their job title included being on the board of directors of a firm. This allows us to study 1,609 rich alumni and 1,177 powerful alumni, with relatively little overlap between groups.

We find that providing alumni with a sense of agency over the use of donated funds significantly and meaningfully increases the amount donated by the richest alumni by 221 percent and by the most powerful alumni by 263 percent. These large effects among the rich

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<sup>8</sup>The idea that giving actors voice in a process may affect their attitudes and behaviors links to a literature on procedural justice (see Leventhal 1980 and Lind and Tyler 1988; see Kessler and Leider 2016 for evidence in economics).

<sup>9</sup>This lack of direct control is typical of agentic appeals. In fact, in many charitable giving contexts even a formal earmark of funds is unlikely to impact charitable allocation decisions. Many fundraising organizations (including the university we partnered with for this study) have additional resources that are fungible across priorities. Consequently, if a donation is directed toward a specific priority, these charities can simply reallocate an equivalent amount of unrestricted funds away from that designated priority, leaving the total amount of funds allocated to that priority unchanged. Earmarking or directing donations is only binding in settings where earmarked donations are larger than the intended budget for the priority or the fundraising organization is limited in its ability to reallocate other funds. All of this said, it is not particularly salient to potential donors that money donated to a charity is fungible across priorities, and the use of directed giving to allow donors to target their gifts remains prevalent in the fundraising world.



and powerful are statistically significantly different from those detected among less affluent and less powerful alumni, who do not respond meaningfully to the agency treatment. We find that our treatment effect arises on the intensive margin, increasing the amount donated conditional on donating, rather than by encouraging more donors. For those who donate, the treatment increases the amount donated by 134 percent for the richest alumni over an average baseline donation of \$192 by rich alumni who did not receive treatment and 352 percent for the powerful alumni over an average baseline donation of \$158 by powerful alumni who did not receive treatment. To confirm that our findings are not driven by large outlier donations, we perform various robustness tests and show that our results survive one-sided winsorization of donation amounts at the 99th, 95th, and 90th percentiles of positive donations.<sup>10</sup> We also show that our findings are robust to more inclusive classifications of alumni as rich or powerful.

Our results suggest that the rich and powerful are indeed different from others and that these differences arise even among a relatively homogenous group: the alumni of a prestigious Ivy League university. These findings highlight that tailored interventions may be necessary to motivate this important sub-population. Further, they underscore that additional research on how the rich and powerful differ from others—and how this affects their charitable giving decisions, other prosocial behaviors (in the spirit of [Andreoni et al. 2017b](#)), and choices more generally—is warranted and would be valuable. As discussed in the conclusion, our results also provide practical advice for practitioners seeking donations from the rich and powerful.

# 1 Experimental Design

## 1.1 Sample and Randomization

We partnered with the alumni fundraising arm of the University of Pennsylvania (the Penn Fund), which solicits donations from alumni on a regular basis throughout the year. For our experiment, the Penn Fund mailed a donation solicitation to 32,174 alumni who had previously donated to the university.<sup>11</sup> The mailing identified four undergraduate educational

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<sup>10</sup>Our results are also robust to the inclusion of numerous individual-level controls, as we should expect given that our treatments are balanced on observables across all participants and among the groups of rich and powerful alumni.

<sup>11</sup>We begin with a full sample of 35,796 alumni who were mailed donation solicitation letters. Because we are interested in responses to agency by rich alumni, we exclude 2,361 alumni for whom we are unable to identify their census tract-level median household income. We further exclude 1,261 alumni who graduated in the past year since they are subject to a high number of concurrent donation solicitations from our partner organization. Of these 1,261 excluded alumni, just four individuals made a donation in response to our donation mailing, representing only 0.5 percent of alumni donations that we observe.

FIG. 1.—Control and Agency Mailing

**The Penn Fund**  
Advancing Undergraduate Education

Annual alumni giving through The Penn Fund directly supports these priorities of undergraduate education:

☒ Student Financial Aid  
☒ Student and Academic life  
☒ Residential Life  
☒ Special Campus Initiatives

Yes! I would like to support undergraduate education with a gift to The Penn Fund of:

☐ XXXX ☐ XXXX ☐ XXXX ☐ XXXX  
☐ Other \_\_\_\_\_

Payment Options  
ONLINE ☐ [www.alumni.upenn.edu/pennfund](http://www.alumni.upenn.edu/pennfund)  
CHECK ☐ Trustees of the University of Pennsylvania  
CREDIT ☐ Visa ☐ MasterCard ☐ American Express ☐ Discover

Please contact The Penn Fund at 800-237-2655 or go online to make a recurring credit card gift.

CREDIT CARD NUMBER \_\_\_\_\_ EXP. DATE \_\_\_\_\_  
Month Year

☐ My company's matching gift form is enclosed ☐ I have already included Penn in my estate plans and have not previously notified you.

Name  
Spouse Name  
Address 1  
Address 2  
Address 3  
Address 4  
City State Zip  
Country  
Phone  
Email

The University of Pennsylvania automatically applies gift credit to Penn spouses / partners. Please update the information above with any changes. Thank you.

Emplid  
Spouse Emplid  
Appeal Code

**The Penn Fund**  
Advancing Undergraduate Education

Annual alumni giving through The Penn Fund directly supports these priorities of undergraduate education:

Tell us which is most important to you.  
☒ (Please check one box)

☐ Student Financial Aid  
☐ Student and Academic life  
☐ Residential Life  
☐ Special Campus Initiatives

Yes! I would like to support undergraduate education with a gift to The Penn Fund of:

☐ XXXX ☐ XXXX ☐ XXXX ☐ XXXX  
☐ Other \_\_\_\_\_

Payment Options  
ONLINE ☐ [www.alumni.upenn.edu/pennfund](http://www.alumni.upenn.edu/pennfund)  
CHECK ☐ Trustees of the University of Pennsylvania  
CREDIT ☐ Visa ☐ MasterCard ☐ American Express ☐ Discover

Please contact The Penn Fund at 800-237-2655 or go online to make a recurring credit card gift.

CREDIT CARD NUMBER \_\_\_\_\_ EXP. DATE \_\_\_\_\_  
Month Year

☐ My company's matching gift form is enclosed ☐ I have already included Penn in my estate plans and have not previously notified you.

Name  
Spouse Name  
Address 1  
Address 2  
Address 3  
Address 4  
City State Zip  
Country  
Phone  
Email

The University of Pennsylvania automatically applies gift credit to Penn spouses / partners. Please update the information above with any changes. Thank you.

Emplid  
Spouse Emplid  
Appeal Code

NOTE.— This figure shows the *control mailing* (top) and *agency mailing* (bottom) used in our experiment. Additional appeal information appeared above this reply card and was identical across the two treatments. The address information (displayed on the right) varied by individual recipient, as did the suggested donation amounts (denoted by “XXXX”), which were set by The Penn Fund based on the size of the most recent donation by the alumnus.

priorities supported through annual alumni giving: *student financial aid*, *student and academic life*, *residential life*, and *special campus initiatives*. Recipients were randomly assigned to receive one of two different mailings at the end of 2013. The content of the solicitation letter was identical in both mailings with only the left side of the reply card varying across experimental conditions. That the intervention only appears on the reply card, which people may only inspect if they are intending to make a donation, suggests that we may primarily see any effect of the intervention on the size of donations made conditional on giving. We further discuss the implications of this design feature in the results section.

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Our results are robust to the inclusion of this subset of recent graduates.

As illustrated in Figure 1, the *control mailing* simply listed the four aforementioned priorities as objectives supported by alumni giving with a checked box next to each priority. The *agency mailing* was identical to the control mailing, but the reply card additionally asked alumni to indicate which one of the four priorities was most important to them by marking an unchecked box next to that priority. The two mailings otherwise conformed to the typical design of donation solicitations sent by the Penn Fund.<sup>12</sup>

TABLE 1  
SUMMARY STATISTICS

	All Donors		Rich		Powerful	
	Agency	Control	Agency	Control	Agency	Control
<i>Panel A. Alumni Characteristics (Balance)</i>						
Years Since Graduation	28.40 (17.97)	28.38 (17.91)	28.35 (15.21)	28.85 (14.97)	28.66 (12.82)	28.72 (12.98)
Years Since Last Donation	3.62 (2.56)	3.62 (2.56)	3.37 (2.50)	3.40 (2.54)	3.27 (2.50)	3.46 (2.56)
Average Past Donation	312.00 (2,208.40)	325.90 (2,994.50)	736.81 (3,758.50)	831.40 (3,928.63)	1,004.65 (5,968.28)	1,001.34 (6,224.59)
Race/Ethnicity						
White	0.56	0.56	0.61	0.64	0.64	0.67
Black	0.04	0.04	0.01	0.01	0.03	0.04
Hispanic	0.02	0.02	0.02	0.02	0.02	0.02
Asian	0.09	0.09	0.08	0.07	0.08	0.07
Other <sup>†</sup>	0.28	0.28	0.28	0.27	0.24	0.21
Male	0.54	0.54	0.56	0.54	0.72	0.70
<i>Panel B. Donation Measures (Treatment Effect)</i>						
Amount Donated	6.82 (76.01)	5.87 (64.59)	17.53 (131.12)	5.46 (49.18)	13.49 (129.92)	3.72 (33.51)
Amount Donated   > 0	286.23 (403.63)	235.16 (336.83)	462.93 (506.11)	191.67 (226.46)	713.64 (656.54)	157.94 (158.33)
Probability of Giving	2.38	2.50	3.79	2.85	1.89	2.35
Number of Participants	16,031	16,143	766	843	582	595

NOTE.—This table presents descriptive statistics for the full sample of participants as well as restricted samples of the richest five percent of participants, as measured by the median income of the census tract in which they live, and the most powerful participants, as defined using job titles. For each sample, statistics are presented separately for participants who received the *agency mailing* and those who received the *control mailing*. All table entries represent sample means or standard deviations (in parentheses). The count of participants in the treatment and control groups are listed in the final row.

<sup>†</sup>Other includes alumni self-designated as Bi/Multi-racial or American Indian/Alaska Native as well as alumni whose race/ethnicity is unknown or not specified.

