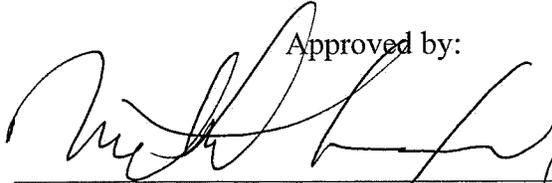


Alumni Giving: How Does Gender Matter?

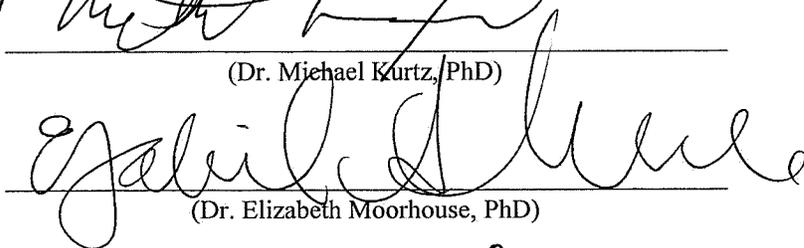
Presented to the faculty of Lycoming College in partial fulfillment of the requirements for
Departmental Honors in Economics

Rebecca Forbes
Lycoming College
April 18, 2019

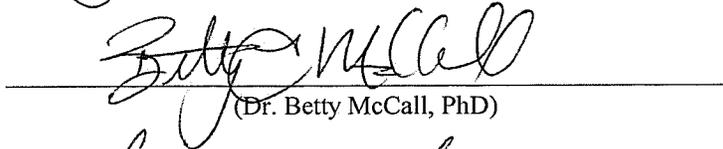
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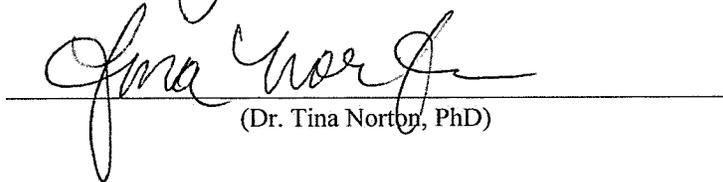
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Alumni Giving: How Does Gender Matter?

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Abstract

In the study of charitable giving, it is increasingly evident that donation preferences differ between males and females. Using a field experiment, Landry et al. (2006) find males are 35 – 72% more likely to donate to charity when solicited in person by a female, and that the physical attractiveness levels of the solicitor positively correlate with the likelihood and size of male donations. Conversely, in-person female giving preferences do not seem to be influenced by the gender or the physical attractiveness of the solicitor. This study analyzes the role of gendered giving preferences in alumni donation behavior by replicating the experiment of Landry et al. (2006) using solicitations over the phone. The vocal attractiveness ratings of callers were collected by means of a survey experiment. This study concludes males are not more likely to pledge when called by females, and that the vocal attractiveness ratings of female callers did not result in an increased amount or likelihood of pledging by males. However, gender did appear to affect giving preferences: when called by males, female respondents pledged \$41 less on average than males.

Introduction

Charitable donations are a substantial part of average American household yearly expenditures (BLS 2018). As economists study how and why people give to charity, it is increasingly evident that giving preferences differ between males and females. However, the economic literature of how gender preferences affect alumni donation behavior remains sparse. Extending the natural in-person field experiment created by Landry et al. (2006), this study analyzes the role of gendered giving behavior in alumni donation solicitation over the phone. While face-to-face males tend to give and give more to females and especially physically attractive females, we find males do not give nor give larger amounts to females with high vocal attractiveness ratings over the phone. Gender preferences are evident however, as an increase in the vocal attractiveness rating of male callers does increase the likelihood of pledging overall. In addition, when called by male solicitors, females pledge less on average than males.

This study begins with a summary of the relevant literature as it currently stands with regard to charitable giving, gendered giving, and alumni giving. We then describe the data and collection method used to create the regression analyses. Finally, the results of the study are discussed with particular regard to opportunities for future research.

