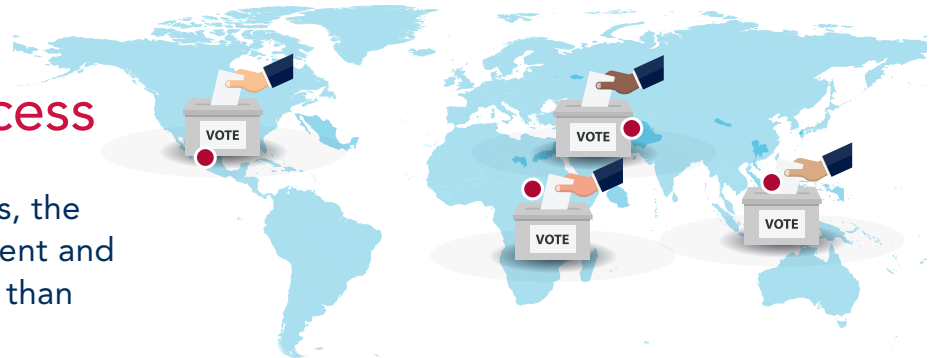




## Overseas voting process

For U.S. citizens living overseas, the process of voting is very different and contains many more obstacles than voting domestically.

As such, accurate knowledge and information about the absentee voting process are crucial to voting successfully from overseas.



Americans located in Mexico, parts of Africa, the Middle East and Southeast Asia know especially high numbers of other Americans in their country who vote.

### The importance of social connections



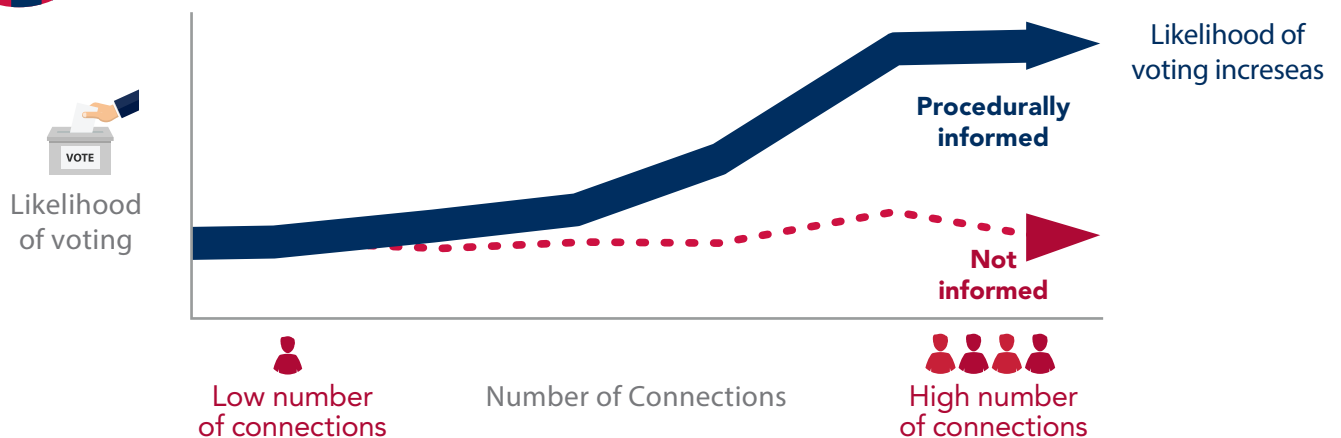
One way that overseas citizens can obtain absentee voting information is through the **transfer of knowledge** from other overseas voters.

U.S. citizens located in certain countries tend to have **more social connections who are knowledgeable** about the absentee voting process.

Overseas citizens who know other Americans in their country of residence **who successfully voted are themselves more likely to vote successfully.**



## It's the quality—not quantity—of social connections that increases voting success.



THOSE WITH MORE THAN 50 INFORMED CONNECTIONS ARE MORE THAN TWICE AS LIKELY TO HAVE VOTED AS THOSE WITH A SIMILARLY LARGE, BUT LESS INFORMED, SOCIAL NETWORK.

## OVERSEAS SOCIAL CONNECTIVITY AND VOTING IN THE 2014 GENERAL ELECTION

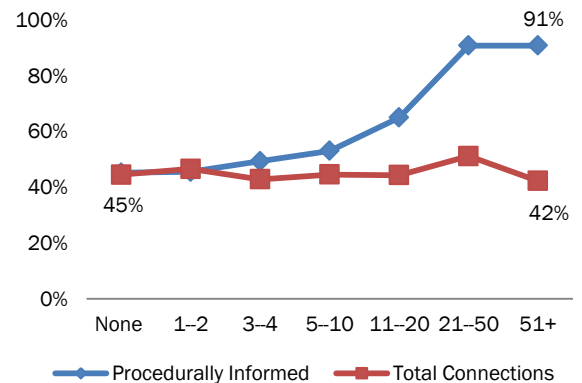
*Connections to other U.S. citizens living abroad facilitate voting through the transfer of information about the absentee voting process.*

This research note examines the extent to which absentee voting by U.S. citizens living abroad is affected by being socially connected to other U.S. citizens residing in the same country.

**Background.** Past voting research indicates that having more social connections (friends and family) is associated with a greater likelihood of turning out to vote, due to both motivation and information effects. However, because of the complexities of voting absentee from outside of the United States, it is unclear how the dynamics of social connectivity apply to overseas citizens who are highly motivated to vote but may lack sufficient procedural information to do so successfully.

**Methods.** Data from the Overseas Citizen Population Survey (OCPS) was used to estimate the relationship between social connectivity and the likelihood of successful voting by overseas ballot requesters and how the characteristics of social connections affect this relationship. Total connections are the number of other Americans that a respondent reported knowing in their country of residence. Motivated connections are the number of connections that a respondent believes voted. Procedurally informed connections are motivated connections likely to have successfully voted based on the overall country-level voting rate. If American social connections facilitate voting by passing along information about the absentee voting process, knowing more procedurally informed American voters be more strongly related to the likelihood of voting than connections to unsuccessful voters or individuals who did not try to vote.

**Results.** Results indicate that the number of overseas Americans one knows is unrelated to voting propensity. Having more motivated connections is only weakly related to the likelihood of voting. There is a strong positive relationship between connections to procedurally informed voters and the likelihood of successful absentee voting. Overall, results indicate that among overseas U.S. citizens who started the absentee voting process, rather than having a motivational effect, social connectivity facilitates voting primarily through the transfer of information.



**Conclusions.** Overseas U.S. citizens are highly connected and have the potential to benefit significantly from information provided through their social networks. Future research should examine how social connectivity might enhance the effectiveness of information campaigns undertaken by FVAP and other stakeholders.

## Introduction

Voting behavior is strongly influenced by one's social environment. Friends, family and other acquaintances are sources of motivation and information that can promote and facilitate voting. Previous research has shown that social connections are particularly important in helping Active Duty Military (ADM) overcome the unique challenges of voting from overseas.<sup>1</sup> This research note examines the relationship between social connectivity and the voting behavior of overseas citizens. Results indicate that American social connections increase the likelihood of voting to the extent that those connections are both motivated to vote and able to provide procedural information about how to do so successfully from a particular country.

## Social Connections and Voting

Social connections play an important role in shaping the voting behavior of domestic U.S. citizens. The number of social connections one has and the characteristics of those connections are strongly related to voting propensity.<sup>2</sup> Social connections can increase the likelihood of voting in three key ways: by creating a sense of collective interest, establishing voting as a social norm and transferring procedural information about the mechanics of the voting process.

Social connectivity might motivate voting by creating a sense of shared community interest and civic responsibility.<sup>3</sup> Individuals with more social connections are more likely to be exposed to information relevant to an election and are easier to reach as part of mobilization efforts.<sup>4</sup> In these ways, voting propensity might be related directly to the total number of connections one has.

The characteristics of one's connections also influence the effect they have on voting. People tend to imitate the behavior of others in their social network; therefore, voting is highly correlated with the voting behavior of one's friends, family and other social connections.<sup>5</sup> Politically engaged and motivated social connections provide information on the importance of an election and establish voting as a social norm.<sup>6</sup> Those who believe that voting is a social norm among their family and friends are more likely to vote themselves to avoid the stigma associated with violating social expectations.<sup>7</sup>

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1 Federal Voting Assistance Program. (2014). *The effects of spouses on voting in the active duty military population*. Retrieved from [https://www.fvap.gov/uploads/FVAP/Reports/2015\\_FVAP\\_ResearchNote4\\_20160105\\_final.pdf](https://www.fvap.gov/uploads/FVAP/Reports/2015_FVAP_ResearchNote4_20160105_final.pdf).

2 McClurg, S. D. (2003). Social networks and political participation: The role of social interaction in explaining political participation. *Political Research Quarterly*, 56(4): 448-65.

3 Putnam, R. D. (2000) *Bowling Alone: The Collapse and Revival of American Community*. New York, New York: Simon & Schuster.

4 Leighley, J. (1996). Group membership and the mobilization of political participation. *The Journal of Politics*, 58(02), 447-463.; Huckfeldt, R. (2001). The social communication of political expertise. *American Journal of Political Science*, 425-438.

5 Fowler, J. H. (2005). Turnout in a small world. In A. Zuckerman, *Social logic of politics* (pp. 269-287). Philadelphia, PA: Temple University Press.

6 Stoker, L., & Jennings, M. K. (1995). Life-cycle transitions and political participation: The case of marriage. *American Political Science Review*, 89(02), 421-433.; McClurg (2003).

7 Gerber, A. S., Green, D. P., & Larimer, C. W. (2008). Social pressure and voter turnout: Evidence from a large-scale field experiment. *American Political Science Review*, 102(01), 33-48.

Beyond their influence on motivation, social connections can also serve as an important source of procedural information on how to vote.<sup>8</sup> Through social interactions with others who have knowledge or experience with the voting process, citizens can learn about and develop the skills needed to participate.<sup>9</sup> Consequently, social connections who can provide accurate information about the voting process are more important than the total number of connections one has or their level of motivation.

For overseas citizens, the uniqueness of the social environment and the challenges of the voting process have several implications on how social connections might influence voting behavior. Overseas citizens who know many other Americans in their country of residence might maintain a greater sense of connection to the United States and, therefore, be more likely to vote in U.S. elections. This might be particularly true if voting is perceived to be a social norm among those American connections. Much as it does for their domestic counterparts, voting might serve as an opportunity for overseas citizens to express their sense of shared community interest and civic responsibility.

For overseas citizens, the motivation to vote is often inadequate to overcome the challenges of voting absentee. In 2014, less than half of overseas absentee ballot requesters who reported returning their absentee ballot had a vote recorded in their State vote history files.<sup>10</sup> This suggests a need for procedural information, which might be acquired through social interactions with other Americans who are knowledgeable and experienced with the absentee voting process. Previous research investigating the impact of social connections on voting among ADM—a population with voting challenges similar to overseas citizens—found that having a spouse helped mitigate the negative impact of moving overseas on voting. For single ADM, moving overseas was associated with both a decrease in self-reported voting as well as a decrease in the likelihood of receiving voting information from family and friends. For overseas citizens, non-spousal connections to other Americans residing in their country might be an important source of information needed to overcome the voting barriers and challenges unique to one's country of residence.

## Key Research Questions

- In which countries do overseas absentee ballot requesters have the most U.S. social connections?
- How does the number of U.S. social connections affect the probability that an absentee ballot requester votes?
- Do U.S. social connections influence voting through motivation or information transmission?