We received information on the gender, race, ethnicity, year of graduation, mailing address, and history of past donations to the University for each mailing recipient; we addi-

<sup>12</sup>Donation solicitations by the Penn Fund, including the one used in our study, typically contain a message encouraging support, facts about the university, and details on how gifts are recognized.

tionally received the job title for all mailing recipients for whom it was available (62% of alumni). Summary statistics for these characteristics are provided in Table 1, with the top panel of the table showing that the control and treatment samples are similar across key observables for the full sample of alumni, as well as for the subsets of rich and powerful alumni we study, as defined in the next section.

## 1.2 Alumni Classification as Rich or Powerful

To assess whether providing individuals with a sense of agency differentially affects donation behavior among rich and powerful potential donors, we identify alumni in our sample as being either rich or not and, separately, as powerful or not.

We classify individuals as rich based on the median household income reported for their census tract by the American Community Survey (ACS).<sup>13</sup> Because the mailings were sent out at the end of 2013, we focus on census tract-level median household incomes as reported in the 2013 ACS. Specifically, we classify alumni as rich if they are in the top five percent of alumni studied based on the median household income in their census tract and note that our results are robust to more or less stringent definitions of rich and to classifying alumni as rich using median household income at the ZIP code-level. The median household income cutoff for the richest five percent in our sample is \$190,375.<sup>14</sup> By definition, approximately five percent of our participants are classified as rich. Appendix Figure A.1.1 shows maps of four major metropolitan areas in the U.S., which indicate where alumni in the sample live and highlight where those alumni classified as rich live.<sup>15</sup> The other 95 percent of alumni not classified as rich live in census tracts with median household incomes that span a wide range of income levels, as seen in Appendix Figure A.1.2, which plots the distribution of median household incomes across census tracts for rich alumni and other alumni.

<sup>13</sup>The ACS is a statistical survey by the U.S. Census Bureau administered on an ongoing monthly basis that provides demographic, housing, social, and economic information for U.S. households.

<sup>14</sup>In the census tracts that we classify as having rich alumni, even those at the lower end of the income distribution are relatively well off. Across these tracts, the median of the 20th percentile of income is \$93,125, which is still quite high relative to the U.S. population. Consistent with University of Pennsylvania alumni being relatively rich, \$190,375 lies between the 1st and 5th percentile of U.S. household incomes (Saez 2015), and only 0.07 percent of U.S. households live in census tracts with median household incomes of \$190,375 or higher (2013 ACS). Nevertheless, many alumni in our sample live in census tracts with much lower median incomes, as can be seen in Appendix Figure A.1.2.

<sup>15</sup>For instance, in the New York area, census tracts for the richest five percent of alumni are located in areas ranging from the Upper East Side of Manhattan to Greenwich, Connecticut. In the San Francisco area, tracts are located in the city as well as in surrounding areas, such as Atherton, Menlo Park and Palo Alto. Other census tracts that are home to the richest five percent of alumni in our sample include those located in Woodley Park as well as Chevy Chase and Potomac, Maryland for the D.C. area and those located in Weston and Brookline for the Boston area.

We use the fact that rich individuals are more likely to reside in census tracts with higher median household incomes to identify rich alumni, but our reliance on income at the census tract-level only allows us to proxy for an individual’s household income and wealth.<sup>16</sup> To look beyond the rich and to diversify our classifications beyond census tract-level income, we also consider a second classification of individuals who, based on psychology research, we would theoretically expect to respond similarly to having a sense of agency—powerful alumni.

To classify individuals as powerful, we exploit data on reported job titles for the alumni in our experiment. Focusing on occupations allows us to take advantage of the fact that many jobs exist within organizational hierarchies in which it is relatively straightforward to identify who has power.<sup>17</sup> We classify individuals as powerful if they report being on the board of directors of a firm—the highest-level position in internal firm hierarchies (a classification strategy inspired by [Baker et al. 1994](#)).<sup>18</sup>

Of the 32,174 alumni who received a donation solicitation in our experiment, 1,609 individuals (5.00 percent of alumni by definition) were classified as rich and 1,177 individuals (3.66 percent) were classified as powerful. Less than 0.4 percent ( $N = 116$ ) of alumni in the sample were classified as both rich and powerful, highlighting the fact that we are observing different individuals when we look across the two groups.<sup>19</sup> Table 1 presents summary statistics by experimental condition for the sub-sample of alumni classified as rich (Columns 3-4) and the sub-sample classified as powerful (Columns 5-6) and shows that our sample is

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<sup>16</sup>Our agreement with the Penn Fund does not allow us to use mailing addresses to identify the income or wealth of individual households (e.g., we are explicitly prohibited from using addresses to estimate house values). However, living in a high-income census tract suggests either high income or high wealth and so makes for a particularly useful proxy for being rich.

<sup>17</sup>Supporting the notion that people at the top of internal firm hierarchies are likely to feel powerful, manipulating roles so that laboratory participants are assigned as a boss in a boss-employee relationship has been shown to be a highly effective and externally valid method of inducing feelings of power ([Kipnis 1972](#); [Kipnis et al. 1976](#); [Anderson and Berdahl 2002](#); [Nikiforakis et al. 2014](#); see [Galinsky et al. 2015](#) for a general discussion).

<sup>18</sup>Using personnel data on over 275 job titles held by nearly 70,000 employees at a mid-size firm, [Baker et al. \(1994\)](#) construct an internal firm hierarchy based on authority and place in the path of decision making. The top level of the hierarchy is a single position held by the Chairman-CEO. We classify any individual holding the title of member of the board of directors as being powerful. Because there may be ambiguity in whether the board of directors or the CEO has greater power, we confirm in Appendix Table A.1.1 that our results hold if we extend our classification to also include individuals who report being the CEO of a firm as powerful.

<sup>19</sup>While the overlap between alumni classified as rich and those classified as powerful is small, powerful alumni nonetheless live in significantly richer census tracts than other alumni. The median household income of census tracts in which powerful alumni live is on average \$15,665 higher than that of census tracts in which other alumni live.

balanced across conditions on observables within each classification scheme and overall.

## 2 Experimental Results

We analyze the results of our experiment first among alumni classified as rich and then among alumni classified as powerful. In each case, we compare the treatment effects we find among the rich or powerful to the treatment effects identified in the rest of our alumni sample in order to make clear that rich and powerful alumni respond differently to the intervention than the rest of the sample.

For both the rich and the powerful, we consider three main outcomes of interest: (1) the total dollar amount donated, including zeros for those who do not give, (2) the probability that an alumnus gives (i.e., the extensive margin), and (3) the dollar amount donated conditional on donating (i.e., the intensive margin). Decomposing the total effect along the extensive and intensive margins of donation is of particular interest given the design of our intervention. In our setting, alumni were all mailed an identical donation solicitation letter, and our intervention appeared only on the donation reply card. Because alumni may only examine the reply card carefully if they are intending to make a donation, our intervention may have been less likely to affect the decision of whether to give and more likely to affect the amount donated among those who gave.<sup>20</sup>

### 2.1 Agency Effects Among the Rich

We find that rich alumni make significantly larger donations in response to the agency mailing than the control mailing, with no corresponding boost from the agency mailing among those who are less well-off. The effect of the agency mailing on giving and how it interacts with being rich is summarized in Table 2. Each column reports agency effects from a baseline specification that includes only the main effect of the agency treatment, the main effect of being rich, and their interaction. Specifically, we estimate OLS regressions of the following form:

$$y_i = \alpha + \beta Agency_i + \theta Rich_i + \eta Agency_i \times Rich_i + \epsilon_i, \quad (1)$$

where  $y_i$  is one of our three main outcomes of interest for a given alumnus,  $i$ .  $Agency_i$  is an indicator variable denoting whether the alumnus received the agency mailing,  $Rich_i$  is an

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<sup>20</sup>More generally, the manner in which donations are solicited may result in differential effects on the extensive and intensive margins of donation. For instance, soliciting donors in-person or by phone rather than by mail may affect the decision to donate but not the amount donated, conditional on donating, particularly if individuals donate to charities in order to avoid the solicitor’s disapproval (see, for example, [Meer and Rosen \(2011\)](#)).

indicator variable denoting whether an alumnus is classified as being among the richest five percent of alumni, as described in Section 1.2, and  $Agency_i \times Rich_i$  is the interaction of these two variables. The coefficient on the interaction,  $\eta$ , measures the difference-in-differences of the agency mailing by rich alumni relative to the effect of the same treatment by alumni not classified as rich.

As the first column of Table 2 shows, total donations by the richest five percent of alumni who received the agency mailing were, on average, \$12.07 higher than those of alumni who received the control mailing (i.e., \$0.39 + \$11.68), representing a 221 percent increase in giving over the average donation by rich alumni who received the control mailing. In contrast to the rich alumni, we find no effect of the agency mailing on the other 95 percent of alumni

TABLE 2  
EFFECT OF AGENCY ON AMOUNT DONATED BY RICH VERSUS OTHERS

	(1) Amount Donated (\$)	(2) Probability of Giving (%)	(3) Conditional Amount Donated (\$)
RICH	−0.44 (2.49)	0.37 (0.55)	−46.25 (77.78)
AGENCY	0.39 (0.81)	−0.16 (0.18)	33.80 (27.33)
RICHXAGENCY	11.68*** (3.61)	1.10 (0.79)	237.47** (105.58)
Rich Control Mean	5.46	2.85	191.67
Others Control Mean	5.89	2.48	237.91
R-squared	0.001	0.000	0.014
N	32,174	32,174	785