Literature

Altruism, the desire for another to be better off by some amount, is found to be one of the strongest and most important factors motivating charitable giving (Bekkers and Wiepking 2011). Becker (1974) first used the framework of economic theory to interpret social interaction and discovered that altruistic motivation was evident in charitable behavior. In fact, although selfishness is evident in the marketplace, he argues it has been greatly exaggerated in the realm of familial, social, and charitable interaction (Becker 1981). Bodner and Drazen (2003) further

support this finding in their research and conclude that people give at a personal cost to signal generosity, whether to others or to themselves. Other studies such as Bodner and Prelec (2003) and Benabou and Tirole (2006) reveal similar altruistic motivations influencing charitable donation behavior. The well-being of others does seem to strongly stimulate the individual's decision to give.

It is also found that individuals give because of warm-glow preferences. Coined by Andreoni (1990), the term "warm-glow" refers to the good feeling an individual receives after participating in charitable behavior. He argues the effect of warm-glow causes giving patterns to differ from those motivated by true altruism, as crowd-out does not pose the same threat to giving behavior. Crumpler and Grossman (2008) create an experiment to test the strength of warm-glow motivation and find that not only does the good feeling of giving improve the likelihood of donation, it had a significant effect on donation levels compared to purely altruistic motivations. Nunes and Schokkaert (2003), Diamon (2008), and Imas (2014) similarly support warm-glow having a large effect on giving in dictator games, field experiments, and fundraising.

Economists tend to agree that both altruistic and warm-glow giving preferences can occur simultaneously within each individual. Because of the difficulty in determining the exact measure of warm glow vs. altruistic preferences for each act of giving, "impure altruism" is typically referred to as the mixture of these simultaneous altruistic and warm-glow preferences. In addition to impure altruism, there are motivations to give because of social pressure (Akerlof and Kranton 2000; DellaVigna et al. 2012), seen most clearly in educational or religious settings (Vaidyanathan et al. 2011). The incentive of significant tax reductions also strongly motivate high-capacity givers to donate large amounts of income to charity each year (Auten et al. 2002; Levin et al. 2006). The presence of social pressure as well as the opportunity to reduce taxes

appeal to individual utility maximization and typically function in a transactional manner; individuals purchase social acknowledgement or lighten their tax burden through donation.

Within the realm of charitable giving, economists have specifically examined alumni donations to colleges and universities. Yoo and Harrison (1989) argue that alumni donation appeals to those who use charitable giving as a means of purchasing recognition. In practice, recognition could mean something as large as a building named in one's honor, or as small as a name listed in an alumni newsletter; the universities that offer higher levels of recognition for higher levels of expenditure tend to be more successful in soliciting donations than those that do not (Harrison et al. 1995). Along those same lines, Keating et al. (1981) find alumni relations offices that are continually successful in raising funds are the ones who create social pressure to influence recognition amongst peers. Satisfaction with one's undergraduate experience (Clotfelter 2003), alumni and undergraduate involvement (Wunnava and Lauze 2001), and institutional prestige (Baade and Sundberg 1996) are also found to positively relate to alumni donation. Additionally, as alumni age and as their income increases, they are not only much more likely to give, but to give larger amounts (Gottfried and Johnson 2006; Okunade et al. 1994). These alumni donation motivations, more specific than those of overall charitable giving behaviors, tend to exhibit more warm-glow giving preferences rather than altruistic or empathetic giving preferences.

In recent years, economists have begun to study the different habits of giving between men and women. Bolton and Katok (1995) use data gathered from a laboratory test to determine if the giving habits in question differ between men and women. Although their results were inconclusive, the fact that they controlled for gender in their experiment caused other economists to acknowledge the potential for a gendered influence in charitable donation habits. Most

notably, Andreoni and Vesterlund (2001) create a dictator game to specifically analyze giving behaviors between genders and find that systematic differences in giving exist between males and females. Their study reveals while both male and female participants were altruistically motivated, their generosity depends on the price of giving. In addition, male participants are found to give larger sums sporadically, while female participants give smaller amounts over time. This study prompted further research regarding gender and charitable giving behavior. For example, Yen (2002), Andreoni et al. (2003), and Rooney et al. (2005) support the claim that women give to various charities consistently for more equal amounts, while men tend to prefer giving larger gifts infrequently. Bryant et al. (2003) created interdisciplinary theoretical models from economics, psychology, and sociology to model charitable giving behavior, which Wiepking and Mass (2009) use to model differing giving behavior between genders. They find those with more financial capital and more extended social networks tend to not only give more often to charity, but also give larger amounts (Wiepking and Mass 2009). Brown and Ferris (2007) similarly discover that higher levels of income and social influence result in higher donation levels. Because males have historically had both higher income levels and more social influence, economists now have a better understanding as to why males have been recorded in the past to give more to charity than females.

