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## Reporting Null Results

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# **Nudges for Citizenship Fee Waivers**

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# Null Results Report: Nudges for Citizenship Fee Waivers

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# 1 Introduction

Becoming a citizen is an important part of integration for many immigrants. However, each year only 10% of eligible lawful permanent residents in the United States submit an application for citizenship, despite the fact that surveys have shown that the majority of them want to become citizens.<sup>1,2</sup> Previous research on the gap between naturalization intention and action has revealed that lack of language abilities, a lengthy application process, and financial costs are some of the barriers that deter immigrants in the United States from applying for naturalization.<sup>3,4,5</sup> As of 2018, it costs most immigrants in the United States \$725 to apply for citizenship, although there are some lower fee options for low-income immigrants and veterans.

Our team has investigated the relationship between application costs and citizenship application rates through a series of experiments that have been embedded in the NaturalizeNY program. NaturalizeNY is a public-private partnership that offers fee vouchers to low-income immigrants in New York who are eligible to naturalize and have incomes between 150% and 300% of the Federal Poverty Guidelines. The program also informed immigrants whose incomes were below the program’s eligibility requirements about the federal fee waiver, an opportunity for low-income immigrants to apply for citizenship and have the entire cost waived if they receive means-tested benefits or have incomes below 150% of the Federal Poverty Guidelines. Using data from the program’s first year, our research team found that winning a voucher that pays the application fee led to a 41 percentage point increase in likelihood that a person applied for citizenship, essentially doubling the rate.<sup>6</sup> However, five variants of information nudges designed to increase the take-up of the fee waiver all produced null results.<sup>6</sup> These original nudges consisted of phone calls, text messages, and letters reminding immigrants about the opportunity to use a fee waiver. In the second year of the program, we altered the nudge for fee waivers to test whether or not receiving any type of information increased the rate of citizenship applications and usage of the fee waiver. We found that informing people about the fee waiver opportunity increased citizenship applications by 8 percentage points, which constituted a 35 percent increase over the baseline application rate.<sup>7</sup> Both of the nudge results contribute to the literature on informational nudges, which shows mixed results depending on the program and intervention.<sup>8,9,10,11,12,13</sup>

In this experiment, we evaluated another set of low-cost nudges to measure their effectiveness at increasing citizenship applications. We tested whether or not providing more detailed information about the fee waiver program and whether immediately allowing someone to sign up for a citizenship workshop had an effect on the likelihood of submitting a naturalization application.

## 2 Research Design

**Sample:** The sample consists of 749 immigrants who registered for the NaturalizeNY program in 2018 and were screened as likely eligible for the federal fee waiver program. To register for NaturalizeNY and enter into the experiment, an immigrant had to live in New York City, be at least 18 years old, be eligible for naturalization in the United States, and have a household income below 150% of the Federal Poverty Guidelines or be receiving means-tested benefits (e.g. TANF, SNAP, Medicaid, etc.).

**Study Design:** Randomized Experiment. The experiment included participants who completed

an online registration (consisting of demographic and eligibility questions) for the NaturalizeNY program between May 25, 2018, and July 2, 2018, and who were screened as likely being eligible for the federal fee waiver program. When participants completed their registration, they were randomly assigned by the registration system (using a random assignment feature in Qualtrics) into one of three groups, which would determine the final screens and messages that they would see.

The first group, referred to as the control group, received a simple message on the final screen of the registration that stated they were not eligible for the NaturalizeNY voucher but they could likely apply for free using a fee waiver. It provided a website and phone number that a person could visit to receive more information.

The second group, referred to as the enhanced message, were told they were not eligible for the NaturalizeNY voucher but could likely apply for free using a fee waiver. However, compared to the control group, the message they received contained more information about the fee waiver as well as formatting that would draw attention to the information. This group also received an immediate follow-up email about the fee waiver that contained the same information as the screen at the end of registration.

The third group, referred to as the invitation message, received a similar message as the second group. However, the participants in this group also received an additional question asking if they would like to register for an upcoming workshop where they could receive assistance with their citizenship and fee waiver applications. If a participant answered affirmatively to the question about attending the workshop, he or she was given the opportunity to schedule a time at a specific citizenship workshop in New York City through an online reservation system.

The randomization was set to assign 20% of participants into the control group and 40% into both treatment arms. The actual randomization assigned 143 participants into the control group (19.1%), 306 participants into the enhanced treatment group (40.9%), and 300 participants into the invitation group (40.1%).