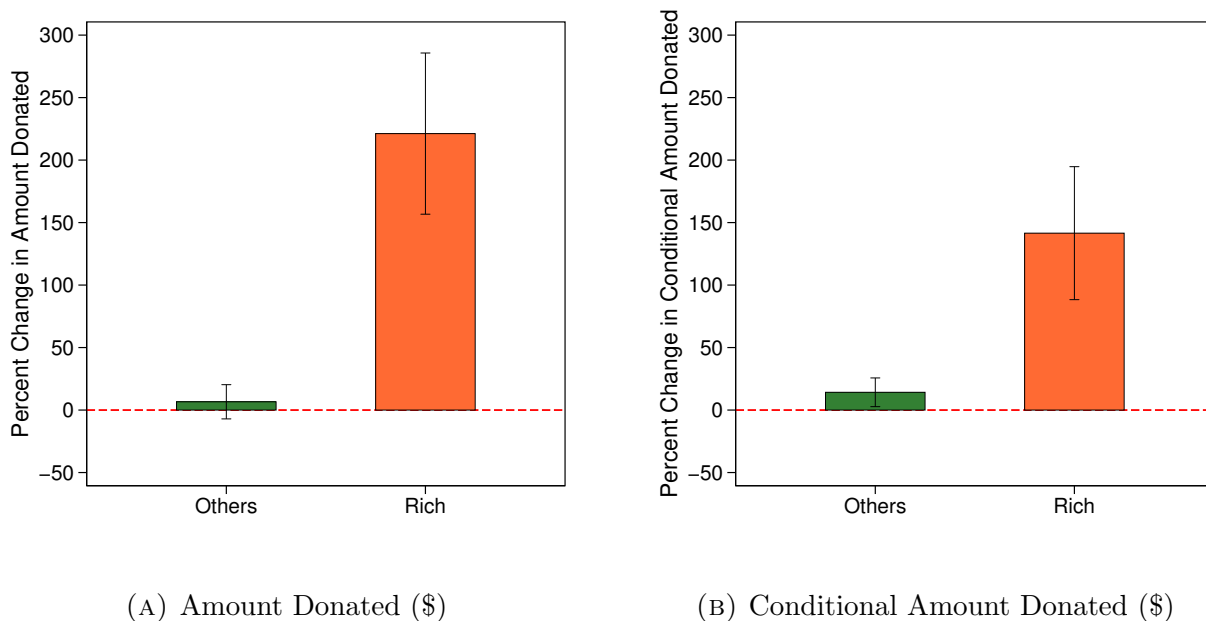
NOTE.—This table reports estimates of the effect of providing individuals with a sense of agency on (i) the total amount donated, (ii) the likelihood of giving, and (iii) the amount donated conditional on giving. Each column presents a separate regression. Column 1 reports estimates where the dependent variable is the total amount donated in response to the mailing with non-donors in the regression as zeros. Column 2 reports estimates from a linear probability model where the dependent variable is an indicator for whether the alumnus donated in response to the mailing. Column 3 reports estimates where the dependent variable is the total amount donated for the set of alumni who made a donation in response to the mailing ( $N = 785$ ). Coefficients are reported for an “Agency” indicator, denoting whether the alumnus received the agency mailing, a “Rich” indicator, denoting whether the alumnus is among the richest five percent of alumni as measured by the median household income in the census tract in which they live (i.e., census tract-level median household income greater than \$190,375), and the interaction of these two variables. The first two rows of the bottom panel report the mean amounts donated or likelihood of giving in response to the mailing by alumni in the control group among the richest five percent (“Rich”) and by alumni in the control group among the other 95 percent (“Others”). Significance levels 10%, 5%, and 1% are denoted by \*, \*\*, and \*\*\*, respectively.

The difference-in-differences is also statistically significant, demonstrating that the rich respond differently to the appeal than the rest of the sample. Panel A of Figure 2 summarizes



the effects of the agency mailing on the amount donated graphically and plots the implied percent increase in total donations from rich alumni and others estimated in Column 1 of Table 2.

FIG. 2.—Estimated Treatment Effect of Agency on Amount Donated by Rich versus Others



NOTE.— This figure provides estimates of the effect of receiving the *agency mailing* (treatment) on donation amount relative to receiving the *control mailing* by classification as rich. The estimates in each panel show the implied percent increase in total amount donated (Panel A) and conditional amount donated (Panel B) corresponding to the first and third column of Table 2 for the left and right panel, respectively. The estimated effects among the richest five percent of alumni, as measured by the median household income in the census tract in which they live (i.e., census tract-level median household income greater than \$190,375) are shown on the right of each panel. Standard error bars are shown around each mean.

Columns 2 and 3 report estimates along the extensive and intensive margins of donation. We find that there is no significant effect on the probability an alumnus makes a donation, but there is a large and significant effect on the conditional amount donated. Conditional on a gift being made, donations by the richest five percent of alumni who received the agency mailing were, on average, \$271.26 higher than those of alumni who received the control mailing (i.e.,  $\$33.80 + \$237.47$ ), representing a 142 percent increase in giving over the average donation by rich alumni who received the control mailing. Panel B of Figure 2 plots the implied percent increase in the conditional amount donated by rich alumni and others estimated in Column 3 of Table 2.

These findings are robust to the inclusion of individual-level covariates. Though we

TABLE 3  
EFFECT OF AGENCY ON AMOUNT DONATED BY RICH VERSUS OTHERS  
WITH VARYING CONTROLS

	(1)	(2)	(3)
<i>Panel A. Amount Donated (\$)</i>			
RICH	−0.44 (2.49)	−1.05 (2.50)	−1.77 (2.49)
AGENCY	0.39 (0.81)	0.38 (0.81)	0.35 (0.80)
RICHXAGENCY	11.68*** (3.61)	12.10*** (3.60)	12.20*** (3.59)
Demographic Controls		Y	Y
Past Giving Controls			Y
Rich Control Mean	5.46	5.46	5.46
Others Control Mean	5.89	5.89	5.89
R-squared	0.001	0.008	0.017
N	32,174	32,174	32,174
<i>Panel B. Conditional Amount Donated (\$)</i>			
RICH	−46.25 (77.78)	−69.32 (80.25)	−86.18 (71.87)
AGENCY	33.80 (27.33)	46.40 (28.44)	53.84** (25.49)
RICHXAGENCY	237.47** (105.58)	248.21** (108.53)	240.57** (97.85)
Demographic Controls		Y	Y
Past Giving Controls			Y
Rich Control Mean	191.67	191.67	191.67
Others Control Mean	237.91	237.91	237.91
R-squared	0.014	0.118	0.305
N	785	785	785

NOTE.—This table reports estimates of the effect of providing individuals with a sense of agency on the total amount donated with non-donors in the regression as zeros (Panel A) and the total amount donated for the set of alumni who made a donation ( $N = 785$ ) (Panel B). Each column presents a separate regression. Demographic controls include dummies for gender, ethnicity, and the number of years since graduation. Past giving controls include the average amount of the alumnus's donations to the Penn Fund over the past 7 years and dummies for the number of years since the alumnus's most recent donation. Coefficients are reported for an "Agency" indicator, denoting whether the alumnus received the agency mailing, a "Rich" indicator, denoting whether the alumnus is among the richest five percent of alumni as measured by the median household income in the census tract in which they live (i.e., census tract-level median household income greater than \$190,375), and the interaction of these two variables. The first two rows of the bottom panel report the mean amounts donated in response to the mailing by alumni in the control group among the richest five percent ("Rich") and by alumni in the control group among the other 95 percent ("Others"). Significance levels 10%, 5%, and 1% are denoted by \*, \*\*, and \*\*\*, respectively.

randomized participants into treatment groups using a random number generator and demographics are balanced across treatment and control, in Table 3, we add varying control variables to our estimates of the effect of the agency mailing on the total amount donated

TABLE 4  
EFFECT OF AGENCY ON WINSORIZED AMOUNT DONATED  
BY RICH VERSUS OTHERS

	Original Sample	Winsorization		
	(1)	(2) 99th Pctle.	(3) 95th Pctle.	(4) 90th Pctle.
<i>Panel A. Amount Donated (\$)</i>				
RICH	−0.44 (2.49)	−0.34 (2.36)	0.00 (2.02)	0.31 (1.46)
AGENCY	0.39 (0.81)	0.36 (0.76)	0.26 (0.65)	0.00 (0.47)
RICHXAGENCY	11.68*** (3.61)	11.71*** (3.42)	9.20*** (2.92)	6.47*** (2.11)
Rich Control Mean	5.46	5.46	5.46	4.92
Others Control Mean	5.89	5.80	5.45	4.61
R-squared	0.001	0.001	0.001	0.001
N	32,174	32,174	32,174	32,174
<i>Panel B. Conditional Amount Donated (\$)</i>				
RICH	−46.25 (77.78)	−42.29 (72.32)	−28.44 (58.64)	−13.28 (37.57)
AGENCY	33.80 (27.33)	32.09 (25.41)	26.82 (20.61)	13.13 (13.20)
RICHXAGENCY	237.47** (105.58)	239.18** (98.15)	175.48** (79.60)	114.81** (50.99)
Rich Control Mean	191.67	191.67	191.67	172.92
Others Control Mean	237.91	233.96	220.10	186.20
R-squared	0.014	0.017	0.015	0.015
N	785	785	785	785

NOTE.—This table reports estimates of the effect of providing individuals with a sense of agency on (winsorized) donations for all alumni including non-donors (Panel A) and for the subset of alumni who made a donation ( $N = 785$ ) (Panel B). Each column represents a separate regression. Coefficients are reported for an “Agency” indicator, denoting whether the alumnus received the agency mailing, a “Rich” indicator, denoting whether the alumnus is among the richest five percent of alumni as measured by the median household income in the census tract in which they live (i.e., census tract-level median household income greater than \$190,375), and the interaction of these two variables. Column 1 reports coefficient estimates using the observed amount donated by alumni, while columns 2-4 report coefficient estimates where the right tail of the distribution of donations has been winsorized. The total amount donated (Panel A.) and conditional amount donated (Panel B) are top-coded at the 99th percentile of positive donations (\$2000) for Column 2, at the 95th percentile of positive donations (\$1000) for Column 3, and at the 90th percentile of positive donations (\$550) for Column 4. The first two rows of the bottom panel report the mean amounts donated in response to the mailing by alumni in the control group among the richest five percent (“Rich”) and by other alumni in the control group (“Others”). Significance levels 10%, 5% and 1% are denoted by \*, \*\*, and \*\*\*, respectively.

(Panel A) and the conditional amount donated (Panel B) to account for any differences in individual-level characteristics between the two groups that might arise by chance.<sup>21</sup> As a baseline for comparison, the first column for each panel of Table 3 presents estimates of the treatment effect without controls and corresponds to Columns 1 and 3 of Table 2. The second column includes dummies for gender, ethnicity, and the number of years since graduation as demographic controls. The third column additionally includes dummies for the number of years since the last donation and a continuous measure of the average amount of the alumnus’s donations to the Penn Fund over the past 7 years as controls for their past donation history. The estimated effect of the agency mailing for the richest five percent of alumni as compared to the treatment effect for other alumni is highly significant and relatively stable across specifications.