## Data and Methodology

The data used in these analyses come from the Overseas Citizen Population Survey (OCPS) conducted by Fors Marsh Group and FVAP. The OCPS was implemented through a mixed-mode

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8 McClurg (2003).

9 Verba, S., Schlozman, K. L., & Brady, H. E. (1995). *Voice and equality: Civic voluntarism in American politics* (Vol. 4). Cambridge, MA: Harvard University Press.

10 Federal Voting Assistance Program. (2016). *Overseas citizen population analysis*. Available at FVAP.gov.

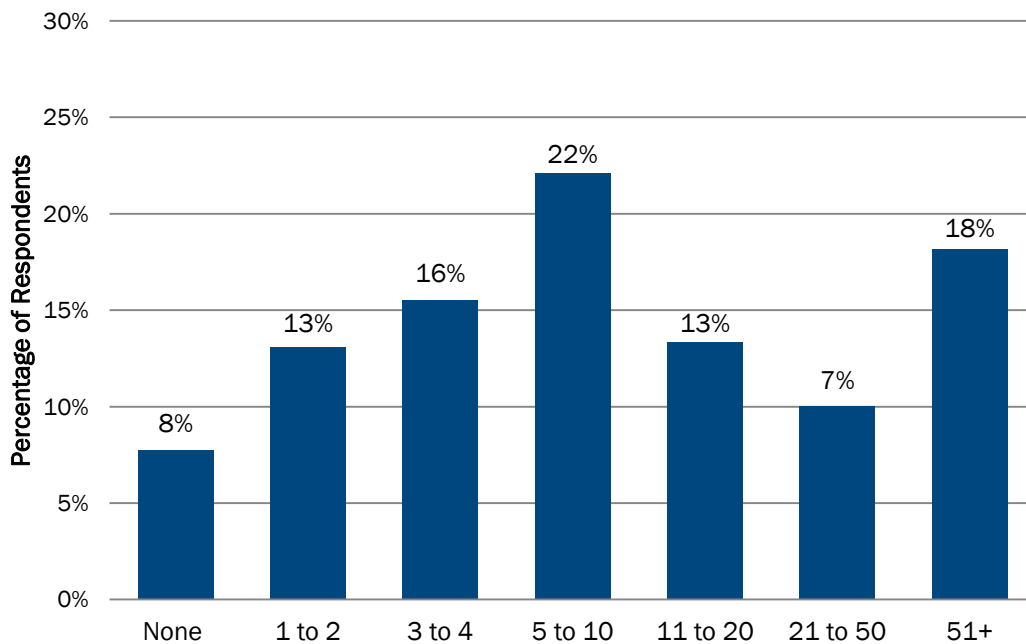


design in which individuals were pushed to respond via an online survey through mail and email reminders. The respondents also had the option to respond via a paper survey with a postage-paid return envelope. Data were collected from September 18, 2015, to December 9, 2015. The OCPS is representative of overseas citizens who were registered to vote and requested that an absentee ballot for the 2014 General Election be sent to an overseas address. Of the 36,000 overseas citizens who were sent a survey, 8,078 eligible respondents completed the survey. The survey responses were linked to voter file data that provide information on whether each respondent was given credit for voting in the 2014 General Election, as well as credit for voting in previous elections. When presenting the results, respondents who “voted” are defined as those who were given credit for voting in their State voter files. Both, the survey and the administrative data were used to determine if a respondent voted and to produce an estimate of the number of American overseas citizens each respondent knew who were likely to have successfully voted.

*Social Connectivity*

In this analysis, social connectivity is defined as the total number of American overseas citizens an OCPS respondent knew in their country of residence in 2014.<sup>11</sup> Figure 1 shows the percentage of respondents by number of connections. The most frequent response was “5–10”, and the second most frequent was “51+.” The high frequency of the top-most category likely resulted from the potentially unlimited range of social connections known by respondents in this category.

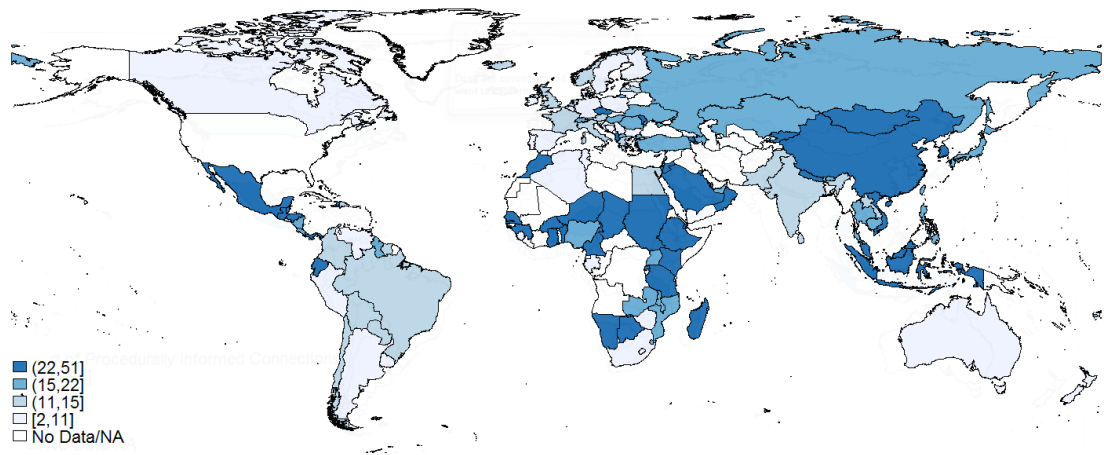
**FIGURE 1: TOTAL NUMBER OF SOCIAL CONNECTIONS**



<sup>11</sup> This information is obtained from the OCPS question, “How many U.S. citizens do you know who reside in the country in which you resided on November 4, 2014?,” where the response options were “None,” “1–2,” “3–4,” “5–10,” “11–20,” “21–50,” or “51+.”

Using this definition of social connections, it is possible to determine the average number of connections each overseas citizen had by country.<sup>12</sup> Figure 2 shows the average number of connections for respondents in each country, with countries divided into four categories. Respondents in darker shaded countries had, on average, more connections. Highly connected overseas ballot requesters tended to be in Africa, Asia, Latin America and Eastern Europe. Respondents in countries, such as in Western Europe and Canada, which have good infrastructure (e.g., high postal reliability and internet penetration) tended to know fewer American citizens in their country of residence.<sup>13</sup> Respondents who reported being employed and having children tended to have more American social connections in their country of residence.

**FIGURE 2: AVERAGE TOTAL NUMBER OF AMERICAN CONNECTIONS BY COUNTRY**



One possible explanation for high social connectivity in developing countries is that because there is substantial variance in the level of development within these countries Americans are more highly clustered in one or a few cities.<sup>14</sup> This geographic concentration might result in respondents having a large number of connections, despite the small absolute number of U.S. citizens in these countries. Alternatively, U.S. citizens in developing countries might have a greater preference for interacting with other Americans for a variety of social, cultural or economic reasons.

*Motivation of Social Connections*

Previous research indicates that social connections can influence voting by increasing one’s motivation to vote. Interpersonal discussion with social connections might make election issues more salient. Similarly, other Americans might place pressure on an individual to vote.

<sup>12</sup> The categorical responses were converted into counts for the number of known American citizens by taking the midpoint in the response category for all response categories but the top, which is assigned a count of 51.

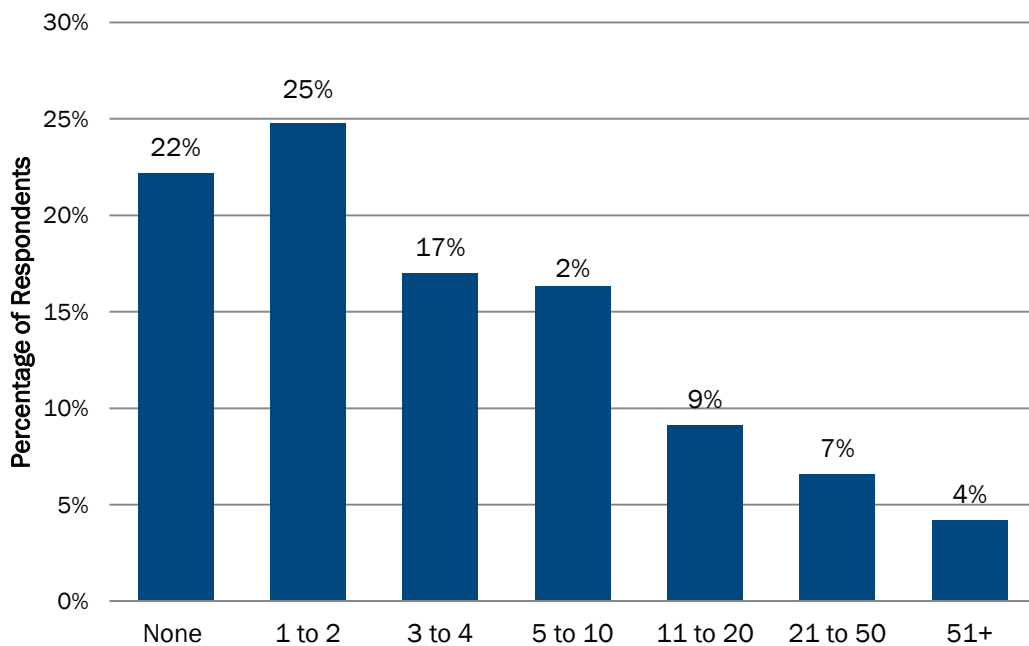
<sup>13</sup> These countries also tend to have higher absentee ballot requester voting rates.

<sup>14</sup> Lessmann, C. (2014). Spatial inequality and development—Is there an inverted-U relationship? *Journal of Development Economics*, 106, 35–51.

Respondents with greater social connectivity might consequently see more of a benefit to voting, particularly when their social connections are motivated to vote. In this research note, the number of motivated social connections is operationalized as the number of connections the respondent thought voted in the 2014 General Election.<sup>15</sup> Respondents were likely basing this estimate on their interactions with other Americans; for example, discussions about current events, the U.S. election or the voting process. Such interactions are precisely the type that theory suggests might enhance an individual’s motivation to vote or sense that voting is a social norm; therefore, a respondent’s estimate of the number of their acquaintances who voted serves as an appropriate proxy for the number of overseas connections who were motivated to vote.<sup>16</sup>

Figure 3 shows the proportions of respondents by the number of motivated connections whom the respondent believes voted.<sup>17</sup> Most absentee ballot requesters knew few individuals who they believed had voted. The most frequent response was “1 to 2” and the second most frequent response was “None.”