Data for the results came from a follow-up survey that was conducted approximately seven months after the participants registered for the program. The survey asked participants if they had submitted a citizenship application and if they had attended the workshop that some participants had been invited to. We received survey responses from 561 out of 749 participants (74.9%). The full treatments and survey are shown in Appendix I.

**Hypotheses:** We tested the following primary hypotheses:

- Enhanced information nudges would increase the likelihood of a person submitting a citizenship application.
- Allowing a person to schedule an appointment to receive assistance with their citizenship and fee waiver applications would increase the likelihood of a person submitting their citizenship application.

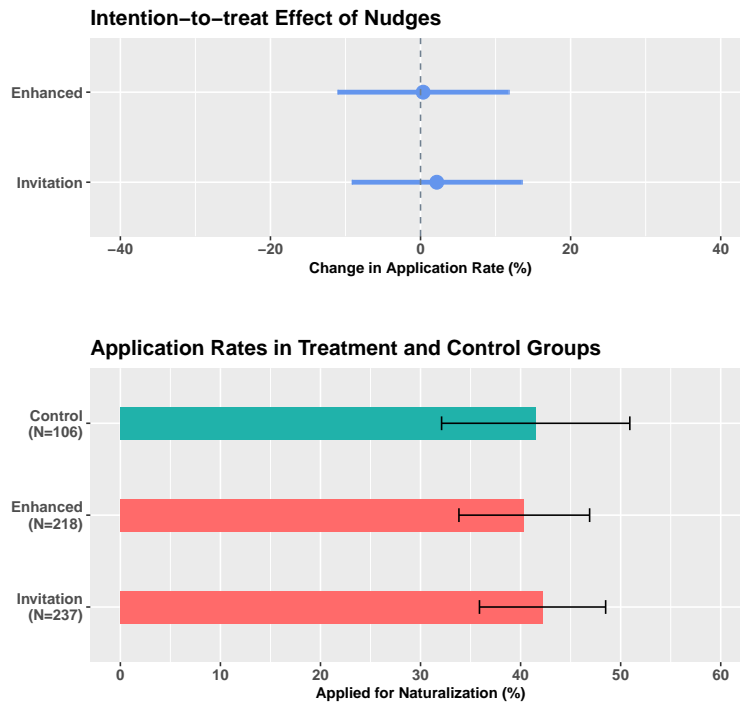
**Outcomes:** Respondents were surveyed from January 29, 2019 to March 23, 2019, and asked whether they had applied for citizenship. The survey also collected additional information on whether they had paid to submit their citizenship application (if they had submitted one) and whether they attended the citizenship workshop that was specifically mentioned in the invitation

treatment arm.

### 3 Results

Results for the information nudges are shown in Figure 1. Neither of the nudges produced a significant increase in citizenship application rates compared to the baseline information treatment. The top chart of Figure 1 shows the estimated effects of the enhanced message and the invitation message on the application rate of participants from a covariate-adjusted linear regression model (enhanced effect: 0.35pp, CI: -11.1pp to 11.8pp; invitation effect: 2.17pp, CI: -9.2pp to 13.5pp). The bottom part of Figure 1 shows the application rates for each group. The fraction of respondents who reported that they had applied for citizenship was 41.5% for the control group (95% CI: 32.1% to 50.91%), 42.2% for group that received the enhanced message (95% CI: 33.8% to 46.9%), and 42.4% for the group that received the invitation (95% CI: 35.9% to 48.5%). See Table 4 in Appendix III for complete regression results.

Figure 1: Information Nudge Effects



Notes: Effects of the Information Nudges on Citizenship Application Rates. The top chart shows the change in percentage points in application rates for the enhanced and invitation treatments relative to the rate of the control group, using a covariate-adjusted model. The effect sizes are not significantly different than zero. The bottom chart shows the average application rate the control group and each treatment arm.

## 4 Interpretation

Below, we discuss several possible explanations for the null result findings, including methodological and theoretical issues.

### Methodological Explanations

**Power:** Given our sample size, the confidence interval around each effect is approximately 10 to 12 percentage points. In previous studies, we found interventions that increased the baseline application rates by 8.6 percentage points (through information) and 41 percentage points (through financial assistance). We cannot rule out the possibility that changing the text of the message or encouraging an immediate appointment led to a small effect, such as a 3 or even 8 percentage point increase in citizenship applications. Given that changing a message is relatively costless, even a small increase would be helpful for immigrant-service providers that want to do anything they can to increase naturalization rates. We do not have the power to detect small effects though, and we cannot make a recommendation on how to improve outreach based on our experiment.