A particular potential concern when analyzing rich donors, who have the capacity to make large gifts, is that our results could be driven by the presence of a small number of alumni who make very large donations. Since the average amount donated, conditional on making a donation, is less than \$300, a significant gift by even a single alumnus who received the agency mailing could lead to a spurious effect of the agency treatment on donation amounts. To address this concern, Table 4 reports estimates of our treatment effect under increasingly restrictive one-sided winsorization of donation amounts at the 99th, 95th, and 90th percentiles (\$2000, \$1000, and \$550, respectively) of positive donations (i.e., non-zero donations by alumni who gave). While the coefficient estimates reported in these columns are slightly smaller in magnitude than in our unwinsorized sample, they remain significant at each level of winsorization, suggesting that our findings are not driven by outlier donations. We further explore the distribution of gifts among donors in Subsection 2.3.

## 2.2 Agency Effects Among the Powerful

When we analyze powerful alumni, we find a similar pattern of effects to those reported above for rich alumni. Table 5 is the analogue to Table 2, demonstrating how the agency mailing differentially affects the donation behavior of powerful alumni versus others. As before, the table reports agency effects from estimating OLS regressions as follows:

$$y_i = \alpha + \beta Agency_i + \theta Powerful_i + \eta Agency_i \times Powerful_i + \epsilon_i, \quad (2)$$

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<sup>21</sup>Given that we find no effect of the agency mailing on the probability of giving, we do not include the extensive margin results in Table 3. These results are available in Appendix Table A.2.1 and show that the null effect on the extensive margin remains unchanged with the inclusion of individual-level covariates.

where  $y_i$  is one of our three main outcomes of interest for a given alumnus,  $i$ .  $Agency_i$  is an indicator variable denoting whether the alumnus received the agency mailing,  $Powerful_i$  is an indicator variable denoting whether an alumnus is classified as being powerful, as described in Section 1.2, and  $Agency_i \times Powerful_i$  is the interaction of these two variables. The coefficient on the interaction,  $\eta$ , measures the difference-in-differences of the agency mailing for powerful alumni relative to the effect of the same treatment for other alumni.

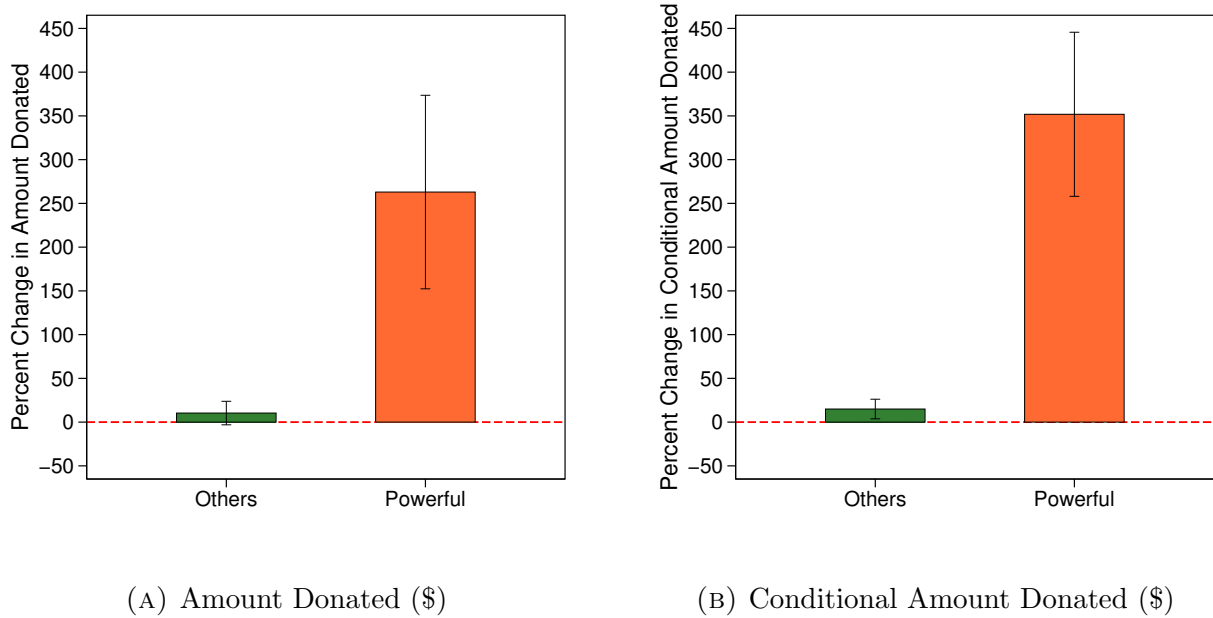
TABLE 5  
EFFECT OF AGENCY ON AMOUNT DONATED BY POWERFUL VERSUS OTHERS

	(1) Amount Donated (\$)	(2) Probability of Giving (%)	(3) Conditional Amount Donated (\$)
POWERFUL	-2.24 (2.95)	-0.15 (0.64)	-80.00 (99.99)
AGENCY	0.62 (0.80)	-0.10 (0.18)	35.61 (26.67)
POWERFULXAGENCY	9.16** (4.19)	-0.36 (0.92)	520.09*** (150.49)
Powerful Control Mean	3.72	2.35	157.94
Others Control Mean	5.95	2.50	237.94
R-squared	0.000	0.000	0.025
N	32,174	32,174	785

NOTE.—This table reports estimates of the effect of providing individuals with a sense of agency on (i) the total amount donated, (ii) the likelihood of giving, and (iii) the amount donated conditional on giving. Each column presents a separate regression. Column 1 reports estimates where the dependent variable is the total amount donated in response to the mailing with non-donors in the regression as zeros. Column 2 reports estimates from a linear probability model where the dependent variable is an indicator for whether the alumnus donated in response to the mailing. Column 3 reports estimates where the dependent variable is the total amount donated for the set of alumni who made a donation in response to the mailing ( $N = 785$ ). Coefficients are reported for an “Agency” indicator, denoting whether the alumnus received the agency mailing, a “Powerful” indicator, denoting whether the alumnus holds a powerful job title (on board of directors), and the interaction of these two variables. The first two rows of the bottom panel report the mean amounts donated or likelihood of giving in response to the mailing by powerful alumni in the control group (“Powerful”) and by other alumni in the control group (“Others”). Significance levels 10%, 5%, and 1% are denoted by \*, \*\*, and \*\*\*, respectively.

As the first column of Table 5 shows, donations by powerful alumni who received the agency mailing were, on average, \$9.78 higher than donations by powerful alumni who received the control mailing (i.e., \$0.62 + \$9.16), representing an increase of 263 percent in total donations from powerful alumni induced by the agency mailing. In addition, we find no effect of the agency mailing on other alumni. Panel A of Figure 3 summarizes the effects of the agency mailing graphically and plots the implied percent increase in the total amount donated from powerful alumni and others estimated in Column 1 of Table 5.

FIG. 3.—Estimated Treatment Effect of Agency on Amount Donated by Powerful versus Others



NOTE.— This figure provides estimates of the effect of receiving the *agency mailing* (treatment) on donation amount relative to receiving the *control mailing* by classification as powerful. The estimates in each panel show the implied percent increase in total amount donated (Panel A) and conditional amount donated (Panel B) corresponding to the first and third column of Table 5 for the left and right panel, respectively. The estimated effects among the powerful alumni (i.e., job title is member of board of directors) are shown on the right of each panel. Standard error bars are shown around each mean.

Looking at the extensive and intensive margins of donation, we find that there is no significant effect on the probability an alumnus makes a donation but there is a large and significant effect on the conditional amount donated. Conditional on a gift being made, donations by powerful alumni who received the agency mailing were, on average, \$555.70 higher than those of alumni who received the control mailing (i.e., \$35.61 + \$520.09), representing a 352 percent increase in giving over the average donation by powerful alumni who received the control mailing and made a donation. Panel B of Figure 3 plots the implied percent increase in the conditional amount donated by powerful alumni and others estimated in Column 3 of Table 5.

As we observed with rich alumni, the results for powerful alumni are robust to the inclusion of individual-level covariates as well as one-sided winsorization of donation amounts. Columns 2 and 3 of Table 6 show that our estimates of the agency effect on the total amount donated (Panel A) and conditional amount donated (Panel B) remain significant and stable

TABLE 6  
EFFECT OF AGENCY ON AMOUNT DONATED BY POWERFUL VERSUS OTHERS  
WITH VARYING CONTROLS

	(1)	(2)	(3)
<i>Panel A. Amount Donated (\$)</i>			
POWERFUL	−2.24 (2.95)	−2.95 (2.95)	−3.47 (2.94)
AGENCY	0.62 (0.80)	0.63 (0.80)	0.62 (0.80)
POWERFULXAGENCY	9.16** (4.19)	9.22** (4.18)	8.85** (4.16)
Demographic Controls		Y	Y
Past Giving Controls			Y
Powerful Control Mean	3.72	3.72	3.72
Others Control Mean	5.95	5.95	5.95
R-squared	0.000	0.007	0.016
N	32,174	32,174	32,174
<i>Panel B. Conditional Amount Donated (\$)</i>			
POWERFUL	−80.00 (99.99)	−99.94 (104.27)	−81.21 (93.55)
AGENCY	35.61 (26.67)	49.75* (27.91)	60.87** (25.14)
POWERFULXAGENCY	520.09*** (150.49)	478.98*** (155.22)	307.83** (139.99)
Demographic Controls		Y	Y
Past Giving Controls			Y
Powerful Control Mean	157.94	157.94	157.94
Others Control Mean	237.94	237.94	237.94
R-squared	0.025	0.124	0.304
N	785	785	785