**FIGURE 3: NUMBER OF MOTIVATED CONNECTIONS (SOCIAL CONNECTIONS BELIEVED TO HAVE VOTED)**



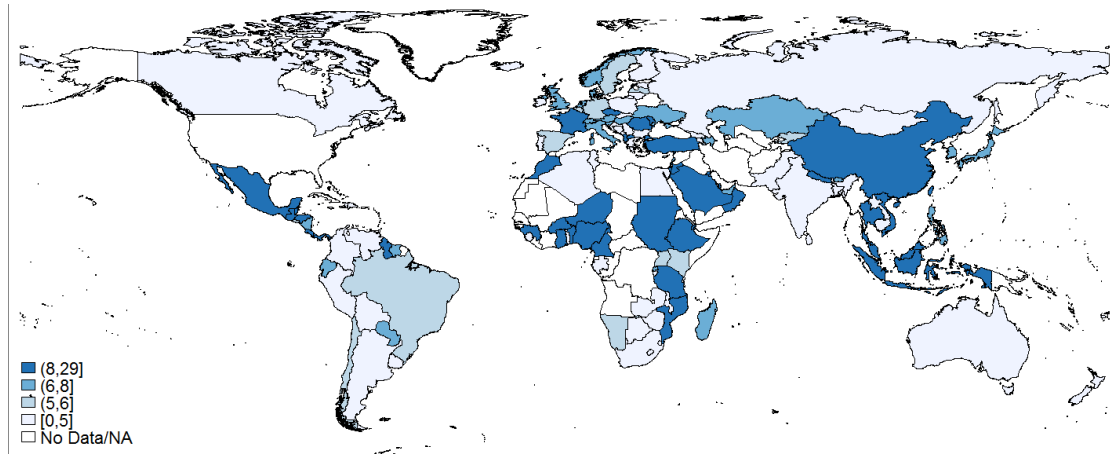
<sup>15</sup> OCPS respondents were asked, “Of these U.S. citizens [who reside in the country in which you resided on November 4, 2014], how many of them would you estimate voted in the general election held on November 4, 2014?” Response options were “None,” “1-2,” “3-4,” “5-10,” “11-20,” “21-50,” or “51+.”

<sup>16</sup> One is that respondents with particularly large social networks are unable to track the voting behavior/propensity of each connection and only included in their count of connections who voted those for whom they had explicit information concerning voting behavior/propensity. However, if the connections misclassified as “unmotivated” had a positive influence on voting behavior, then this measurement error will bias the effect of having more motivated connections towards zero for respondents who have large social networks. See Appendix D for further discussion of potential response bias in estimates of motivated connections.

<sup>17</sup> Respondents are weighted such that the proportions represent absentee ballot requesters by numbers of connections who were believed to have voted.

The mean number of motivated connections by country is reported in Figure 4. The geographic distribution of social connections believed to have voted is similar to that of the total number of social connections. This suggests that respondents perceived many of their overseas American acquaintances to be motivated to vote in U.S. elections.

**FIGURE 4: AVERAGE NUMBER OF MOTIVATED CONNECTIONS BY COUNTRY**



### *Procedurally Informed Voter Connections*

Perhaps more important than respondents' total number of social connections or those connections' level of motivation is the ability of social connections to facilitate voting through the transfer of procedural information. Non-voters are unlikely to have useful information about voting procedures, so this information transfer can only occur if an overseas citizen's social connections also vote. In order to vote, overseas citizens must understand how to successfully navigate the complex absentee ballot process. This is especially true in countries with less reliable postal systems or other barriers that create high burdens for requesting and submitting an absentee ballot.

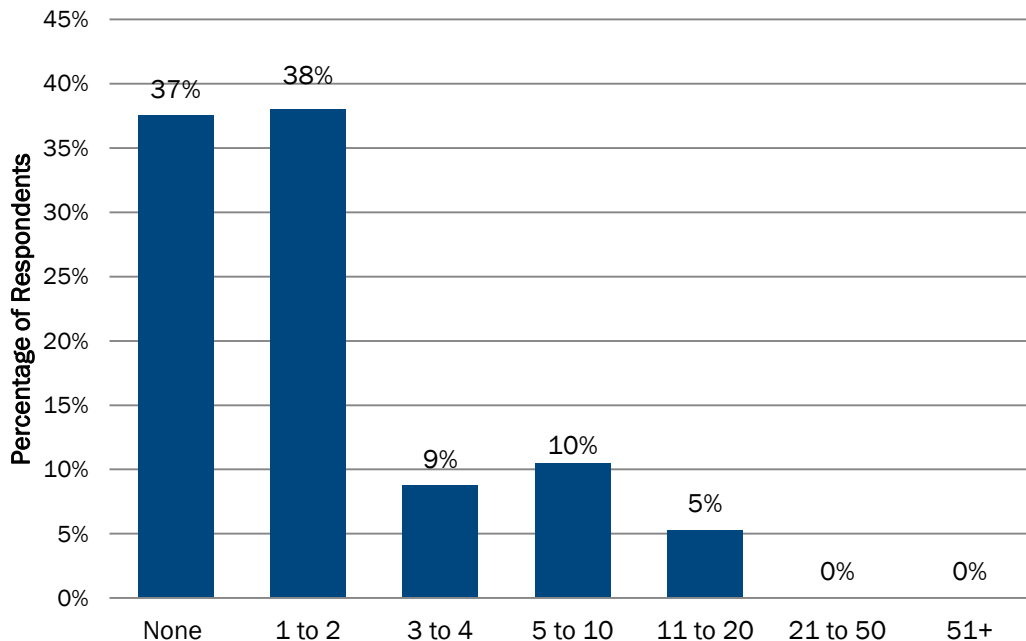
Administrative and survey data were used to estimate how many of the American citizens a respondent knew were likely to have successfully voted in 2014. In the OCPS, only 47 percent of respondents who reported that they had definitely voted in 2014 had a vote recorded in their State vote history files. Therefore, it is reasonable to assume that only a subset of the social connections who a respondent thought had voted actually did so successfully. With this assumption, the country-level vote rate provides a reasonable estimate of the actual vote rate among social connections believed to have voted.

Multiplying the number of connections each respondent thought voted (motivated connections) by the voting rate of all other absentee ballot requesters in the respondent's country gives the estimated number of connections who are likely to have voted successfully. These social connections who successfully voted have access to and can potentially pass along the procedural

information needed to successfully vote absentee in U.S. elections.<sup>18</sup>

Figure 5 shows the percentages of respondents by the estimated number of connections who are likely to have successfully voted.<sup>19</sup> Although most overseas citizens knew five or more Americans in their country of residence, only 15 percent knew five or more Americans who were likely to have actually voted in 2014, and 76 percent knew two or fewer Americans who voted in 2014. Only a small fraction of any given overseas citizen’s social connections are likely to be procedurally informed.

**FIGURE 5: NUMBER OF PROCEDURALLY INFORMED VOTER CONNECTIONS BY COUNTRY**



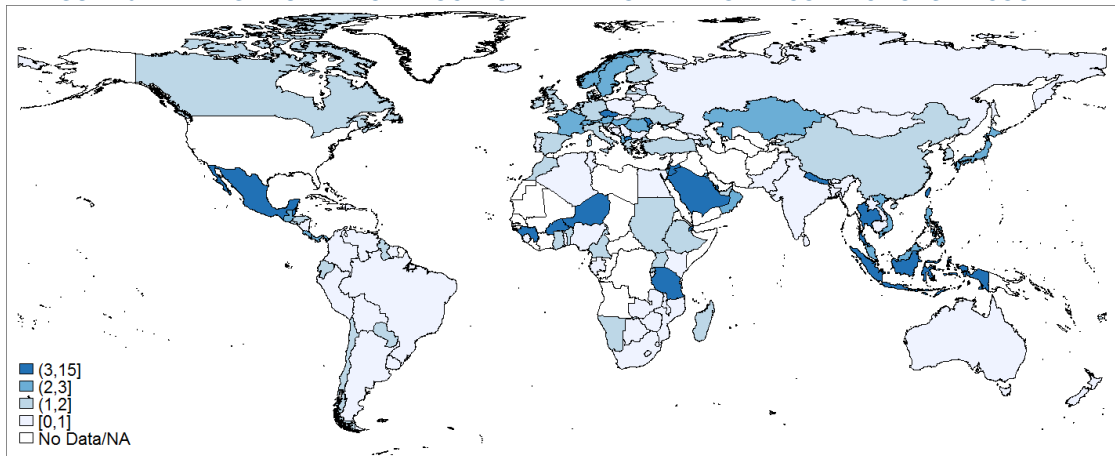
Note: The number of procedurally informed contacts is rounded to nearest integer before assigning to bins.

Figure 6 shows the wide variation across countries in the estimated number of procedurally informed connections. Respondents in Mexico, parts of Africa, the Middle East and Southeast Asia have especially high numbers of procedurally informed social connections. Unlike the total number of social connections, there is not a divide between developed and developing countries with respect to the number of procedurally informed connections.

<sup>18</sup> One complication with this assumption is that because 2014 was a midterm election, the number of connections who voted in 2012 and, thus, were procedurally informed might exceed the number who voted 2014.

<sup>19</sup> The categorical responses were converted into counts for the number of known American citizens by taking the midpoint in the response category for all response categories but the top, which was assigned a count of 51.

**FIGURE 6: AVERAGE NUMBER OF PROCEDURALLY INFORMED VOTER CONNECTIONS BY COUNTRY**



*Modeling Social Connectivity and Voting*

Previous research suggests that social connectivity can influence voting by creating social pressure or motivation to vote and by facilitating the transfer of information needed to successfully navigate the voting process. Figure 7 illustrates how respondents’ social connections are divided into three categories based on level of motivation and procedural information. Unmotivated connections are those who are not believed to have voted. These connections are expected to have no effect on procedural information and might have a negative effect on motivation if they distract from or otherwise discourage attention to the election or absentee voting process. Motivated connections are those who the respondent believes voted in the 2014 General Election, whether or not they are likely to have done so successfully. While these connections might have a motivational influence that increases voting, they do not have sufficient, accurate information that would increase the likelihood that a respondent is able to vote successfully. In fact, to the degree that the procedural information they do possess is inaccurate, motivated connections might reduce the probability that the individual successfully votes. Procedurally informed connections are a subset of motivated connections; these are connections that a respondent believes voted and who are likely to have done so successfully. These connections are, thus, able to share useful procedural information that can increase the likelihood that a respondent is also able to vote successfully.

**FIGURE 7: TYPES OF SOCIAL CONNECTIONS AND THEIR EFFECT ON VOTING**

		Motivation Effect	Procedural Information Effect
Types of Social Connections	Unmotivated	–	○
	Motivated	+	–
	Procedurally Informed	+	+

Note: + = positive effect on voting through either motivation or procedural information transfer;  
 – = negative effect on voting through either motivation or procedural information transfer;  
 ○ = neutral/no effect on voting



The empirical strategy involves using ordinary least squares (OLS) or logistic regression to estimate the separate effects of having an additional social connection—a motivated connection or procedurally informed connection—while holding the other two factors constant. The effect of knowing an additional motivated connection is estimated by examining the effect of knowing an additional overseas U.S. citizen who the respondent thought had voted in a country where no absentee ballot requesters had a ballot recorded (and were, thus, motivated but not procedurally informed). The effect of knowing an additional procedurally informed connection is operationalized as the effect of an additional motivated connection when the respondent was located in a country where all absentee ballot requesters had a ballot recorded. The difference between the effects of a successful and unsuccessful voter can be attributed to the transfer of procedural knowledge to the respondent. Finally, the model estimates the effect of the number of unmotivated connections, operationalized as the difference between the total number of connections and the number of connections the respondent thought voted in 2014.

## Results

### *Total Number of Social Connections and Voting*

If knowing more Americans in a country of residence motivates voting by increasing one's sense of connection to the United States, then the total number of American connections one has should be directly related to the likelihood of voting. Results do not support this hypothesis, showing no relationship between an overseas citizen's total number of connections and the probability that he or she voted in the 2014 General Election.<sup>20</sup> Social connectivity does not appear to promote voting by enhancing one's sense of American identity or connection to the United States.