Studies also find that females tend to give from empathetic motivation (Mesch et al. 2011; Einholf 2011). In particular, a study by Willer et al. (2015) reveals that not only are women more likely to give if asked a question framed in an empathetic matter appealing to altruistic behavior, but men are significantly less likely to give if the question appeals to empathetic or sympathetic sentiments. List and Price (2009) and Croson et al. (2010) find men prefer to give in exchange for recognition or social acknowledgment, and that the higher level of

social influence, the stronger the motivation to receive peer credit for a charitable gift.

Differences exist in giving habits between gender, and understanding how each gender is motivated is an essential part of analyzing charitable giving behavior.

The current literature examining gender differences specific to alumni giving behavior remains relatively sparse. However, a field experiment created by Landry et al. (2006) assesses the effect of different lotteries on donation patterns and reveals some important information about gendered donation patterns in fundraising. The experiment recruited and trained paid student solicitors from a large university in North Carolina and randomly assigned each solicitor to an area after training to ask for hurricane relief donations from over 4,000 households. Before the solicitation, each solicitor's physical attractiveness was rated by other students on a scale of 1-10. Among additional findings, the results suggest that solicitations done by females increase the average gift by 35-72%. On further inspection, the increase in giving is found to be largely due to increased participation by households whose door was answered by a male. Female solicitor physical attractiveness levels are also found to be significantly positively correlated with male giving. So not only are men more likely to give and give larger amounts when asked by a female, they are also more likely to give larger amounts when asked by a physically attractive female. Conversely, female donors' donation patterns appear relatively unaffected by both the gender and the physical attractiveness of the solicitor.

Across the United States, one of the most effective and widely-used tools employed to solicit alumni donation for advancement departments is phone drives. Calls are made to college or university alumni by current students to ask for charitable donations. Being such a large part of advancement offices across universities, phone drives are an ideal setting to further our understanding of gendered alumni giving. This study extends the in-person experiment of Landry

et al. (2006) to determine if gender effects exist over the phone, and more specifically, if males are more likely to pledge, and to pledge larger amounts if called by a female. We also analyze whether vocal attractiveness levels affect pledging behavior, and determine if the in-person finding of Landry et al. (2006) extends to solicitations over the phone: that a male respondent is more likely to pledge and to pledge a larger amount when called by a female with a higher vocal attractiveness rating.

Data

The data in this study come from the Advancement Department of a small liberal arts college, and include observations collected from the phone drives in fiscal years 2017 and 2018. The phone drives operate both during the week and weekends and are composed of undergraduate students paid to complete calls to alumni to solicit donations. Each phone-a-thon caller is given training as to how best to engage with respondents, but is not given a specific script to follow. The data are coded with each respondent's unique identification number, which remains the same through each year. Key variables of interest include the gender of the respondent, the gender of the caller, and the pledge amount. Refer to Table 1 for descriptions of each variable included in the analysis. Refer to Table 2 for the summary statistics. The two years contain 4,210 observations where the level of observation is an answered phone call. As show in Table 2, the proportion of female callers in the sample is 82%. The proportion of female respondents in the sample is 41%, and the average pledge amount given by females is \$72.89, whereas the average pledge amount given by males is \$90.26. Of the total calls, 49% were made by females to males, with only 7% of the total calls made by males to females.