NOTE.—This table reports estimates of the effect of providing individuals with a sense of agency on the total amount donated with non-donors in the regression as zeros (Panel A) and the total amount donated for the set of alumni who made a donation ( $N = 785$ ) (Panel B). Each column presents a separate regression. Demographic controls include dummies for gender, ethnicity, and the number of years since graduation. Past giving controls include the average amount of the alumnus's donations to the Penn Fund over the past 7 years and dummies for the number of years since the alumnus's most recent donation. Coefficients are reported for an "Agency" indicator, denoting whether the alumnus received the agency mailing, a "Powerful" indicator, denoting whether the alumnus holds a powerful job title (on board of directors), and the interaction of these two variables. The first two rows of the bottom panel report the mean amounts donated in response to the mailing by powerful alumni in the control group ("Powerful") and by other alumni in the control group ("Others"). Significance levels 10%, 5%, and 1% are denoted by \*, \*\*, and \*\*\*, respectively.



across specifications as demographic and past donation history controls are included.<sup>22</sup> Table 7 reports estimates under increasingly conservative levels of winsorization. When winsorizing at the 99th, 95th, and 90th percentiles of positive donations, our results on the

TABLE 7  
EFFECT OF AGENCY ON WINSORIZED AMOUNT DONATED  
BY POWERFUL VERSUS OTHERS

	Original Sample	Winsorization		
	(1)	(2)	(3)	(4)
		99th Pctle.	95th Pctle.	90th Pctle.
<i>Panel A. Amount Donated (\$)</i>				
POWERFUL	−2.24 (2.95)	−2.14 (2.79)	−1.80 (2.38)	−0.95 (1.72)
AGENCY	0.62 (0.80)	0.58 (0.76)	0.45 (0.65)	0.20 (0.47)
POWERFULXAGENCY	9.16** (4.19)	9.19** (3.97)	6.74** (3.39)	2.78 (2.45)
Powerful Control Mean	3.72	3.72	3.72	3.72
Others Control Mean	5.95	5.86	5.52	4.66
R-squared	0.000	0.000	0.000	0.000
N	32,174	32,174	32,174	32,174
<i>Panel B. Conditional Amount Donated (\$)</i>				
POWERFUL	−80.00 (99.99)	−76.15 (92.89)	−62.65 (75.41)	−28.46 (48.58)
AGENCY	35.61 (26.67)	34.08 (24.78)	28.03 (20.12)	16.27 (12.96)
POWERFULXAGENCY	520.09*** (150.49)	521.62*** (139.80)	391.30*** (113.49)	180.34** (73.11)
Powerful Control Mean	157.94	157.94	157.94	157.94
Others Control Mean	237.94	234.08	220.59	186.40
R-squared	0.025	0.029	0.025	0.014
N	785	785	785	785

NOTE.—This table reports estimates of the effect of providing individuals with a sense of agency on (winsorized) donations for all alumni including non-donors (Panel A) and for the subset of alumni who made a donation ( $N = 785$ ) (Panel B). Each column represents a separate regression. Coefficients are reported for an “Agency” indicator, denoting whether the alumnus received the agency mailing, a “Powerful” indicator, denoting whether the alumnus holds a powerful job title (on board of directors), and the interaction of these two variables. Column 1 reports coefficient estimates using the observed amount donated by alumni, while columns 2-4 report coefficient estimates where the right tail of the distribution of donations has been winsorized. The total amount donated (Panel A.) and conditional amount donated (Panel B) are top-coded at the 99th percentile of positive donations (\$2000) for Column 2, at the 95th percentile of positive donations (\$1000) for Column 3, and at the 90th percentile of positive donations (\$550) for Column 4. The first two rows of the bottom panel report the mean amounts donated in response to the mailing by powerful alumni in the control group (“Powerful”) and by other alumni in the control group (“Others”). Significance levels 10%, 5% and 1% are denoted by \*, \*\*, and \*\*\*, respectively.

<sup>22</sup>Extensive margin results are available in Appendix Table A.2.2 and shows that the null effect on the extensive margin remains unchanged with the inclusion of individual-level covariates.

intensive margin of donation remain strong and significant. Our results for the total amount donated remain significant under winsorization at the 99th and 95th percentile of positive donations, but winsorizing at the 90th percentile, our most conservative test, eliminates the significance of our finding ( $p = 0.21$ ) though not the direction of the effect. Taken together, these findings suggest that our results are not driven by outlier donations.

## 2.3 Robustness Checks and Further Analysis

We find that an appeal giving donors a sense of agency increases donations among both rich alumni and powerful alumni. Here we address some potential concerns about our findings, including the number of donors who drive our results.<sup>23</sup> We then describe potential heterogeneity in our treatment effects by alumni’s past donation history.

As noted in Section 1.2, the rich and powerful alumni in our sample are relatively disjoint groups, suggesting that the results are robust to each classification.<sup>24</sup> As robustness checks, we relax our classification of rich and powerful alumni and show that our results remain strong when using these alternative classifications.

We relax our classification of rich alumni by classifying as rich those among the richest ten percent of alumni in our experiment, following the same procedures used to identify the richest five percent but with a different income cutoff (median household income cutoff of \$166,354; 3,221 individuals, 10.01 percent of original sample).<sup>25</sup> By definition, this doubles our sample of rich alumni. We relax our classification of powerful alumni by allowing for a slightly more inclusive set of job titles. Specifically, in our less restrictive definition, we

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<sup>23</sup>An additional potential concern relates to the interpretation of our treatment. An alternative interpretation of our agency treatment is that it prompted alumni to more carefully consider the activities they support with their donations. If more careful consideration temporarily shifts intrinsic motivations, it could lead alumni to give more in response to the agency treatment. This explanation, however, does not directly explain why we would find differential effects for both rich and powerful alumni relative to other alumni. If we also assume that rich and powerful alumni have a higher capacity to give and alumni respond to our treatment in proportion to their capacity, we might then expect larger effects among the rich and powerful. However, when we re-run our main results scaling the donation given in the experiment by the average amount of the alumnus’s previous donations to the Penn Fund (as a proxy for giving capacity), we still only detect effects of our agency treatment among the rich and powerful, and the differences-in-differences continue to be significant. Nevertheless, our experimental setup does not allow us to fully rule out this alternative interpretation. We leave a more direct test to future research.

<sup>24</sup>While there is little overlap between rich and powerful alumni in our sample, we also re-run our analysis pooling the rich and powerful alumni in one group. We find that our results remain qualitatively the same when we pool the rich and powerful alumni and are robust to the inclusion of individual-level covariates as well as one-sided winsorization of donation amounts (see Appendix Tables A.2.3, A.2.4, and A.2.5.)

<sup>25</sup>Even with this more inclusive classification, the rich alumni in our sample are still relatively rich. The median-income cutoff for the richest ten percent corresponds to approximately the 5th percentile (\$165,000) of U.S. household incomes in 2013 (Saez 2015).

include alumni who report being the CEO of the firm as powerful along with alumni identified as powerful in our original classification relying on board membership (1,572 alumni; 4.89 percent of original sample). This increases our sample by 25 percent.

Using these less restrictive classifications, we run regressions of each of the three main outcomes of interest—total amount donated, probability of giving, and amount donated conditional on donating—analogue to our main results in Tables 2 and 5. Appendix Table A.1.1 presents estimates from these regressions for rich (Panel A) and powerful (Panel B) alumni and shows that our results remain statistically significant and are robust to these alternative ways of defining rich and powerful alumni, though the effects are slightly weaker relative to our stricter classifications.

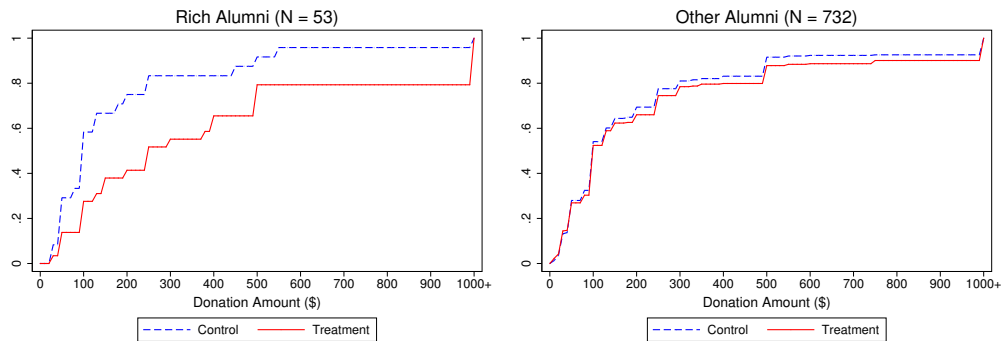
We next consider the distribution of donations made in response to our appeal. Given that rich and powerful alumni represent just 8.3% of all alumni in our sample and only a fraction of alumni make a donation in response to our appeal, one concern might be that our effect is driven by a small number of donors across the treatments. To ensure that the effect is not driven by outliers, noise, or small sample issues, Figure 4 plots the cumulative distribution functions (CDFs) of donations made by rich alumni versus others as well as by powerful alumni versus others (i.e., excluding zero donations). This figure shows two important characteristics of the distribution of alumni donations. First, donations made by alumni who we did not classify as rich or as powerful (the two panels on the right of the figure) do not appear to differ by experimental condition.<sup>26</sup> Second, and more importantly, among rich alumni and among powerful alumni (the two panels on the left of the figure), we see that the distributions of donations appear to differ between treatment and control, providing suggestive evidence in support of our main findings on the effect of the agency mailing on giving. Consequently, it is unlikely that outliers or noise are driving the observed differences in giving across treatment groups.