### *Motivated Versus Unmotivated Connections*

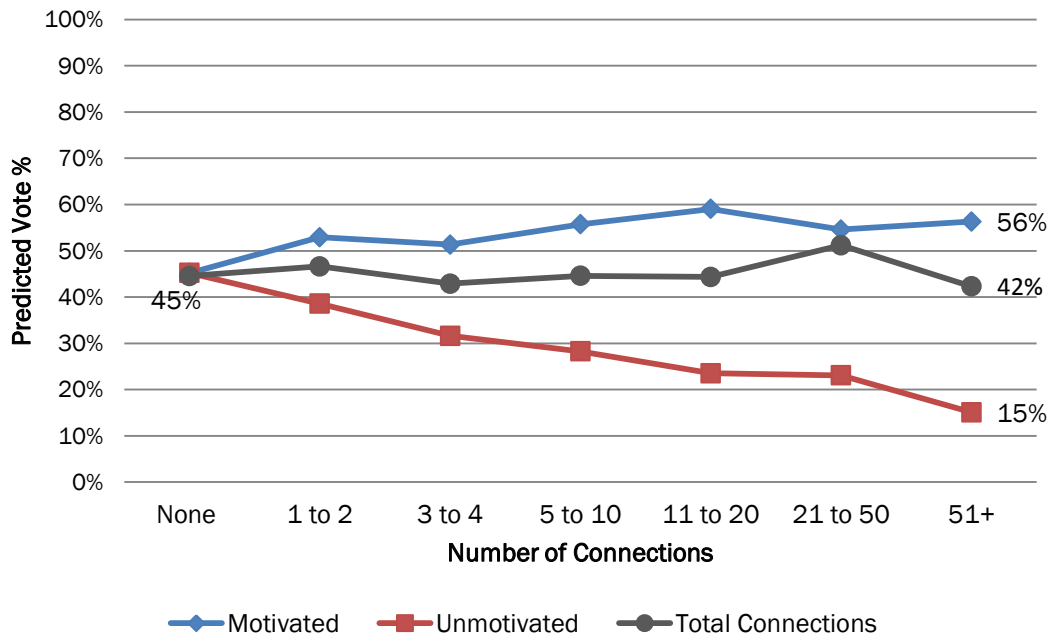
While the total number of connections appears to be largely unrelated to the probability of voting, there is reason to expect that this obscures the role played by specific types of connections. American social connections might motivate voting only to the extent that those connections are themselves motivated to vote. These motivated connections can increase the likelihood of voting through interpersonal mobilization efforts, such as asking others to register to vote, or by establishing voting as a social norm.

Figure 8 shows the model predicted likelihood of voting based on the number of motivated and unmotivated social connections. While there is a small positive increase in the probability of voting as the number of motivated connections increases, there is a sharper negative drop as the number of unmotivated connections increases.

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<sup>20</sup> Tables C1 and C2

**FIGURE 8: LIKELIHOOD OF VOTING BY SOCIAL CONNECTION MOTIVATION**



Note: Figure reports predicted probabilities of voting from two logit regressions. The first estimates marginal effects for respondents with different numbers of total contacts, whereas the second disaggregates contacts into motivated and unmotivated connections and estimates the effect of the number of connections of each type, holding connections of the other types fixed at zero (Column 7 of Table D3). Each regression controls for the Ballot Requester Vote Rate of the respondent’s country, Demographic Characteristics, State Fixed Effects, Additional Country Characteristics, and Subnational Characteristics. Control variables are set to the nonresponse post-stratification weighted estimation sample mean.

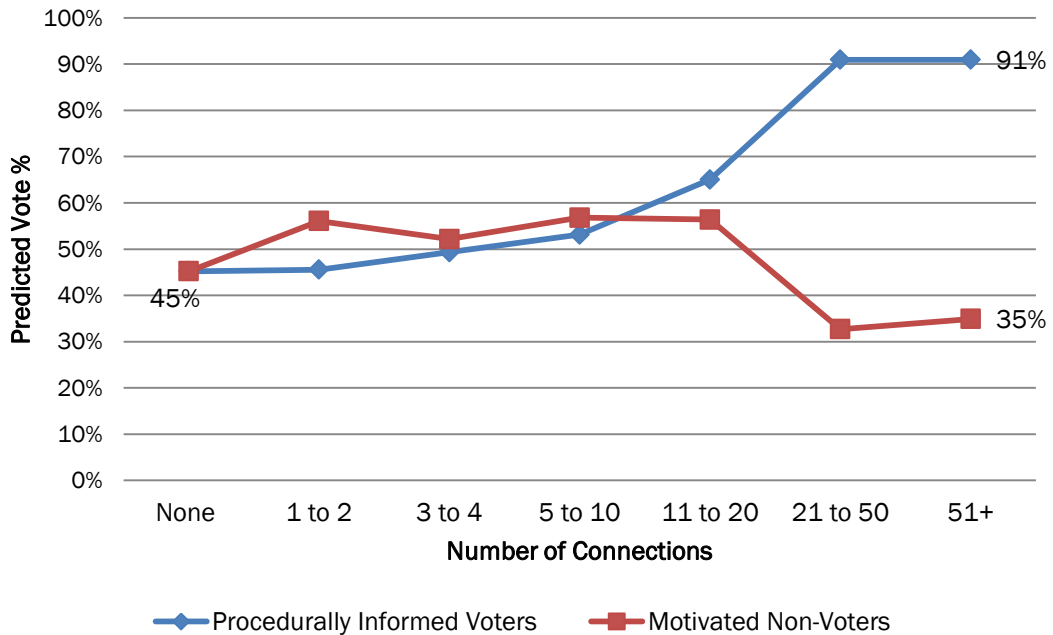
The baseline regression models show that having an additional unmotivated connection results in a statistically significant 0.2–0.3 percentage point decrease in the probability of voting. One explanation for this result is that time spent with unmotivated, procedurally uninformed connections results in less time spent with motivated or procedurally informed connections, decreasing exposure to mobilization messages and lowering the probability that voting information will be transferred between acquaintances. It is also possible that these procedurally uninformed connections are sources of inaccurate procedural information and, thus, directly lower the probability that one will successfully navigate the absentee voting process.<sup>21</sup>

<sup>21</sup> To further examine the role of “bad information” and other mechanisms hypothesized in Figure 8, in Table D2 the linear voting models from Table D1 are re-estimated, dropping respondents who report that they “definitely did not vote”. To the degree that respondents who “definitely did not vote” include those respondents who were not motivated to vote, then the effect of the numbers of different types of social connections are more likely to reflect the effect of these social connections on the respondent’s procedural information, rather than an effect on respondent’s motivation. Consistent with the hypothesis that increasing the number of motivated connections increase the probability of voting by increasing an individual’s motivation to vote, the point estimate of the effect of both motivated voters and nonvoters on the probability that the respondent votes drops. In fact, the estimated effect of an additional motivated nonvoter is now statistically significant and negative, consistent with the small reflect of a motivated nonvoter in the baseline results reflecting the countervailing positive effect of these connections on motivation but a negative information effect due to these connections possessing bad information. The effect of an additional motivated voter remains positive and statistically significant, consistent with the existence of an information spillover effect. The effect of an additional

*Informed Versus Uninformed Connections*

While there appears to be a weak positive relationship between the number of motivated connections and voting, it is unclear to what degree this relationship is driven by social desirability or motivation versus the transfer of procedural information from motivated connections. Figure 9 shows the relationship between different types of motivated connections and one’s probability of voting.<sup>22</sup> This figure shows model predicted probability of voting for overseas absentee ballot requesters with differing numbers of procedurally informed voter connections (“Voters”) versus connections who the respondent thought had voted but are unlikely to have done so successfully (“Motivated Non-voters”). The probability of voting increases as the number of procedurally informed voters one knows increases. By contrast, the probability of voting decreases as the number of motivated non-voters increases.

**FIGURE 9: LIKELIHOOD OF VOTING BY NUMBER OF PROCEDURALLY INFORMED AND MOTIVATED NON-VOTER CONNECTIONS**



Note: Figure reports predicted probabilities of voting from two logit regression. The model disaggregates contacts into “Procedurally Informed Voters” and “Motivated Non-Voters” and estimates the effect of the number of connections of each type, holding connections of the other types fixed at zero (Column 7 of Table D3). Each regression controls for the Ballot Requester Vote Rate of the respondent’s country, Demographic Characteristics, State Fixed Effects, Additional Country Characteristics, and Subnational Characteristics. Control variables are set to the nonresponse post-

unmotivated connection is now smaller and, for the most part, statistically insignificantly different from zero, consistent with the negative effect of unmotivated connections in the baseline models operating through a negative impact of these connections on respondent’s motivation to vote.

22 The model used to generate the predicted probabilities for Figure 5 (Column 7, Table D3) is based on logit models where the social connectivity variables are treated as categories, rather than counts. This model has the benefit of producing more realistic predictions of the voting rate but is more complicated to interpret with respect to direction and statistical significance of the effect of the number of connections on voting.

stratification weighted estimation sample mean. Note that while the difference in probabilities of voting appear to only occur when the number of connections exceed 20, the implied average effect of an additional motivated voter as one moves from 5–10 to 11–20 is 1.5 percentage points. The equivalent for the move from 11–20 to 21–50 is 1.3 percentage points. The inequality in the bin ranges consequently may give a false impression that the effect of the number of connections is nonlinear.

The regression results imply that knowing an additional procedurally informed voter leads to a statistically significant 1–1.5 percentage point increase in the probability of voting.<sup>23</sup> By contrast, knowing an additional motivated non-voter results in a statistically insignificant 0.0–0.3 percentage point decrease in the probability of voting. These results suggest that any positive effect of knowing motivated U.S. citizens is due to information spillover.<sup>24</sup> The relationship between motivated non-voter connections and voting is not significantly different from the effect of unmotivated connections. The lack of evidence for an effect on motivation through social pressure or other mechanisms is not surprising, given that all respondents in the sample requested an absentee ballot while overseas and, thus, were likely already relatively motivated to vote.

### Conclusion

#### Summary

Research on domestic voting and ADM voting suggests social connectivity might be a potentially significant correlate of voting. Specifically, having more social contacts might lead one to become more motivated to vote and might facilitate one's ability to do so through the transfer of procedural information. Inspired by this literature, this report examines to what extent social connections among the U.S. overseas population might influence voting in this understudied population. The question as to whether social connections promote voting through information transfer is particularly important to FVAP, given the potential amplification of outreach campaigns by overseas citizens sharing these messages with other potential overseas voters.

This report uses newly collected survey data on the 2014 population of overseas absentee ballot requesters and vote history data from State voter files to explore the role of social connectivity in overseas voting in the 2014 General Election. One complication in examining knowledge transfer in this population is that the voting rate of the eligible overseas population is very low and the processes by which ballots are submitted can be confusing. Consequently, a respondent's social connections might be expected to have a low level of procedural knowledge. This in turn implies that knowledge transfer might be limited even among highly connected respondents, and any positive effect will be difficult to distinguish from other mechanisms linking social connectivity to voting, such as social pressure to vote. Consistent with this population having a low level of procedural awareness, this analysis finds that a respondent's total number of connections has little relationship to their probability of voting.

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<sup>23</sup> These results reference baseline OLS models (Table D1) where social connectivity variables are converted to counts and the effect between the numbers of connections of a given type is assumed to have a linear effect on the probability of voting. This is the preferred model due to its interpretability.