Table 1. Variable Descriptions

| Variable | Description |
|--------------------------|---|
| <i>att_caller</i> | Vocal attractiveness rating of callers from 1 (extremely unattractive) to 10 (extremely attractive) |
| <i>married</i> | Marital status of respondent (1 being married; 0 being not married) |
| <i>yrs_grad</i> | Years since graduation of respondent |
| <i>caller_birthplace</i> | Perceived birthplace of caller (1 being born in U.S; 0 being not born in U.S.) |
| <i>prior_pledge</i> | Prior pledge made by respondent (1 being pledge previously made; 0 being no pledge previously made) |
| <i>stem_major</i> | Major of respondent (1 graduating with a STEM major; 0 graduating with a non-STEM major) |
| <i>income</i> | Estimated income of respondent based on graduating major |
| <i>yr_17</i> | Year the call was made (1 being call made in 2017; 0 being call not made in 2017) |
| <i>yr_2018</i> | Year the call was made (1 being call made in 2018; 0 being call not made in 2018) |

Table 2: Summary Statistics

| Variable | n | Mean | Std. Dev. | Min | Max |
|---|------|----------|-----------|-------|-------|
| Vocal attractiveness rating of callers | 2356 | 5.65 | 0.99 | 4.46 | 7.83 |
| Vocal attractiveness rating of female callers | 1775 | 5.6 | 1.1 | 4.46 | 7.83 |
| Vocal attractiveness rating of male callers | 581 | 5.81 | 0.45 | 5.23 | 7.16 |
| Proportion of female callers | 4210 | 0.82 | 0.38 | 0 | 1 |
| Proportion of female respondents | 4210 | 0.41 | 0.49 | 0 | 1 |
| Calls made by females to females | 4210 | 0.33 | 0.47 | 0 | 1 |
| Calls made by females to males | 4210 | 0.49 | 0.5 | 0 | 1 |
| Calls made by males to females | 4210 | 0.07 | 0.26 | 0 | 1 |
| Calls made by males to males | 4210 | 0.11 | 0.31 | 0 | 1 |
| Marital Status | 2922 | 0.87 | 0.34 | 0 | 1 |
| Years since graduation | 3001 | 31.45 | 20.53 | 1 | 80 |
| Perceived birthplace of caller | 2356 | 0.72 | 0.34 | 0.01 | 0.99 |
| Prior pledge made by respondent | 4210 | 0.68 | 0.47 | 0 | 1 |
| Respondent with STEM major | 4210 | 0.17 | 0.37 | 0 | 1 |
| Estimated median income | 2915 | 58564.05 | 3318.13 | 50000 | 66673 |
| Calls made in 2017 | 4210 | 0.39 | 0.49 | 0 | 1 |
| Calls made in 2018 | 4210 | 0.28 | 0.45 | 0 | 1 |

To determine if the gendered findings of Landry et al. (2006) were replicated in donation solicitation over the phone, callers from fiscal years 2016 and 2017 agreed to participate in a research experiment where each voice was recorded reading a few sentences. The sentences were identical for each recording and matched the script of the initial pitch provided by the phone drives in every way except for any mention of the school or higher education. This was to ensure that student survey participants were not aware they were rating the vocal attractiveness of peers

and to protect the identity of each voice. A complete script can be found in Appendix 1. Of the 4,210 calls, 2,356 were made by individuals who were still currently enrolled in the college or lived locally to the area. 66% of the recordings were made by female callers.

To gather the vocal attractiveness ratings of the callers, student survey participants were solicited from a variety of academic concentrations. Students came to a specific location where they listened to the 18 vocal recordings played in a different and randomized order during 10 different sessions.¹ After providing demographic information, students answered three questions about each voice: is this individual most likely male or female (to ensure that the gender of the caller was evident to the respondent), was this individual most likely born in the United States (to measure the perception of a foreign accent), and finally, each voice was rated on a scale of 1-10 from extremely unattractive to extremely attractive. We took the average rating for each caller and as shown in Table 2, the mean vocal attractiveness rating of female callers (5.6) and the vocal attractiveness rating of male callers (5.81) were very similar, but each showed some variability ranging from 4.46 to 7.83 for females and 5.23 to 7.16 for males. In total there were 94 participants over the 10 playback sessions. The survey is included in Appendix 1.

As a first look at the data, Figure 1 shows the probability of a specified pledge according to the genders of both the caller and the respondent, and Figure 2 shows the average amount of specified pledges according to gender. Without controlling for the vocal attractiveness or other control variables, we did see gender effects in the average amount of specified pledges, with male respondents giving statistically significantly more when called by males than by females at the 10% level. This evidence of giving preferences differing by gender over the phone appeared

¹ Each session was randomized to avoid the possibility that rating behavior altered over the course of the survey.

opposite than the face-to-face experiment done by Landry et al. (2006), and motivated the need to further specify the analysis.