Finally, we consider heterogeneity of our treatment effects, and, in particular, how past donation history may affect how responsive individuals are to our agency treatment. Using the two measures of past donation history that are used as controls in Tables 3 and 6, we explore whether the agency effect for rich and powerful alumni vary by how recently the alumnus gave (whether the most recent gift was last year or two or more years ago) and how much they’ve given previously to the Penn Fund (above versus below the median of the average gift size over the past 7 years). Alumni who have given recently and who give more

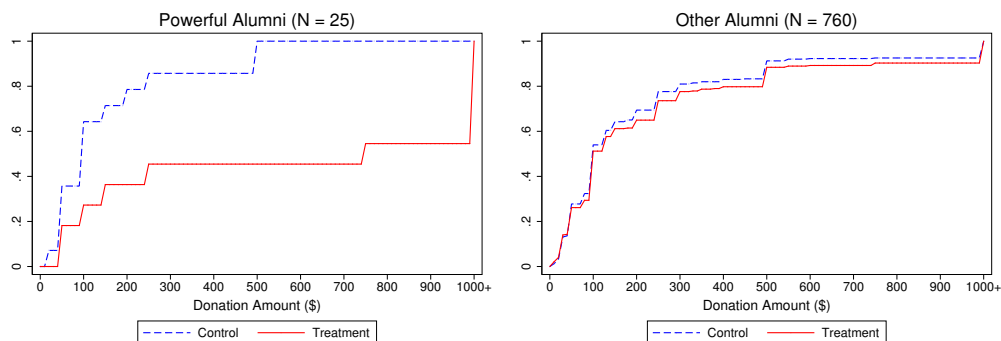
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<sup>26</sup>Large donations are directionally more likely under treatment than control for both groups of alumni, which might be expected as there are rich alumni who are not classified as powerful and vice versa.

FIG. 4.—Cumulative Distribution Function of Giving by Classification as Rich or Powerful



(A) Rich vs. Other Alumni



(B) Powerful vs. Other Alumni

NOTE.— This figure plots the cumulative distribution function (CDF) of donations by alumni, conditional on a donation being made, by whether alumni received the *agency mailing* or the *control mailing* for four sub-groups of alumni: rich alumni (top left) and other alumni (top right); powerful alumni (bottom left) and other alumni (bottom right). The right tail of the distribution of donations has been winsorized with the amount donated top-coded at the 95th percentile of positive donations (\$1000) in this figure. Formal Kolmogorov-Smirnov tests of the equality of treatment and control distributions reject the null for rich alumni ( $p = 0.071$ ) and powerful alumni ( $p = 0.051$ ) but fail to reject the null for alumni not classified as rich ( $p = 0.960$ ) or powerful ( $p = 0.846$ ).

on average may be those who would most value the opportunity to indicate their most important funding priority to the university. As shown in Appendix Tables A.2.6 and A.2.7, the effects of the agency treatment on the total amount donated and conditional amount donated for both the rich and the powerful are most pronounced among the subset of alumni who gave most recently and who have made larger average gifts to the Penn Fund. These results suggest that our findings are driven primarily by the rich and powerful alumni who are relatively more engaged as donors. This finding builds upon a growing literature examining how past donation behavior affects future donation behavior (see, e.g., [Gneezy et al. 2012a](#), [Lacetera et al. 2014](#); [Exley 2017](#); [Exley and Petrie 2017](#); [Karlan and Wood 2017](#)). Notably,

Karlan and Wood (2017) also find that more recent and more generous prior donors respond more to a solicitation providing information on aid effectiveness.

### 3 Conclusion

The rich and powerful control a significant share of the available resources and wealth in the United States and around the world. Understanding what motivates these individuals to behave generously has meaningful implications for the provision of public goods and for society more generally. In this paper, we provide evidence from a large field experiment suggesting that the rich and powerful are motivated by different forces than others. Our results show that providing prospective donors to an Ivy League university with a sense of agency over the use of donated funds significantly increases contributions from the richest and most powerful prospective donors, while the same agency appeal has no such effect on others.<sup>27</sup>

Our findings are notable for several reasons. First, the effects we estimate are extremely large. Rich alumni who received an agency appeal donated 221 percent more than rich alumni who received a control solicitation. The agency appeal had a similar effect on powerful alumni, whose donations increased 263 percent in response to the agency mailing (relative to the control solicitation). For both the rich and powerful, these effects arise primarily on the intensive margin with no effect on the extensive margin.<sup>28</sup> For those who donate, the agency treatment increased the amount donated by 134 percent for the richest alumni and 352 percent by the most powerful alumni. These estimates are robust to the inclusion of individual-level covariates and one-sided winsorization of donation amounts, as well as alternative classifications of alumni as rich or powerful, suggesting that we have documented a large and stable effect.

Second, we observe these large effects despite the fact that our agentic appeal provided only a *sense of agency*—while donors may have inferred from the design of our intervention that they had agency, they were not provided with actual control over the use of their donated funds. Future research should further consider how the provision of agency can be

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<sup>27</sup>We classify rich alumni using the median household income of the census tract in which they reside as a proxy for their individual income. This strategy means our classification is also a proxy for living in an extremely affluent area. Given that our experimental sample consists of alumni at an Ivy League university and that we proxy for income in this way, we hope future research will expand upon our findings to explore how agency-related treatments interact with wealth more generally.

<sup>28</sup>This differential effect along the intensive and extensive margin is consistent with the findings of Eckel et al. (2017), who also study responses to a solicitation where the intervention may only be examined carefully if an individual is intending to make a donation (in their case, the intervention appeared in the body of a solicitation email).

used as a motivating tool and explore the potential for the provision of *actual agency* to have even stronger effects on the rich and powerful.

Third, our results shed light on the donation decisions of a particularly important, but understudied, group. Despite the significant resources and influence that the rich and powerful wield, relatively few studies have focused on the pro-social behavior of this demographic group. We show that the rich and powerful respond differently to an agency appeal than those who are less affluent and less powerful (i.e., the rank-and-file donors who are typically studied), highlighting the value of future work that looks for forces that may specifically motivate the rich and powerful. A recent literature in psychology exploring ways in which the wealthy differ from others has yielded numerous important insights (see [Kraus et al. 2012](#) for a review). Our findings suggest the need for economic models and additional empirical research focused on better understanding the rich and powerful.

Finally, our findings regarding the efficacy of an appeal giving the rich and powerful a sense of agency provide specific guidance for practitioners hoping to induce donations from this critical subset of donors. Many charities already pay particular attention to the rich and powerful in their fundraising outreach. Our results provide evidence in support of this differential outreach and suggest that practitioners may benefit from targeting the rich and powerful differently, rather than making identical appeals for support to the entire donor base. Our findings also highlight the potential of agentic appeals as a useful motivating tool for encouraging the rich and powerful to donate to charity and to contribute to public goods more broadly.

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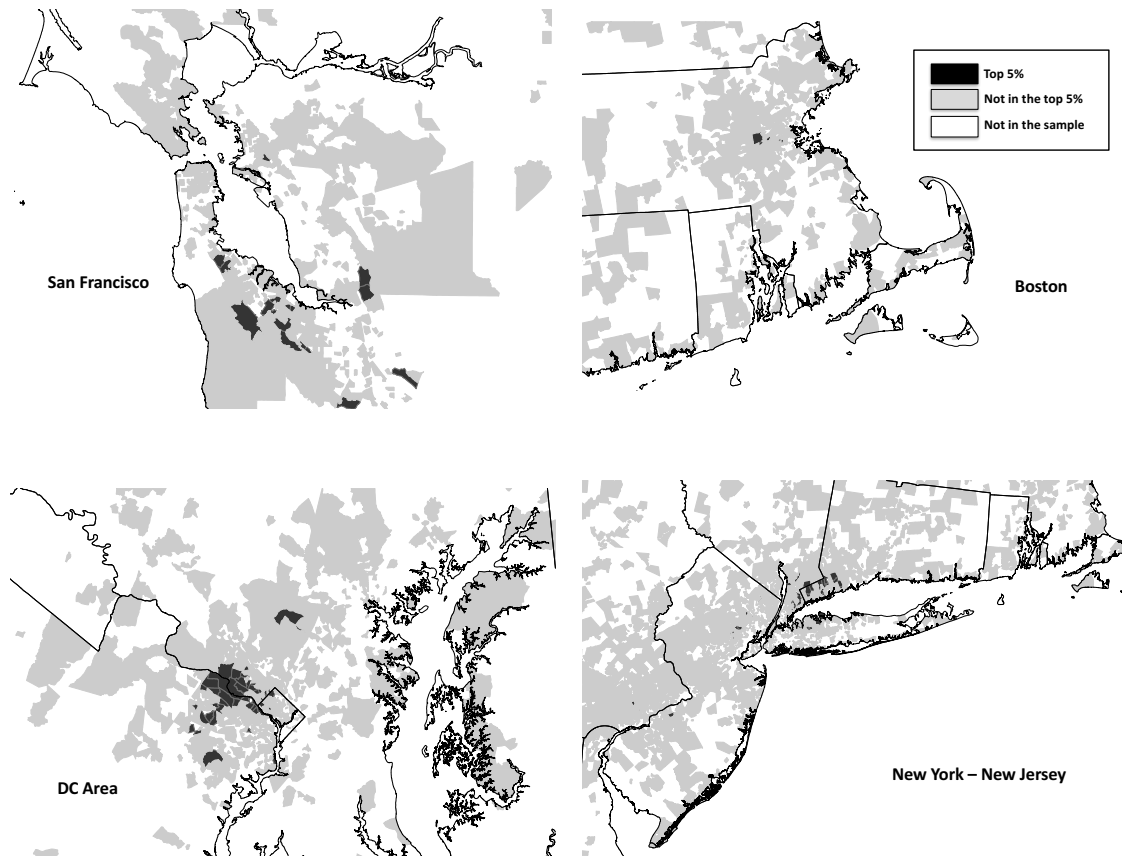
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# ONLINE APPENDIX FOR

## Getting The Rich and Powerful to Give

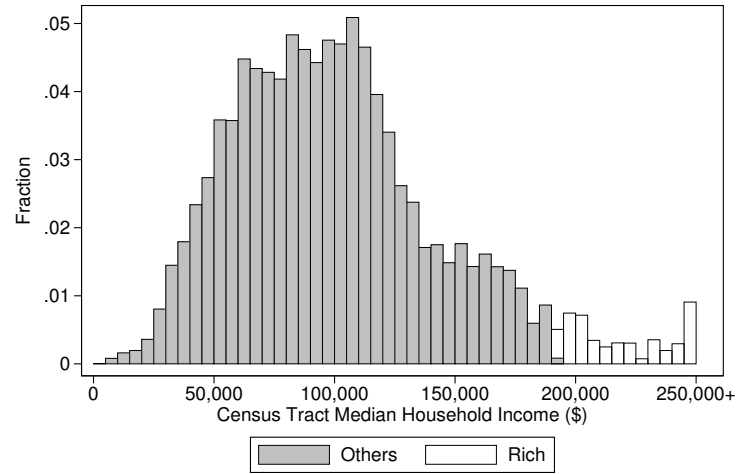
### A.1 Sample and Classification

FIG. A.1.1.—Census Tracts by Classification as Rich in Four U.S. Cities



NOTE.— This figure shows the location of alumni census tracts for four U.S. cities: San Francisco, Boston, Washington D.C. and New York. Census tracts with median income among the richest five percent of alumni are shaded in black while census tracts with median income not among the richest five percent of alumni are shaded in gray. Census tracts where alumni in our sample do not reside are left unshaded.