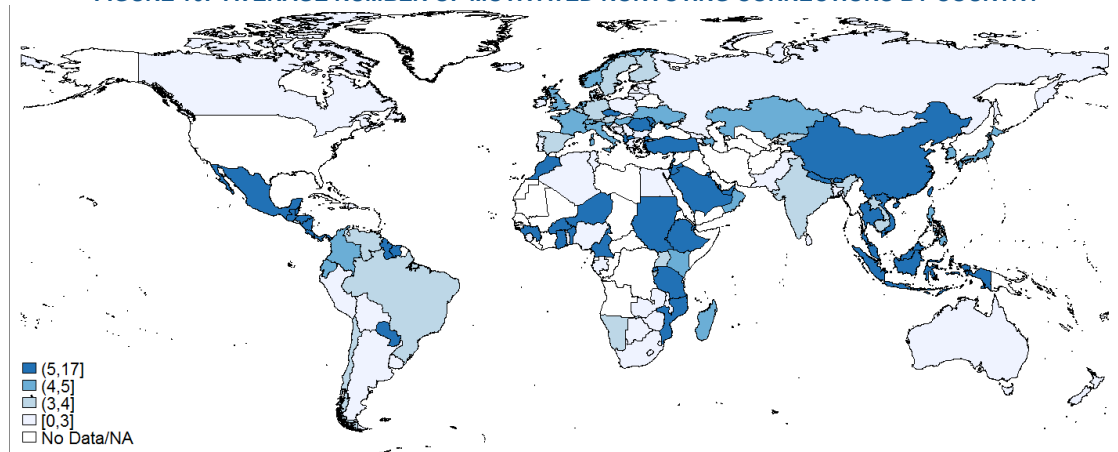
<sup>24</sup> Further analyses exploring the information spillover mechanism for social influence can be found in Appendix E. In these models, information transfer is measured using self-reported receipt of procedural information from family and friends.

Though the total quantity of connections appears unrelated to voting, the characteristics of one’s connections do appear to influence the likelihood of successful absentee voting. Survey responses to a question concerning the number of the respondent’s connections that voted and country-level vote rates for the absentee ballot population were combined to create an estimate of the number of a respondent’s connections who were likely to have voted successfully, a proxy for the number of procedurally informed connections. To identify the effect of information transfer on voting, the estimated of the relationship between the number of procedurally informed connections and the likelihood of voting was compared to the estimated relationship between motivated non-voter connections and voting. Consistent with a knowledge transfer effect, results indicate that the number of connections who had successfully voted from the respondent’s country of residence, but not the number of motivated connections who attempted to vote, positively influences voting.

*Policy Implications*

These results have potentially strong implications for FVAP outreach efforts, suggesting that direct outreach will have stronger indirect effects on the overseas population’s level of procedural information and voting if targeted to individuals with a large number of connections. The most efficient targeting might be to individuals who are uninformed themselves and have a large of number of uninformed connections. Figure 10 displays the average number of motivated, non-voting connections among absentee ballot requesters by country. Latin America, Africa, the Middle East and East/Southeast Asia have particularly large numbers of these individuals. Because absentee ballot requesters are themselves likely motivated, this map gives a good indication of the countries in which 1) motivated voters know each other and 2) the vote rate and, thus, procedural information among these motivated Americans is particularly low. Procedural information campaigns targeted towards U.S. citizens in these countries might spread to substantially more potential voters, providing FVAP a greater return on its investments.<sup>25</sup>

**FIGURE 10: AVERAGE NUMBER OF MOTIVATED NONVOTING CONNECTIONS BY COUNTRY**



<sup>25</sup> A greater return on investment in developing countries, of course, assumes that there is not a countervailing increase in costs for direct targeting in these countries.

Aside from geographic targeting, the analysis of the correlates of social connectivity indicates that employed absentee ballot requesters are generally more likely to have social connections.<sup>26</sup> Reaching potential voters through their workplaces, particularly overseas affiliates of U.S. owned companies, where many U.S. citizens are likely to be employed, might be an effective outreach strategy. Sending out procedural voting information with IRS tax forms might also be a potential means of reaching employed U.S. citizens living overseas.

#### *Limitations and Directions for Future Research*

While the results of this analysis are suggestive of a role for overseas social networks in enhancing FVAP outreach efforts, there are several important limitations to the current research. The data for respondent's social connectivity are self-reported, highly coarse and, consequently, might contain measurement error. In particular, because the number of connections measures are top coded at 51, the number of connections attributed to respondents who know an extremely large number of other Americans is likely to be downwardly biased. Further, the country-level absentee vote rate is an imperfect proxy for the level of procedural information within a respondent's social network, leading to additional error in the measure of procedurally informed connections. Finally, because this analysis employs observational, rather than experimental data, the number and characteristics of social connections might be correlated with some unobserved characteristics of the respondent or his or her location, undermining the ability to definitely attribute the relationship between procedurally informed connections and voting to knowledge spillover. Stronger evidence of information spillover would require data tracking procedural knowledge for both the respondent and his or her connections over time so that pre- and post-election knowledge could be compared. In the future, FVAP might wish to find alternative sources of data for overseas social networks to avoid some of the measurement issues in this analysis.

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<sup>26</sup> See Table B1.



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**Appendix A: Variable Definitions**

**TABLE A1: Variable Descriptions**

Variable	Description
<b>Outcome Variables</b>	
<b>Voted</b>	1 for a record in the vote history file for a respondent having voted in 2014 general election, 0 for not voted.
<b>Treatment Variables</b>	
<b>Number of U.S. Acquaintances</b>	Reported number of U.S. citizens that respondent knows in country of residence as of 2014. Categorical or continuous. Categorical responses converted to a continuous variable by assigning midpoints of response ranges as the number of known acquaintances. Variable is top coded at 51. None = 0; 1-2 = 1.5; 3-4 = 3.5; 5-10 = 7.5; 11-20 = 15.5; 21-50 = 35.5; 51+= 51.
<b>Number of U.S. Acquaintances Who Reported Voting</b>	Reported number of U.S. citizens that respondent knows in country of residence as of 2014 who voted. Categorical or continuous. Categorical responses converted to a continuous variable by assigning midpoints of response ranges as the number of known acquaintances. Variable is top coded at 51. None = 0; 1-2 = 1.5; 3-4 = 3.5; 5-10 = 7.5; 11-20 = 15.5; 21-50 = 35.5; 51+ = 51.
<b>Number of U.S. Acquaintances Who Voted</b>	<b>Number of U.S. Acquaintances Who Reported Voting x voting rate of all other absentee ballot requesters in the respondent's 2014 country of residence.</b>
<b>Country Characteristics</b>	
<b>Absentee Ballot Voting Rate</b>	Voting rate of all other absentee ballot requesters in the respondent's 2014 country of residence.
<b>Postal Reliability</b>	Postal Reliability is the average (logged) time it took all other respondents in the country to start the survey after survey invitations were first sent out. This average is calculated for the subset of respondents without a valid email address (and thus received the invitation by mail). Postal Reliability is rescaled such that it has a mean of 0, a standard deviation of 1, and higher values correspond with shorter average times to respond.

Voice and Accountability (WGI)	Average of the country's Voice and Accountability Index for period 1996–2013, one of the World Bank's World Governance Indicators. Higher value indicates more open, accountable government.
Road Density (World Bank WDI)	Mean of kilometer of road per 100 sq. km of land area, 2000–2012. (World Bank's World Development Indicators)
% Paved Roads (World Bank)	Mean of % of Total Roads Paved, 2000–2012. (World Bank's World Development Indicators)
Internet Users per Capita (World Bank)	Mean of internet users per 100 people, 2000–2012. (World Bank's World Development Indicators)
Ln(Distance From United States)	Logged distance between closest U.S.-Country of Residence city pair.
OECD (OECD Website)	1 if 2014 country of residence is a member of the Organization of Economic Cooperation and Development (OECD), 0 otherwise.
<b>Subnational Characteristics</b>	
Reliability of Local Postal System	Respondent's assessment of reliability of local postal service. 5 categories, ranging from "Very low reliability" to "Very reliable".
Reliability of Local Roads	Respondent's assessment of reliability of local roads. 5 categories, ranging from "Very low reliability" to "Very reliable".
Time to Respond	Log of time that passes between when an invitation was to participate in the OCPS was sent to respondent and when respondent started the web survey.
Respondent Received Invitation by Mail	Indicator that takes a value of 1 if respondent received invitation to participate in the survey by mail and 0 if by email.
<b>Demographic/Socioeconomic Characteristics</b>	
Age	Continuous age of respondent on November 4, 2014
Male	1 for male, 0 for female
Race/Ethnicity	1 for White Non-Hispanic, 2 for Black Non-Hispanic,

	3 for Hispanic, 4 for Other
<b>Education</b>	1 for no college education, 2 for some college or associate's degree, 3 for bachelor's degree in college, 4 for MA/PhD/professional degree
<b>Marital Status</b>	1 for married, 0 for not married
<b>Has Children</b>	1 for has children, 0 for does not have children
<b>Local Ties</b>	1 if respondent, respondent's spouse, or respondent's children are citizens of the respondent's 2014 country of residence, 0 if no members of the household are.
<b>Employed</b>	1 if respondent reports being employed in 2014, 0 otherwise.
<b>Years Since Moved Overseas</b>	Number of years individuals has been overseas as of 2014
<b>Household Income</b>	Reported income of respondent's household in 2014 (categorical)

## Appendix B: Correlates of Connectivity

To obtain inference concerning systematic differences between respondents who knew more or fewer American citizens in their country, Table B1 in the appendix reports the results of separate linear regressions between key characteristics of the respondent and their location and the number of American citizens they reported knowing. The categorical responses are converted into counts for the number of known American citizens by taking the midpoint in the response category for all response categories but the top, which is assigned a count of 51. By ignoring within response category variability in the number of Americans known, this conversion introduces measurement error but facilitates interpretation of the size and magnitude of the relationship between the demographic and geographic variables and number of respondent connections. Because FVAP outreach efforts are likely to be targeted towards absentee ballot requesters who have not successfully voted in developing countries, results are presented for both the total sample of respondents from non-OECD countries as well as the subsample of respondents for whom there is no record in the vote history file that they had voted in the 2014 General Election.

**TABLE B1: CORRELATES OF NUMBER OF CONNECTIONS, WITHIN COUNTRY (NON-OECD)**

Dependent Variable: Number of U.S. Citizens Known				
	All		Non-Voters	
	Coefficient	Standard Error	Coefficient	Standard Error
Male	-0.544	(0.869)	-0.869	(1.244)
Employed	2.144	(0.994)**	1.620	(1.460)
Local Ties	-0.493	(0.670)	0.234	(0.815)
Years Since Moved Overseas				
Years Since Moved Overseas	0.123	(0.107)	0.175	(0.124)
Years Since Moved Overseas Squared	-0.002	(0.002)	-0.002	(0.002)
Age				
Age	0.577	(0.1627)***	0.632	(0.211)***
Age Squared	-0.005	(0.001)***	-0.006	(0.002)***
Family (excluded: Not Married, No Children)				
Married	1.171	(1.397)	1.384	(1.926)
Children	1.151	(1.207)	1.432	(1.279)
Married*Children	1.451	(1.556)	0.566	(2.109)
Race/Ethnicity (excluded: White)				
Black	-5.734	(1.241)***	-5.363	(1.385)***
Hispanic	-2.826	(1.078)**	-2.447	(1.535)

Other	-5.808	(1.4025)***	-6.324	(1.474)***
Education (excluded: HS or less)				
Some College	1.159	(1.160)	1.407	(1.308)
College	1.283	(0.978)	1.575	(1.256)
Graduate	3.612	(1.006)***	3.430	(1.187)***
Household Income (excluded: Under \$1,000)				
\$1,000 – 4,999	1.673	(1.482)	1.584	(1.981)
\$5,000 – 9,999	1.199	(1.794)	0.521	(2.486)
\$10,000 – 19,999	1.335	(1.523)	1.170	(2.023)
\$20,000 – 39,999	2.674	(1.511)*	2.737	(2.006)
\$40,000 – 49,999	2.325	(1.579)	1.379	(2.021)
\$50,000 – 74,999	4.233	(1.650)**	3.820	(2.203)*
\$75,000 – 99,999	6.994	(2.276)***	7.104	(3.131)**
\$100,000 – 149,999	2.224	(1.652)	1.172	(2.216)
\$150,000 +	9.560	(1.892)***	8.271	(2.529)***

Notes: Table presents OLS results for separate regressions of select variables on the number of self-reported U.S. contacts in a country. The dependent variable is the number of American connections the respondent reports. This is obtained from responses to Q18 by assigning a number of contacts equal to the midpoints for all but the top category. For respondents who report more than 51 contacts, a value of 51 is assigned. Unless otherwise stated, headers indicate all coefficients estimated in same regression. All regressions are weighted using nonresponse/post-stratification weights. Standard Errors are clustered on country of residence. \* $p < .10$ , \*\* $p < .05$ , \*\*\* $p < .01$ .