Figure 1: Probability of specified pledge:

| | | Caller | |
|------------|--------|----------------|----------------|
| | | Male | Female |
| Respondent | Male | 0.47 (0.07) | 0.62 (0.07) |
| | Female | 0.45 (0.06) | 0.57 (0.07) |

Figure 2: Average amount of specified pledges:

| | | Caller | |
|------------|--------|----------------------------------|-------------------|
| | | Male | Female |
| Respondent | Male | \$97.02* (3.25) | \$69.15 (1.48) |
| | Female | \$63.68 (1.26) | \$61.07 (1.39) |

*The average male pledge amount was found to be statistically significantly greater when called by males than by females at the 10% level ($p < 0.1$).

The two dependent variables in this study are the probability of pledging (Table 3) and the pledge amount (Table 4) denoted as p . Following the analysis of Landry et al. (2006), five ordinary least squares are estimated for each dependent variable.

$$(1) p = \beta_0 + \beta_1 att_caller + e$$

$$(2) p = \beta_0 + \beta_1 att_caller_f + \beta_2 att_caller_m + \beta_3 controls + e$$

$$(3) p = \beta_0 + \beta_1 att_caller_f + \beta_2 att_caller_m + \beta_3 callergender + \beta_4 respgender + \beta_5 controls + e$$

$$(4) p = \beta_0 + \beta_1 att_caller_f + \beta_2 att_caller_m + \beta_3 f_f + \beta_4 f_m + \beta_5 m_m + \beta_6 controls + e$$

$$(5) p = \beta_0 + \beta_1att_f_f + \beta_2att_f_m + \beta_3att_m_f + \beta_4controls + e$$

The base model (1) determines any relationship that might exist between the vocal attractiveness rating of the callers and the probability of pledging or the amount of the pledge. Model (2) analyzes how male and female vocal attractiveness ratings separately affect the dependent variables, and includes variables we suspect might influence the probability of a pledge or the amount of pledging other than the vocal attractiveness rating of male and female callers such as marital status, years since graduation, perceived birthplace of the caller, whether a prior pledge was made, if the respondent graduated with a STEM major, estimated income², and the actual year the call was made. Model (3) adds to the previous model by further determining if the gender of the caller and the gender of the respondent affect pledging preferences. Model (4) analyzes the effect of gender combinations between the caller and the respondent and Model (5) determines if the vocal attractiveness rating of the caller in addition to the gender combination of the caller and respondent affect the likelihood or the amount of the pledge.

Results

The in-person solicitation results explored in Landry et al. (2006) are not replicated in donation solicitation over the phone as males are not statistically significantly more likely to pledge nor pledge a larger amount when called by females. Similarly, the vocal attractiveness levels of female callers are not found to be positively related with pledging preferences. However, different giving behaviors are found between genders. As shown in Table 4, female respondents called by males pledge \$41.86 less on average compared to males called by males.

² The data collected by the phone drives only include the respondents' major with no work history or employment information. We used the NACE salary estimator (NACE 2018) to generalize income levels, but the estimation is admittedly rough. To better estimate any income effect, we included a dummy variable for whether the respondent graduated with a STEM major.

In addition, a one-point increase in a female caller's vocal attractiveness rating results in female respondents pledging \$6 less on average compared to males (Table 4). Table 3 reveals a one-point increase in male vocal attractiveness ratings improves the probability of pledging by 2.58 percentage points overall.