FIG. A.1.2.—Income Distribution by Classification as Rich Versus Others



NOTE.— This figure plots the distribution of census tract median household income levels for alumni in our sample. Alumni residing in census tracts with median income among the richest five percent of alumni (i.e., census tract-level median household income greater than \$190,375) are shaded in white while alumni residing in census tracts with median income not among the richest five percent of alumni are shaded in gray.



TABLE A.1.1  
EFFECT OF AGENCY ON AMOUNT DONATED BY RICH AND POWERFUL  
VERSUS OTHERS USING ALTERNATE CLASSIFICATIONS

	(1) Amount Donated (\$)	(2) Probability of Giving (%)	(3) Conditional Amount Donated (\$)
<i>Panel A. Rich Alumni (Top 10 Percent)</i>			
RICH	0.86 (1.84)	0.51 (0.40)	−11.70 (56.93)
AGENCY	0.38 (0.83)	−0.16 (0.18)	33.17 (28.31)
RICHXAGENCY	5.70** (2.62)	0.46 (0.57)	132.94* (79.32)
Rich Control Mean	6.65	2.96	224.85
Others Control Mean	5.78	2.45	236.55
<i>Panel B. Powerful Alumni (Expanded Classification)</i>			
POWERFUL	−1.98 (2.55)	−0.53 (0.56)	−35.89 (93.92)
AGENCY	0.61 (0.81)	−0.11 (0.18)	36.21 (26.81)
POWERFULXAGENCY	7.05* (3.65)	−0.06 (0.80)	402.38*** (137.37)
Powerful Control Mean	3.99	1.99	200.69
Others Control Mean	5.97	2.52	236.58
N	32,174	32,174	785

NOTE.—This table reports estimates of the effect of providing individuals with a sense of agency on (i) the total amount donated, (ii) the likelihood of giving, and (iii) the amount donated conditional on giving. Each column presents a separate regression. Column 1 reports estimates where the dependent variable is the total amount donated in response to the mailing with non-donors in the regression as zeros. Column 2 reports estimates from a linear probability model where the dependent variable is an indicator for whether the alumnus donated in response to the mailing. Column 3 reports estimates where the dependent variable is the total amount donated for the set of alumni who made a donation in response to the mailing (N = 785). In Panel A, coefficients are reported for an “Agency” indicator, denoting whether the alumnus received the agency mailing, a “Rich” indicator, denoting whether the alumnus is among the richest ten percent of alumni as measured by the median household income in the census tract in which they live (i.e., census tract-level median household income greater than \$166,354), and the interaction of these two variables. In Panel B, coefficients are reported for an “Agency” indicator, denoting whether the alumnus received the agency mailing, a “Powerful” indicator, denoting whether the alumnus holds a powerful job title (on board of directors or CEO), and the interaction of these two variables. The bottom two rows of each panel report the mean amounts donated or likelihood of giving in response to the mailing by rich (“Rich”; Panel A) or powerful (“Powerful”; Panel B) alumni in the control group or by other alumni in the control group (“Others”). Significance levels 10%, 5%, and 1% are denoted by \*, \*\*, and \*\*\*, respectively.

## A.2 Additional Results and Robustness Checks

TABLE A.2.1  
EFFECT OF AGENCY ON LIKELIHOOD OF GIVING BY RICH VERSUS OTHERS

	(1)	(2)	(3)
RICH	0.37 (0.55)	0.29 (0.54)	0.10 (0.54)
AGENCY	−0.16 (0.18)	−0.17 (0.18)	−0.19 (0.17)
RICHXAGENCY	1.10 (0.79)	1.13 (0.78)	1.17 (0.77)
Demographic Controls		Y	Y
Past Giving Controls			Y
Rich Control Mean	2.85	2.85	2.85
Others Control Mean	2.48	2.48	2.48
R-squared	0.000	0.017	0.046
N	32,174	32,174	32,174

NOTE.—This table reports estimates of the effect of providing individuals with a sense of agency on the likelihood of giving with varying controls. Each column presents a separate regression. Demographic controls include dummies for gender, ethnicity, and the number of years since graduation. Past giving controls include the average amount of the alumnus’s donations to the Penn Fund over the past 7 years and dummies for the number of years since the alumnus’s most recent donation. Coefficients are reported for an “Agency” indicator, denoting whether the alumnus received the agency mailing, a “Rich” indicator, denoting whether the alumnus is among the richest five percent of alumni as measured by the median household income in the census tract in which they live (i.e., census tract-level median household income greater than \$190,375), and the interaction of these two variables. The first two rows of the bottom panel report the mean likelihood of giving in response to the mailing by alumni in the control group among the richest five percent (“Rich”) and by alumni in the control group among the other 95 percent (“Others”). Significance levels 10%, 5%, and 1% are denoted by \*, \*\*, and \*\*\*, respectively.

TABLE A.2.2  
EFFECT OF AGENCY ON LIKELIHOOD OF GIVING BY POWERFUL VERSUS OTHERS

	(1)	(2)	(3)
POWERFUL	−0.15 (0.64)	−0.19 (0.64)	−0.27 (0.63)
AGENCY	−0.10 (0.18)	−0.11 (0.17)	−0.11 (0.17)
POWERFULXAGENCY	−0.36 (0.92)	−0.38 (0.91)	−0.52 (0.90)
Demographic Controls		Y	Y
Past Giving Controls			Y
Powerful Control Mean	2.35	2.35	2.35
Others Control Mean	2.50	2.50	2.50
R-squared	0.000	0.017	0.045
N	32,174	32,174	32,174

NOTE.—This table reports estimates of the effect of providing individuals with a sense of agency on the likelihood of giving with varying controls. Each column presents a separate regression. Demographic controls include dummies for gender, ethnicity, and the number of years since graduation. Past giving controls include the average amount of the alumnus’s donations to the Penn Fund over the past 7 years and dummies for the number of years since the alumnus’s most recent donation. Coefficients are reported for an “Agency” indicator, denoting whether the alumnus received the agency mailing, a “Powerful” indicator, denoting whether the alumnus holds a powerful job title (on board of directors), and the interaction of these two variables. The first two rows of the bottom panel report the mean likelihood of giving in response to the mailing by powerful alumni in the control group (“Powerful”) and by other alumni in the control group (“Others”). Significance levels 10%, 5%, and 1% are denoted by \*, \*\*, and \*\*\*, respectively.

TABLE A.2.3  
EFFECT OF AGENCY ON AMOUNT DONATED  
BY POOLED RICH AND POWERFUL VERSUS OTHERS

	(1) Amount Donated (\$)	(2) Probability of Giving (%)	(3) Conditional Amount Donated (\$)
RICHANDPOWERFUL	−0.99 (1.99)	0.30 (0.44)	−61.74 (62.92)
AGENCY	0.33 (0.82)	−0.13 (0.18)	27.32 (27.72)
RICHANDPOWERFULXAGENCY	7.63*** (2.85)	0.21 (0.62)	246.82*** (89.64)
Rich and Powerful Control Mean	4.96	2.77	179.24
Others Control Mean	5.95	2.47	240.98
R-squared	0.000	0.000	0.017
N	32,174	32,174	785

NOTE.—This table reports estimates of the effect of providing individuals with a sense of agency on (i) the total amount donated, (ii) the likelihood of giving, and (iii) the amount donated conditional on giving. Each column presents a separate regression. Column 1 reports estimates where the dependent variable is the total amount donated in response to the mailing with non-donors in the regression as zeros. Column 2 reports estimates from a linear probability model where the dependent variable is an indicator for whether the alumnus donated in response to the mailing. Column 3 reports estimates where the dependent variable is the total amount donated for the set of alumni who made a donation in response to the mailing ( $N = 785$ ). Coefficients are reported for an “Agency” indicator, denoting whether the alumnus received the agency mailing, a “RichAndPowerful” indicator, denoting whether the alumnus is among the pooled set of the richest five percent of alumni, as measured by the median household income in the census tract in which they live (i.e., census tract-level median household income greater than \$190,375) and the alumni who hold a powerful job title (on board of directors), and the interaction of these two variables. The first two rows of the bottom panel report the mean amounts donated or likelihood of giving in response to the mailing by alumni in the control group among the rich and powerful (“Rich and Powerful”) and by other alumni in the control group (“Others”). Significance levels 10%, 5%, and 1% are denoted by \*, \*\*, and \*\*\*, respectively.