## Appendix C: Social Connectivity and Voting, Baseline Results

To mitigate bias in the estimated effect of social connectivity on voting, OLS regression analysis is employed to estimate the effects of the (total and procedurally informed) number of social connections on voting. Specifically, the relationship between the average effect of an additional connection and the respondent’s probability of voting, as reported in the State vote history data appended to the survey frame, is examined while controlling for a large set of characteristics of the respondent and the respondent’s location that might potentially explain a relationship between the number of connections and voting.<sup>27</sup> The full set of control variables is described in Table A1 in Appendix A.

**TABLE C1: EFFECT OF NUMBER OF CONNECTIONS ON VOTING, LINEAR SPECIFICATION**

Dependent Variable: Voted								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Total Number of American Acquaintances	0.000	0.000	-0.000	0.000	-0.000	0.001	0.000	-0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)*	(0.000)	(0.001)
N	7,735	5,924	7,735	7,478	7,737	6,480	4,805	4,981
Control Variables								
Absentee Ballot Request Rate	Yes	Yes	Yes	Yes	No	Yes	Yes	No
Demographic Controls	No	Yes	No	No	No	No	Yes	Yes
State-Fixed Effects	No	No	Yes	No	No	No	Yes	Yes
Additional Country Controls	No	No	No	Yes	No	No	Yes	No
Country-Fixed Effects	No	No	No	No	Yes	No	No	Yes
Subnational Controls	No	No	No	No	No	Yes	Yes	Yes

Notes: Table presents OLS results where the unit of observation is the respondent. The dependent variable is an indicator for the respondent having voted. Explanatory variable is the number of total U.S. citizens the respondent reports knowing in their 2014 country of residence. Absentee Ballot Request Rate is the fraction of all other absentee ballot requesters in the respondent’s country whom the vote history file indicates voted. Demographic controls include: age and age squared; gender; race/ethnicity categories; education attainment; indicators for whether the respondent is married, has children, and their interaction; and indicator for whether the respondent, the respondent’s spouse, or the respondent’s children were citizen of the respondent’s 2014 country of residence; an indicator for whether or not

<sup>27</sup> Note that there might be unobserved characteristics of the respondent that influence both voting and their level of connectivity. Causal interpretations of the effect of connectivity should consequently be made with caution.

the respondent is employed; household income categories; Number of years that have passed since the respondent moved overseas and the square of the number of years that have passed since the respondent moved overseas. Additional country controls include: the Postal Reliability Index of the respondent's country; the Voice and Accountability Index of the respondent's country; the road density of the respondent's country; the fraction of roads of the respondent's country which are paved; internet users per capita of the respondent's country; (logged) distance between the respondent's country and the United States; and an indicator for whether the respondent's country is a member of the OECD. Subnational characteristics include: respondent's assessment of the reliability of their local postal service; respondent's assessment of the reliability of their local roads; respondent's (logged) time to start the web survey after mailed invitations to participate were sent out. Standard errors clustered on country are reported in parentheses. \* $p < .10$ , \*\* $p < .05$ , \*\*\* $p < .01$ .

**TABLE C2: EFFECT OF NUMBER OF CONNECTIONS ON VOTING, NON-LINEAR SPECIFICATION (LOGIT)**

		Dependent Variable: Voted							
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
		Total Number of American Acquaintances (excluded: Zero)							
1 to 2		0.030	0.023	0.019	0.035	0.027	0.025	0.021	0.016
		(0.022)	(0.028)	(0.023)	(0.022)	(0.022)	(0.025)	(0.038)	(0.038)
3 to 4		0.011	0.011	-0.008	0.014	0.002	-0.007	-0.017	-0.028
		(0.023)	(0.026)	(0.025)	(0.024)	(0.024)	(0.024)	(0.033)	(0.034)
5 to 10		0.022	0.031	-0.018	0.23	0.017	0.011	0.000	-0.003
		(0.023)	(0.028)	(0.025)	(0.024)	(0.025)	(0.027)	(0.034)	(0.034)
11 to 20		0.010	0.029	-0.014	0.008	-0.005	0.004	-0.002	-0.015
		(0.027)	(0.027)	(0.027)	(0.028)	(0.028)	(0.029)	(0.032)	(0.032)
21 to 50		0.068	0.075	0.047	0.065	0.052	0.077	0.067	0.048
		(0.024)***	(0.029)**	(0.025)	(0.025)**	(0.025)*	(0.026)***	(0.037)*	(0.040)
51+		0.011	0.007	-0.029	0.004	-0.005	0.017	-0.023	-0.039
		(0.026)	(0.031)	(0.027)	(0.027)	(0.027)	(0.026)	(0.036)	(0.037)
N		7,735	5,924	7,713	7,478	7,659	6,480	4,789	4,907
		Control Variables							
Absentee Ballot Request Rate	Yes	Yes	Yes	Yes	No	Yes	Yes	No	
Demographic Controls	No	Yes	No	No	No	No	Yes	Yes	
State-Fixed Effects	No	No	Yes	No	No	No	Yes	Yes	

<b>Additional Country Controls</b>	No	No	No	Yes	No	No	Yes	No
<b>Country-Fixed Effects</b>	No	No	No	No	Yes	No	No	Yes
<b>Subnational Controls</b>	No	No	No	No	No	Yes	Yes	Yes

Notes: Table presents Logit results where the unit of observation is the respondent. The dependent variable is an indicator for the respondent having voted. Explanatory variables are indicators for the number of U.S. citizens the respondent reports knowing in their 2014 country of residence. Absentee Ballot Request Rate is the fraction of all other absentee ballot requesters in the respondent's country whom the vote history file indicates voted. Demographic controls include: age and age squared; gender; race/ethnicity categories; education attainment; indicators for whether the respondent is married, has children, and their interaction; and indicator for whether the respondent, the respondent's spouse, or the respondent's children were citizen of the respondent's 2014 country of residence; an indicator for whether or not the respondent is employed; household income categories; Number of years that have passed since the respondent moved overseas and the square of the number of years that have passed since the respondent moved overseas. Additional country controls include: the Postal Reliability Index of the respondent's country; the Voice and Accountability Index of the respondent's country; the road density of the respondent's country; the fraction of roads of the respondent's country which are paved; internet users per capita of the respondent's country; (logged) distance between the respondent's country and the United States; and an indicator for whether the respondent's country is a member of the OECD. Subnational characteristics include: respondent's assessment of the reliability of their local postal service; respondent's assessment of the reliability of their local roads; respondent's (logged) time to start the web survey after mailed invitations to participate were sent out. Standard errors clustered on country are reported in parentheses. \* $p < .10$ , \*\* $p < .05$ , \*\*\* $p < .01$ .

## Appendix D: Disaggregating Social Networks by Level of Information and Motivation

To understand what role social networks might play in enhancing the efficiency of FVAP outreach efforts, it is important to estimate the effect of the subset of respondents who were procedurally informed on voting, as it is these connections who could have potentially influenced respondent voting through information spillover. However, as already discussed, a connection's level of procedural information is likely strongly correlated with the connection's motivation to vote, which can in turn influence the respondent's propensity to vote through social desirability effects. The methodology used to distinguish the effects of the procedural information from the motivation of a respondent's contacts is described.

The hypothesis that social connections affect voting is supported theoretically by appealing to the potential for information transfer between social contacts. Individuals who are more connected should be more informed and/or engaged. However, this also implies that the effect of social connections on successfully submitting an absentee ballot should be conditional on how informed one's social contacts are about the election process. This may be tested by estimating the following cross-sectional model:

$$1) Y_i = \gamma \bar{Y}_c + \delta \text{Motivated}_i + \beta (\bar{Y}_c * \text{Motivated}_i) + \alpha \text{Unmotivated}_i + X_i + X_c + X_s$$

Where  $Y_i$  is an indicator for whether the respondent voted in the 2014 General Election;  $\bar{Y}_c$  is the voting rate for all *other* absentee voters in the respondent's country of residence;  $\text{Motivated}_i$  is the number of Americans in the respondent's country who the respondent knew and reported as having voted;  $\text{Unmotivated}_i$  is the number of Americans in the respondent's country who the respondent knew and reported as having not voted (e.g., the difference between Q18 and Q19); and  $X_i$ ,  $X_c$ , and  $X_s$  are individual (e.g., demographic), country (e.g., fixed effects or country-level infrastructural/institutional characteristics) and state (i.e., state fixed effects) controls, respectively.

$\bar{Y}_c * \text{Motivated}_i$  is the proxy for the number of U.S. citizens in the respondent's country who had actually voted. Consequently, the parameter of interest is  $\beta + \delta$ , or the effect of knowing an additional voter on the respondent's probability of voting. If  $\beta$  is positive and statistically significant, that would be consistent with a large social network having a stronger positive effect on the outcome when one's social network is also more informed (proxied by  $\bar{Y}_c$ ), or that the degree to which one's co-nationals are informed has a stronger positive association with one's own information when one has strong connections to the co-nationals (as proxied by  $\text{Motivated}_i$ ).  $\beta$  may be interpreted as the effect of making a contact who is motivated (i.e., tried to vote) but informed (i.e., providing the contact with sufficient procedural information to successfully vote).

Parameters  $\delta$  and  $\alpha$  capture the effect of having an additional motivated but procedurally uninformed and an unmotivated connection, respectively. These effects could be either positive or negative. They might be positive if contact with other U.S. citizens increases the salience of the U.S. election to the respondent and, thus, motivates the respondent to obtain the necessary procedural information to vote. This effect will presumably be stronger for motivated but uninformed

connections relative to unmotivated connections. These effects could also be negative if these procedurally uninformed respondents lead the respondent to have less contact with procedurally informed contacts, lowering the probably that the respondent will acquire procedural information. These procedurally uninformed contacts might also pass incorrect procedural information to the respondent.