Table 3: Probability of Pledging

| | (1) | (2) | (3) | (4) | (5) |
|--|----------------------|---------------------|----------------------|----------------------|------------------------|
| Vocal attractiveness rating of callers | 0.0173 (0.0114) | | | | |
| Vocal attractiveness rating of female callers | | 0.0194 (0.0146) | 0.0206 (0.0147) | 0.0206 (0.0147) | |
| Vocal attractiveness rating of male callers | | 0.0258* (0.0147) | -0.00603 (0.0604) | -0.00602 (0.0604) | |
| Gender of caller | | | 0.0918 (148.5) | | |
| Gender of respondent | | | 17.52 (12.16) | | |
| Calls made by females to female respondents | | | | -0.228 (0.368) | |
| Calls made by females to male respondents | | | | -0.198 (0.368) | |
| Calls made by males to female respondents | | | | -0.0291 (0.0549) | |
| Vocal attractiveness rating of female callers for calls made to female respondents | | | | | -0.00612 (0.00857) |
| Vocal attractiveness rating of female callers for calls made to male respondents | | | | | 0.000207 (0.00858) |
| Vocal attractiveness rating of male callers for calls made to female respondents | | | | | -0.000355 (0.00904) |
| Controls | | Yes | Yes | Yes | Yes |
| Constant | 0.412*** (0.0648) | 1.310*** (0.471) | 1.302*** (0.471) | 1.530** (0.594) | 1.452*** (0.468) |
| N | 2122 | 1055 | 1055 | 1055 | 1055 |
| R-sq | 0.001 | 0.172 | 0.173 | 0.174 | 0.171 |
| Standard errors in parentheses | *p<.1 | ** p<.05 | *** p<.01" | | |

Table 4: Pledge Amount

| | (1) | (2) | (3) | (4) | (5) |
|--|---------------------|------------------|-------------------|--------------------|--------------------|
| Vocal attractiveness rating of callers | -3.707 (3.534) | | | | |
| Vocal attractiveness rating of female callers | | 1.809 (6.042) | 1.874 (6.081) | 1.677 (6.081) | |
| Vocal attractiveness rating of male callers | | 6.250 (6.069) | 6.152 (24.25) | 4.067 (24.30) | |
| Gender of caller | | | 0.0918 (148.5) | | |
| Gender of respondent | | | 17.52 (12.16) | | |
| Calls made by females to female respondents | | | | -36.02 (150.1) | |
| Calls made by females to male respondents | | | | -26.88 (150.1) | |
| Calls made by males to female respondents | | | | -41.86* (23.41) | |
| Vocal attractiveness rating of female callers for calls made to female respondents | | | | | -6.265* (3.741) |
| Vocal attractiveness rating of female callers for calls made to male respondents | | | | | -4.905 (3.712) |
| Vocal attractiveness rating of male callers for calls made to female respondents | | | | | -5.516 (3.858) |
| Controls | | Yes | Yes | Yes | Yes |
| Constant | 103.5*** (20.31) | 106.8 (185.9) | 116.6 (186.1) | 165.4 (235.6) | 171.1 (185.2) |
| N | 1081 | 555 | 555 | 555 | 555 |
| R-sq | 0.001 | 0.073 | 0.077 | 0.080 | 0.076 |
| Standard errors in parentheses | *p<.1 | ** p<.05 | *** p<.01" | | |

Conclusion and Future Research

The findings of Landry et al. (2006) have important consequences for fundraising strategy moving forward. The increased probability and amount of giving by males when asked by a physically attractive female may prompt charitable organizations to ensure that their resources are being allocated effectively. With the growing interest in gender throughout the study of charitable giving, we examine whether the same conclusions can be made regarding

gender and vocal attractiveness levels in alumni donation solicitation over the phone. Although the in-person solicitation outcomes of Landry et al. (2006) are not replicated in our study using phone drives and vocal attractiveness, we do find giving behaviors are different between genders with females being called by males giving less on average compared to males called by males and a one-point increase in male vocal attractiveness ratings improving the probability of pledging.

Ideally, future studies could include more years of data with more observations for more robust findings. Additionally, it would be beneficial to collect recordings for every single caller employed at the phone drives in order for each observation to be included in the analysis. As an important determinant of giving habits, this study also requires a better estimation of income. To better account for income, we include whether the respondent graduated with a STEM major, but this still could be further improved if the data include employment history.

Several interesting questions arise from the survey experiment. The vocal attractiveness rating behaviors tended to differ between males and females: female raters were either consistently harsh or consistently lenient, whereas males tended to rate rather sporadically, specifically harsher while rating male callers and more lenient while rating female callers. Should the survey question have asked about the perceived *physical* attractiveness of the caller was rated based on their voice, rather than asking about the vocal attractiveness level of the caller, we suspect the ratings might differ although it is not clear how they might differ *a priori*. There is ample opportunity for further research.

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