TABLE A.2.4  
EFFECT OF AGENCY ON AMOUNT DONATED  
BY POOLED RICH AND POWERFUL VERSUS OTHERS WITH VARYING CONTROLS

	(1)	(2)	(3)
<i>Panel A. Amount Donated (\$)</i>			
RICHANDPOWERFUL	−0.99 (1.99)	−1.66 (2.00)	−2.30 (1.99)
AGENCY	0.33 (0.82)	0.31 (0.82)	0.30 (0.82)
RICHANDPOWERFULXAGENCY	7.63*** (2.85)	7.96*** (2.85)	7.82*** (2.84)
Demographic Controls		Y	Y
Past Giving Controls			Y
Powerful Control Mean	4.96	4.96	4.96
Others Control Mean	5.95	5.95	5.95
R-squared	0.000	0.008	0.016
N	32,174	32,174	32,174
<i>Panel B. Conditional Amount Donated (\$)</i>			
RICHANDPOWERFUL	−61.74 (62.92)	−84.20 (65.13)	−88.31 (58.41)
AGENCY	27.32 (27.72)	39.89 (28.81)	51.28** (25.86)
RICHANDPOWERFULXAGENCY	246.82*** (89.64)	253.70*** (91.69)	201.85** (82.92)
Demographic Controls		Y	Y
Past Giving Controls			Y
Powerful Control Mean	179.24	179.24	179.24
Others Control Mean	240.98	240.98	240.98
R-squared	0.017	0.120	0.305
N	785	785	785

NOTE.—This table reports estimates of the effect of providing individuals with a sense of agency on the total amount donated with non-donors in the regression as zeros (Panel A) and the total amount donated for the set of alumni who made a donation ( $N = 785$ ) (Panel B). Each column presents a separate regression. Demographic controls include dummies for gender, ethnicity, and the number of years since graduation. Past giving controls include the average amount of the alumnus’s donations to the Penn Fund over the past 7 years and dummies for the number of years since the alumnus’s most recent donation. Coefficients are reported for an “Agency” indicator, denoting whether the alumnus received the agency mailing, a “RichAndPowerful” indicator, denoting whether the alumnus is among the pooled set of the richest five percent of alumni, as measured by the median household income in the census tract in which they live (i.e., census tract-level median household income greater than \$190,375) and the alumni who hold a powerful job title (on board of directors), and the interaction of these two variables. The first two rows of the bottom panel report the mean amounts donated in response to the mailing by alumni in the control group among the rich and powerful (“Rich and Powerful”) and by other alumni in the control group (“Others”). Significance levels 10%, 5%, and 1% are denoted by \*, \*\*, and \*\*\*, respectively.

TABLE A.2.5  
EFFECT OF AGENCY ON WINSORIZED AMOUNT DONATED  
BY POOLED RICH AND POWERFUL VERSUS OTHERS

	Original Sample	Winsorization		
	(1)	(2)	(3)	(4)
		99th Pctle.	95th Pctle.	90th Pctle.
<i>Panel A. Amount Donated (\$)</i>				
RICHANDPOWERFUL	−0.99 (1.99)	−0.89 (1.89)	−0.53 (1.61)	0.01 (1.16)
AGENCY	0.33 (0.82)	0.29 (0.78)	0.19 (0.66)	0.00 (0.48)
RICHANDPOWERFULXAGENCY	7.63*** (2.85)	7.67*** (2.70)	6.23*** (2.31)	3.82** (1.67)
Rich and Powerful Control Mean	4.96	4.96	4.96	4.64
Others Control Mean	5.95	5.85	5.50	4.63
R-squared	0.000	0.000	0.000	0.000
N	32,174	32,174	32,174	32,174
<i>Panel B. Conditional Amount Donated (\$)</i>				
RICHANDPOWERFUL	−61.74 (62.92)	−57.63 (58.48)	−43.25 (47.38)	−19.88 (30.39)
AGENCY	27.32 (27.72)	25.63 (25.76)	20.45 (20.87)	10.15 (13.39)
RICHANDPOWERFULXAGENCY	246.82*** (89.64)	248.51*** (83.32)	199.64*** (67.50)	119.08*** (43.29)
Rich and Powerful Control Mean	179.24	179.24	179.24	167.40
Others Control Mean	240.98	236.87	222.49	187.28
R-squared	0.017	0.019	0.019	0.017
N	785	785	785	785

NOTE.—This table reports estimates of the effect of providing individuals with a sense of agency on (winsorized) donations for all alumni including non-donors (Panel A) and for the subset of alumni who made a donation (N = 785) (Panel B). Each column represents a separate regression. Coefficients are reported for an “Agency” indicator, denoting whether the alumnus received the agency mailing, a “RichAndPowerful” indicator, denoting whether the alumnus is among the pooled set of the richest five percent of alumni, as measured by the median household income in the census tract in which they live (i.e., census tract-level median household income greater than \$190,375) and the alumni who hold a powerful job title (on board of directors), and the interaction of these two variables. Column 1 reports coefficient estimates using the observed amount donated by alumni, while columns 2-4 report coefficient estimates where the right tail of the distribution of donations has been winsorized. The total amount donated (Panel A.) and conditional amount donated (Panel B) are top-coded at the 99th percentile of positive donations (\$2000) for Column 2, at the 95th percentile of positive donations (\$1000) for Column 3, and at the 90th percentile of positive donations (\$550) for Column 4. The first two rows of the bottom panel report the mean amounts donated in response to the mailing by alumni in the control group among the rich and powerful (“Rich and Powerful”) and by other alumni in the control group (“Others”). Significance levels 10%, 5% and 1% are denoted by \*, \*\*, and \*\*\*, respectively.

TABLE A.2.6  
EFFECT OF AGENCY ON AMOUNT DONATED BY PAST DONATION HISTORY FOR RICH

		Most Recently Gave		Average Past Donation	
	(1) Full Sample	(2) Previous Year	(3) 2 or More Years Ago	(4) Above Median	(5) Below Median
<i>Panel A. Amount Donated (\$)</i>					
RICH	−0.44 (2.49)	−1.47 (6.39)	−0.68 (1.64)	−3.50 (4.33)	−0.29 (0.34)
AGENCY	0.39 (0.81)	0.71 (2.18)	0.20 (0.51)	0.74 (1.62)	−0.11 (0.09)
RICHXAGENCY	11.68*** (3.61)	22.67** (9.30)	5.59** (2.36)	16.59*** (6.23)	0.36 (0.50)
Rich Control Mean	5.46	13.58	0.66	8.01	0.27
Others Control Mean	5.89	15.05	1.34	11.50	0.56
N	32,174	10,760	21,414	16,092	16,082
<i>Panel B. Conditional Amount Donated (\$)</i>					
RICH	−46.25 (77.78)	−44.24 (79.86)	−65.70 (298.17)	−96.24 (88.49)	−9.07 (21.15)
AGENCY	33.80 (27.33)	26.32 (28.98)	80.42 (80.74)	44.20 (34.09)	−5.89 (4.41)
RICHXAGENCY	237.47** (105.58)	227.23** (111.89)	269.58 (347.91)	261.65** (120.75)	10.06 (27.38)
Rich Control Mean	191.67	193.18	175.00	205.68	37.50
Others Control Mean	237.91	237.42	240.70	301.92	46.57
N	785	671	114	599	186

NOTE.—This table reports estimates of the effect of providing individuals with a sense of agency on donations by how recently the alumnus made a donation and the alumnus’s average donation over the past seven years for all alumni including non-donors (Panel A) and for the subset of alumni who made a donation ( $N = 785$ ) (Panel B). Each column represents a separate regression. Column 1 reports coefficient estimates from our baseline specification using the full sample of alumni; Columns 2-3 report estimates separately for alumni who most recently donated in the past year and for alumni who most recently donated two or more years ago; and Columns 4-5 report estimates separately for alumni whose average donation to the Penn Fund over the past 7 years falls above the median and for alumni whose average past donation falls below the median. Coefficients are reported for an “Agency” indicator, denoting whether the alumnus received the agency mailing, a “Rich” indicator, denoting whether the alumnus is among the richest five percent of alumni as measured by the median household income in the census tract in which they live (i.e., census tract-level median household income greater than \$190,375), and the interaction of these two variables. The two rows at the bottom of each panel report the mean amount donated (Panel A) and mean conditional amount donated (Panel B) in response to the mailing by alumni in the control group among the richest five percent (“Rich”) and by other alumni in the control group (“Others”). Significance levels 5% and 1% are denoted by \*\* and \*\*\*, respectively.

TABLE A.2.7  
EFFECT OF AGENCY ON AMOUNT DONATED BY PAST DONATION HISTORY FOR POWERFUL

	Most Recently Gave			Average Past Donation	
	(1) Full Sample	(2) Previous Year	(3) 2 or More Years Ago	(4) Above Median	(5) Below Median
<i>Panel A. Amount Donated (\$)</i>					
POWERFUL	−2.24 (2.95)	−5.40 (7.62)	−1.08 (1.92)	−6.90 (5.01)	0.91** (0.42)
AGENCY	0.62 (0.80)	1.10 (2.16)	0.38 (0.51)	1.19 (1.61)	−0.08 (0.09)
POWERFULXAGENCY	9.16** (4.19)	19.22* (10.66)	2.30 (2.76)	12.29* (7.03)	−0.72 (0.62)
Powerful Control Mean	3.72	9.77	0.26	4.71	1.44
Others Control Mean	5.95	15.18	1.35	11.61	0.53
N	32,174	10,760	21,414	16,092	16,082
<i>Panel B. Conditional Amount Donated (\$)</i>					
POWERFUL	−80.00 (99.99)	−75.03 (101.62)	−140.86 (419.59)	−80.71 (134.19)	6.16 (13.59)
AGENCY	35.61 (26.67)	25.63 (28.22)	95.65 (79.05)	47.57 (32.92)	−5.57 (4.42)
POWERFULXAGENCY	520.09*** (150.49)	567.53*** (158.38)	329.35 (515.62)	596.87*** (189.84)	3.35 (25.15)
Powerful Control Mean	157.94	162.39	100.00	216.67	52.22
Others Control Mean	237.94	237.43	240.86	297.37	46.07
N	785	671	114	599	186

NOTE.—This table reports estimates of the effect of providing individuals with a sense of agency on donations by how recently the alumnus made a donation and the alumnus’s average donation over the past seven years for all alumni including non-donors (Panel A) and for the subset of alumni who made a donation (N = 785) (Panel B). Each column represents a separate regression. Column 1 reports coefficient estimates from our baseline specification using the full sample of alumni; Columns 2-3 report estimates separately for alumni who most recently donated in the past year and for alumni who most recently donated two or more years ago; and Columns 4-5 report estimates separately for alumni whose average donation to the Penn Fund over the past 7 years falls above the median and for alumni whose average past donation falls below the median. Coefficients are reported for an “Agency” indicator, denoting whether the alumnus received the agency mailing, a “Powerful” indicator, denoting whether the alumnus holds a powerful job title (on board of directors), and the interaction of these two variables. The two rows at the bottom of each panel report the mean amount donated (Panel A) and mean conditional amount donated (Panel B) in response to the mailing by powerful alumni in the control group (“Powerful”) and by other alumni in the control group (“Others”). Significance levels 10%, 5% and 1% are denoted by \*, \*\*, and \*\*\*, respectively.