One important limitation of this model is that respondents in developing countries tend to have larger networks. Any tendency for respondents with larger networks to report a lower proportion of connections as having not voted due to limited information about individual's connection's voting activities in large networks will result in a more negative effect the number of motivated connections in developing countries. Consequently, the number of "motivated" connections will have a larger effect for respondents in developed countries. Because absentee ballot requesters also vote at higher rates in developed countries, the observed larger effect of having voting connections in these countries might be due to this measurement error, rather than the motivated connections in these countries being more procedurally informed. To test the robustness of the information spillover effect against this type of systematic measurement error, models reported in Table D1 were re-estimated, allowing the effect of the number of motivated connections to vary based on the total number of connections (i.e., including both those who did and did not try to vote) as well as by the voting rate of other absentee ballot requesters in the respondent's country (results available upon request). The interaction between the voting rate of absentee ballot requesters and number of motivated connections remained, for the most part, positive and statistically significant. Though the estimated knowledge spillover effect only becomes statistically insignificant at the 5% level when State-fixed effects are not controlled for. The results of this robustness check, thus, do not provide strong support for the hypothesis that the estimated information transfer effect is simply an artifact of this type of measurement error.

**TABLE D1- EFFECT OF CONNECTIONS ON VOTING BY LEVEL OF INFORMATION AND MOTIVATION, BASELINE SPECIFICATION**

	Dependent Variable: Voted							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Number of Known American Voters	0.011 (0.003)***	0.012 (0.004)***	0.012 (0.003)***	0.012 (0.003)***	0.010 (0.003)***	0.012 (0.003)***	0.015 (0.003)***	0.014 (0.004)***
Number of Motivated American Nonvoters	-0.000 (0.001)	-0.001 (0.001)	-0.001 (0.001)*	-0.001 (0.001)	-0.000 (0.001)	-0.000 (0.001)	-0.003 (0.001)**	-0.003 (0.002)*
Number of Unmotivated American Acquaintances	-0.002 (0.001)***	-0.002 (0.001)***	-0.003 (0.001)***	-0.003 (0.001)***	-0.003 (0.000)***	-0.002 (0.001)***	-0.002 (0.001)***	-0.003 (0.001)***
N	7,444	5,755	7,444	7,200	7,444	6,279	4,693	5,340
Ho: American Voters = Motivated Nonvoters (p-value)	p=.005	p=.011	p=.001	p=.002	p=.010	p=.003	p=.000	p=.002
Ho: Motivated Nonvoters = Not Motivated (p-value)	p=.104	p=.340	p=.121	p=.154	p=.035	p=.155	p=.630	p=.8786
<b>Control Variables</b>								
Absentee Ballot Request Rate	Yes	Yes	Yes	Yes	No	Yes	Yes	No
Demographic Controls	No	Yes	No	No	No	No	Yes	Yes



State Fixed Effects	No	No	Yes	No	No	No	Yes	No	No	Yes	Yes
Additional Country Controls	No	No	No	Yes	No	No	No	No	No	Yes	No
Country Fixed Effects	No	No	No	No	Yes	No	Yes	No	No	No	Yes
Subnational Controls	No	No	No	No	No	Yes	No	Yes	Yes	Yes	Yes

Notes: Table presents OLS results where the unit of observation is the respondent. The dependent variable is an indicator for the respondent having voted. Explanatory variable include: the number of total U.S. citizens the respondent reports knowing in their 2014 country of residence who voted, the marginal effect for which is the model's prediction for the marginal effect of the number of respondents the respondent reported voting in a country where the absentee ballot requester vote rate was 100%; the number of total U.S. citizens who are motivated to vote but are non-voters, the marginal effect for which is the model's prediction for the marginal effect of the number of respondents the respondent reported voting in a country where the absentee ballot requester vote rate was 0%; and the number of U.S. citizens who the respondent reports knowing who did not vote, which is the difference between the total number of U.S. citizen acquaintances (Q18) and the number of U.S. acquaintances the respondent reported voted (Q19). Absentee Ballot Request Rate is the fraction of all other absentee ballot requesters in the respondent's country whom the vote history file indicates voted. Demographic controls include: age and age squared; gender; race/ethnicity categories; education attainment; indicators for whether the respondent is married, has children, and their interaction; and indicator for whether the respondent, the respondent's spouse, or the respondent's children were citizen of the respondent's 2014 country of residence; an indicator for whether or not the respondent is employed; household income categories; number of years that have passed since the respondent moved overseas and the square of the number of years that have passed since the respondent moved overseas. Additional country controls include: the Postal Reliability Index of the respondent's country; the Voice and Accountability Index of the respondent's country; the road density of the respondent's country; the fraction of roads of the respondent's country which are paved; internet users per capita of the respondent's country; (logged) distance between the respondent's country and the United States; and an indicator for whether the respondent's country is a member of the OECD. Subnational characteristics include: respondent's assessment of the reliability of their local postal service; respondent's assessment of the reliability of their local roads; respondent's (logged) time to start the web survey after mailed invitations to participate were sent out. Standard errors clustered on country are reported in parentheses. \* $p < .10$ , \*\* $p < .05$ , \*\*\* $p < .01$ .

**TABLE D2: EFFECT OF CONNECTIONS ON VOTING BY LEVEL OF INFORMATION, BASELINE SPECIFICATION—REMOVING RESPONDENTS WHO “DEFINITELY DID NOT VOTE”**

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Dependent Variable: Voted								
Number of Known American Voters	0.007 (0.003)**	0.009 (0.004)**	0.008 (0.003)**	0.007 (0.003)**	0.005 (0.004)	0.009 (0.003)**	0.013 (0.004)**	0.012 (0.004)**
Number of Motivated American Nonvoters	-0.002 (0.001)*	-0.003 (0.001)**	-0.003 (0.001)**	-0.003 (0.001)*	-0.002 (0.001)	-0.003 (0.001)**	-0.005 (0.001)**	-0.005 (0.002)**
Number of Unmotivated American Acquaintances	-0.000 (0.001)	-0.000 (0.001)	-0.001 (0.001)	-0.000 (0.001)	-0.001 (0.001)	0.000 (0.001)	-0.001 (0.001)	-0.001 (0.001)
N	5,853	4,501	5,853	5,670	5,853	4,995	3,718	3,847
Ho: American Voters = Motivated Nonvoters (p-value)	p=.033	p=.025	p=.016	p=.040	p=.202	p=.007	p=.001	p=.006
Ho: Motivated Nonvoters = Not Motivated (p-value)	p=.098	p=.073	p=.086	p=.140	p=.532	p=.038	p=.004	p=.033
Control Variables								
Absentee Ballot Request Rate	Yes	Yes	Yes	Yes	No	Yes	Yes	No
Demographic Controls	No	Yes	No	No	No	No	Yes	Yes

State Fixed Effects	No	No	Yes	No	No	No	Yes	No	No	Yes	Yes
Additional Country Controls	No	No	No	Yes	No	No	No	No	No	Yes	No
Country Fixed Effects	No	No	No	No	Yes	No	No	No	No	No	Yes
Subnational Controls	No	No	No	No	No	Yes	No	Yes	Yes	Yes	Yes

Notes: Table presents OLS results where the unit of observation is the respondent. The dependent variable is an indicator for the respondent having voted. Explanatory variable include: the number of total U.S. citizens the respondent reports knowing in their 2014 country of residence who voted, the marginal effect for which is the model's prediction for the marginal effect of the number of respondents the respondent reported voting in a country where the absentee ballot requester vote rate was 100%; the number of total U.S. citizens who are motivated to vote but are non-voters, the marginal effect for which is the model's prediction for the marginal effect of the number of respondents the respondent reported voting in a country where the absentee ballot requester vote rate was 0%; and the number of U.S. citizens who the respondent reports knowing who did not vote, which is the difference between the total number of U.S. citizen acquaintances (Q18) and the number of U.S. acquaintances the respondent reported voted (Q19). Absentee Ballot Request Rate is the fraction of all other absentee ballot requesters in the respondent's country whom the vote history file indicates voted. Demographic controls include: age and age squared; gender; race/ethnicity categories; education attainment; indicators for whether the respondent is married, has children, and their interaction; and indicator for whether the respondent, the respondent's spouse, or the respondent's children were citizen of the respondent's 2014 country of residence; an indicator for whether or not the respondent is employed; household income categories; number of years that have passed since the respondent moved overseas and the square of the number of years that have passed since the respondent moved overseas. Additional country controls include: the Postal Reliability Index of the respondent's country; the Voice and Accountability Index of the respondent's country; the road density of the respondent's country; the fraction of roads of the respondent's country which are paved; internet users per capita of the respondent's country; (logged) distance between the respondent's country and the United States; and an indicator for whether the respondent's country is a member of the OECD. Subnational characteristics include: respondent's assessment of the reliability of their local postal service; respondent's assessment of the reliability of their local roads; respondent's (logged) time to start the web survey after mailed invitations to participate were sent out. Standard errors clustered on country are reported in parentheses. \* $p < .10$ , \*\* $p < .05$ , \*\*\* $p < .01$ .

To generate predicted probabilities, a logit model using a similar specification to that in equation 1 is also estimated:

$$2) Y_i = \text{Logit}(\gamma \bar{Y}_c + \sum_{j=1}^5 \delta^j \text{Motivated}_i^j + \sum_{j=1}^5 \beta^j (\bar{Y}_c * \text{Motivated}_i^j) + \sum_{j=1}^5 \alpha^j \text{Connections}_i^j + X_i + X_c + X_s)$$

**TABLE D3: PREDICTED PROBABILITY OF VOTING BY LEVEL OF INFORMATION AND MOTIVATION OF CONNECTIONS, NON-LINEAR SPECIFICATIONS (LOGIT)**

		Dependent Variable: Voted							
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
		Number of American Voters							
Zero		0.462	0.435	0.469	0.470	0.471	0.469	0.452	0.453
		(0.020)	(0.021)	(0.020)	(0.020)	(0.022)	(0.021)	(0.028)	(0.031)
1 to 2		0.462	0.390	0.413	0.525	0.189	0.543	0.455	0.155
		(0.135)	(0.142)	(0.139)	(0.136)	(0.121)	(0.157)	(0.186)	(0.125)
3 to 4		0.532	0.547	0.475	0.575	0.297	0.599	0.493	0.341
		(0.210)	(0.213)	(0.211)	(0.212)	(0.226)	(0.212)	(0.243)	(0.251)
5 to 10		0.505	0.641	0.490	0.538	0.262	0.434	0.531	0.255
		(0.157)	(0.160)	(0.162)	(0.163)	(0.166)	(0.155)	(0.204)	(0.191)
11 to 20		0.514	0.643	0.472	0.566	0.313	0.563	0.650	0.467
		(0.197)	(0.226)	(0.198)	(0.200)	(0.187)	(0.204)	(0.273)	(0.330)
21 to 50		0.812	0.790	0.805	0.845	0.590	0.879	0.909	0.769
		(0.093)	(0.120)	(0.096)	(0.085)	(0.192)	(0.072)	(0.075)	(0.198)
51+		0.836	0.840	0.877	0.841	0.636	0.836	0.909	0.846
		(0.161)	(0.170)	(0.130)	(0.159)	(0.284)	(0.175)	(0.106)	(0.184)

**TABLE D3 (continued)**

Number of Motivated American Non-Voters								
Zero	0.462	0.435	0.469	0.470	0.471	0.469	0.452	0.453
	(0.020)	(0.021)	(0.020)	(0.020)	(0.022)	(0.021)	(0.028)	(0.031)
1 to 2	0.593	0.574	0.609	0.583	0.738	0.566	0.561	0.724
	(0.065)	(0.074)	(0.068)	(0.065)	(0.067)	(0.075)	(0.095)	(0.092)
3 to 4	0.541	0.495	0.550	0.533	0.656	0.507	0.522	0.586
	(0.103)	(0.105)	(0.107)	(0.109)	(0.118)	(0.108)	(0.122)	(0.131)
5 to 10	0.624	0.546	0.603	0.622	0.741	0.640	0.568	0.704
	(0.068)	(0.079)	(0.074)	(0.072)	(0.074)	(0.072)	(0.097)	(0.097)
11 to 20	0.638	0.591	0.629	0.633	0.720	0.614	0.564	0.633
	(0.083)	(0.104)	(0.082)	(0.088)	(0.080)	(0.090)	(0.130)	(0.130)
21 to 50	0.436	0.419	0.437	0.413	0.561	0.399	0.327	0.419
	(0.064)	(0.077)	(0.063)	(0.072)	(0.086)	(0.064)	(0.082)	(0.115)
51+	0.477	0.437	0.432	0.469	0.596	0.493	0.349	0.421
	(0.092)	(0.090)	(0.091)	(0.093)	(0.101)	(0.097)	(0.092)	(0.120)

**TABLE D3: (continued)**

Number of Motivated American Non-Voters								
Zero	0.462	0.435	0.469	0.470	0.471	0.469	0.452	0.453
	(0.020)	(0.021)	(0.020)	(0.020)	(0.022)	(0.021)	(0.028)	(0.031)
1 to 2	0.593	0.574	0.609	0.583	0.738	0.566	0.561	0.724
	(0.065)	(0.074)	(0.068)	(0.065)	(0.067)	(0.075)	(0.095)	(0.092)
3 to 4	0.541	0.495	0.550	0.533	0.656	0.507	0.522	0.586
	(0.103)	(0.105)	(0.107)	(0.109)	(0.118)	(0.108)	(0.122)	(0.131)
5 to 10	0.624	0.546	0.603	0.622	0.741	0.640	0.568	0.704
	(0.068)	(0.079)	(0.074)	(0.072)	(0.074)	(0.072)	(0.097)	(0.097)
11 to 20	0.638	0.591	0.629	0.633	0.720	0.614	0.564	0.633
	(0.083)	(0.104)	(0.082)	(0.088)	(0.080)	(0.090)	(0.130)	(0.130)
21 to 50	0.436	0.419	0.437	0.413	0.561	0.399	0.327	0.419
	(0.064)	(0.077)	(0.063)	(0.072)	(0.086)	(0.064)	(0.082)	(0.115)
51+	0.477	0.437	0.432	0.469	0.596	0.493	0.349	0.421
	(0.092)	(0.090)	(0.091)	(0.093)	(0.101)	(0.097)	(0.092)	(0.120)

**TABLE D3: (continued)**

Number of Unmotivated American Acquaintances								
Zero	0.462	0.435	0.469	0.470	0.471	0.469	0.452	0.453
	(0.020)	(0.021)	(0.020)	(0.020)	(0.022)	(0.021)	(0.028)	(0.031)
1 to 2	0.400	0.373	0.396	0.412	0.401	0.401	0.386	0.380
	(0.023)	(0.026)	(0.025)	(0.022)	(0.021)	(0.024)	(0.029)	(0.026)
3 to 4	0.345	0.330	0.333	0.356	0.343	0.327	0.316	0.304
	(0.022)	(0.027)	(0.022)	(0.023)	(0.022)	(0.023)	(0.030)	(0.029)
5 to 10	0.307	0.303	0.293	0.317	0.305	0.294	0.283	0.274
	(0.020)	(0.021)	(0.019)	(0.021)	(0.021)	(0.020)	(0.023)	(0.022)
11 to 20	0.245	0.253	0.235	0.249	0.235	0.238	0.235	0.220
	(0.021)	(0.023)	(0.021)	(0.023)	(0.023)	(0.022)	(0.027)	(0.026)
21 to 50	0.242	0.233	0.231	0.245	0.229	0.244	0.231	0.208
	(0.037)	(0.037)	(0.038)	(0.041)	(0.040)	(0.037)	(0.042)	(0.041)
51+	0.178	0.167	0.152	0.179	0.163	0.178	0.151	0.131
	(0.021)	(0.023)	(0.021)	(0.023)	(0.021)	(0.021)	(0.025)	(0.022)
N	7,444	5,755	7,422	7,200	7,373	6,279	4,677	4,793



TABLE D3: (continued)

Control Variables								
Absentee Ballot Request Rate	Yes	Yes	Yes	Yes	No	Yes	Yes	No
Demographic Controls	No	Yes	No	No	No	No	Yes	Yes
State Fixed Effects	No	No	Yes	No	No	No	Yes	Yes
Additional Country Controls	No	No	No	Yes	No	No	Yes	No
Country Fixed Effects	No	No	No	No	Yes	No	No	Yes
Subnational Controls	No	No	No	No	No	Yes	Yes	Yes

Notes: Table presents Logit predicted probabilities where the unit of observation is the respondent. The dependent variable is an indicator for the respondent having voted. Explanatory variable include: the number of total U.S. citizens the respondent reports knowing in their 2014 country of residence who voted, the marginal effect for which is the model's prediction for the marginal effect of the number of respondents the respondent reported voting in a country where the absentee ballot requester vote rate was 100%; the number of total U.S. citizens who are motivated to vote but are non-voters, the marginal effect for which is the model's prediction for the marginal effect of the number of respondents the respondent reported voting in a country where the absentee ballot requester vote rate was 0%; and the number of U.S. citizens who the respondent reports knowing who did not vote, which is the marginal effects of the categories for the total number of U.S. citizen acquaintances (Q18) and the number of U.S. acquaintances the respondent reported voted (Q19). Marginal effects for each type of connection are calculated holding other two types at zero. Absentee Ballot Request Rate is the fraction of all other absentee ballot requesters in the respondent's country whom the vote history file indicates voted. Demographic controls include: age and age squared; gender; race/ethnicity categories; education attainment; indicators for whether the respondent is married, has children, and their interaction; and indicator for whether the respondent, the respondent's spouse, or the respondent's children were citizen of the respondent's 2014 country of residence; an indicator for whether or not the respondent is employed; household income categories; number of years that have passed since the respondent moved overseas and the square of the number of years that have passed since the respondent moved overseas. Additional country controls include: the Postal Reliability Index of the respondent's country; the Voice and Accountability Index of the respondent's country; the road density of the respondent's country; the fraction of roads of the respondent's country which are paved; internet users per capita of the respondent's country; (logged) distance between the respondent's country and the United States; and an indicator for whether the respondent's country is a member of the OECD. Subnational characteristics include: respondent's assessment of the reliability of their local postal service; respondent's assessment of the reliability of their local roads; respondent's (logged) time to start the web survey after mailed invitations to participate were sent out. Standard errors clustered on country are reported in parentheses.

### **Appendix E: Connectivity and Procedural Information**

To further examine the information transmission mechanism, the effect of additional types of connections on the probability that the respondent reported receiving procedural information from “Friends or Family” is examined. Both procedurally informed connections and motivated non-voters are positively related to the probability of receiving procedural information from “Friends or Family.” If social connections influence voting through the transfer of information, then this relationship should be stronger for procedurally informed connections than for motivated non-voters. However, results do not show a statistically significant difference in the likelihood of receiving procedural information across connection types. One explanation for the counterintuitive finding models is that respondents received information from connections but this information was of variable quality. Collectively, the results indicate that some social connections might present obstacles to voting, potentially passing along inaccurate procedural information. This again underscores the need to examine both the composition, as well as the size of overseas social networks to understand the role of social connections in the overseas absentee voting process.

**TABLE E1: CONNECTIVITY AND OBTAINING PROCEDURAL INFORMATION FROM FRIENDS OR FAMILY**

Dependent Variable: Received Procedural Information from Friends or Family

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Number of Known American Voters	0.007 (0.004)*	0.008 (0.004)*	0.008 (0.004)	0.009 (0.004)**	0.011 (0.004)***	0.008 (0.004)*	0.005 (0.004)	0.006 (0.004)
Number of Motivated American Nonvoters	0.004 (0.002)**	0.005 (0.002)***	0.004 (0.002)*	0.003 (0.001)**	0.003 (0.002)	0.004 (0.002)**	0.005 (0.001)***	0.005 (0.002)***
Number of Unmotivated American Acquaintances	-0.001 (0.000)	-0.000 (0.001)	-0.001 (0.000)*	-0.001 (0.001)	-0.001 (0.001)	-0.000 (0.000)	-0.000 (0.001)	-0.000 (0.001)
N	5,798	4,532	5,798	5,612	5,798	4,944	3,734	3,864
Ho: American Voters = Motivated Nonvoters (p-value)	p=.589	p=.591	p=.567	p=.250	p=.123	p=.442	p=.970	p=.753
Ho: Motivated Nonvoters = Not Motivated (p-value)	p=.038	p=.015	p=.045	p=.031	p=.092	p=.040	p=.001	p=.008
<b>Control Variables</b>								
Absentee Ballot Request Rate	Yes	Yes	Yes	Yes	Yes	No	Yes	No
Demographic Controls	No	Yes	No	No	No	No	No	Yes

	No	No	Yes	No	No	No	Yes	No	No	Yes	Yes
<b>State Fixed Effects</b>	No	No	Yes	No	No	No	Yes	No	No	Yes	Yes
<b>Additional Country Controls</b>	No	No	No	Yes	No	No	No	No	No	Yes	No
<b>Country Fixed Effects</b>	No	No	No	No	Yes	No	No	No	No	No	Yes
<b>Subnational Controls</b>	No	No	No	No	No	Yes	No	No	Yes	Yes	Yes

Notes: Table presents OLS results where the unit of observation is the respondent. The dependent variable is an indicator for the respondent reported having reported that they received procedural information from friends or family during the 2014 general election. Explanatory variable include: the number of total U.S. citizens the respondent reports knowing in their 2014 country of residence who voted, the marginal effect for which is the model's prediction for the marginal effect of the number of respondents the respondent reported voting in a country where the absentee ballot requester vote rate was 100%; the number of total U.S. citizens who are motivated to vote but are non-voters, the marginal effect for which is the model's prediction for the marginal effect of the number of respondents the respondent reported voting in a country where the absentee ballot requester vote rate was 0%; and the number of U.S. citizens who the respondent reports knowing who did not vote, which is the difference between the total number of U.S. citizen acquaintances (Q18) and the number of U.S. acquaintances the respondent reported voted (Q19). Absentee Ballot Request Rate is the fraction of all other absentee ballot requesters in the respondent's country whom the vote history file indicates voted. Demographic controls include: age and age squared; gender; race/ethnicity categories; education attainment; indicators for whether the respondent is married, has children, and their interaction; and indicator for whether the respondent, the respondent's spouse, or the respondent's children were citizen of the respondent's 2014 country of residence; an indicator for whether or not the respondent is employed; household income categories; number of years that have passed since the respondent moved overseas and the square of the number of years that have passed since the respondent moved overseas. Additional country controls include: the Postal Reliability Index of the respondent's country; the Voice and Accountability Index of the respondent's country; the road density of the respondent's country; the fraction of roads of the respondent's country which are paved; internet users per capita of the respondent's country; (logged) distance between the respondent's country and the United States; and an indicator for whether the respondent's country is a member of the OECD. Subnational characteristics include: respondent's assessment of the reliability of their local postal service; respondent's assessment of the reliability of their local roads; respondent's (logged) time to start the web survey after mailed invitations to participate were sent out. Standard errors clustered on country are reported in parentheses. \* $p < .10$ , \*\* $p < .05$ , \*\*\* $p < .01$ .