**Measurement:** Because the outcome is self-reported through a survey, there could be measurement error from people who misreport whether they have submitted their application. Social desirability bias may cause some respondents to erroneously report submitting an application because they believe that is the correct answer during a follow-up interview about a naturalization program. However, we do not believe that this bias would be correlated with the treatment assignment. Also, in previous experiments, we found significant differences between naturalization encouragements using similar designs and surveys, which provides evidence that differences could be measured if they were large enough.

**Attrition:** We had a 25% attrition rate, costing us some much needed power. We also examined the response rates for treatment groups (see Table 3) to determine if there was differential attrition. There is a difference of 8 percentage points between the enhanced message group and the invitation message group. Because neither group would have known that they were receiving one treatment versus the other and neither treatment had monetary value associated with it, we do not believe that either treatment should have had a systematic effect on the response rate. Also, because of the wide confidence levels around the effect estimates, this differential rate of attrition is unlikely to be the reason why there was no significant difference detected.

**Treatment Design:** It is very likely that limiting aspects of treatment design contributed to the results of our study. We set out to test whether eliminating the administrative challenges of the citizenship application would increase application rates in a similar way that lowering the financial barriers does. However, our invitation nudge was limited in scope. All of the participants had to choose from time slots at only one location and only one date based on when our partner in New York was holding a large citizenship workshop. Perhaps, a better design would have enabled each registrant to pick a date, time, and location that would have been most convenient for them, but such an “ideal” system is unlikely to exist in reality. It is possible that a scheduling intervention in which a person chooses dates and locations would have been more successful than our treatment.

Additionally, our enhanced treatment message only tested one possible variant of a message that we hoped would be easier to comprehend. There are an infinite number of ways to communicate the message about a person’s likely eligibility for the fee waiver, and it is impossible to rule out

that an alternate design choice could have made a larger difference. We now have evidence that even a short message with basic information performs relatively well compared to a message with concrete steps and more detailed instructions on how to use the fee waiver.

**Spillover:** Our study could be affected by spillover if study participants informed one another about the fee waiver after receiving different treatments, but it is unlikely that this is a major contributor to the null effect. Registration for the study was done online and the sample was geographically diverse, with participants in many different neighborhoods in New York City. If there were spillover, then we should not expect to find a significant difference in the share of participants who attended the in-person event. However, we found a significant difference in this first stage effect (see Table 6), meaning that at the very least, recipients of the invitation message were more likely to attend the event that they were invited to.

**Sample Selection:** Our sample consisted of immigrants who were actively seeking a way to relieve the financial burden of citizenship and may have been especially attuned to any information provided to them. The fact that they completed an online registration may also show they have the motivation and wherewithal to schedule an appointment with an immigrant-service provider themselves, and do not need the assistance of automatic scheduling. We do not know what effects our interventions would have had on a different group of low-income immigrants who may, on average, be less attentive to information about financial assistance and less motivated to apply for citizenship.

## Theoretical Explanations

**Additional Application Barriers:** Learning about the fee waiver program can help a person overcome the financial cost of applying for citizenship, but there are additional barriers besides cost that prevent a person from applying for citizenship. For example, the application for citizenship (N-400) is a complicated form that is estimated to take between five and twelve hours to complete, and low-income immigrants may find it challenging to set aside the time required to complete this form. More intensive interventions may be needed to address additional barriers.

**General Theory of Nudge Failures:** Building a more general theory of nudge success is challenging because the effectiveness of any individual nudge is greatly affected by the localized context and sample. Sunstein<sup>14</sup> offers a helpful framework for thinking about failed nudges that can provide guidance for classifying failures. Nudge designers should first consider whether a failed nudge actually reveals the desired preferences of the recipients, which for our experiment would mean, contradicting their expressed preferences when they registered for the program, that they actually did not want to apply for citizenship. This seems unlikely in our case. In the case that the social welfare benefit is not in question, then Sunstein offers additional reasons why a nudge may fail. Perhaps, he conjectures, the nudge caused confusion among recipients, or that any effects were too short term to have a lasting impact, or that the nudge designers failed to understand the choice architecture that participants actually face. Distinguishing among these reasons would require additional follow-up to understand the motivations, decision-making process, and actions of those who do not respond in the predicted direction to the nudge. Nudges are popular interventions because data on their success is often easy to obtain and analyze, but understanding a failed nudge often requires more robust follow-up and understanding.

## 5 Implications and Next Steps

**Information Works, More Information May Not Help:** Over the course of three studies, we found that telling people about the fee waiver increased their likelihood of submitting an application, but reminding them about the fee waiver, or providing more detailed information about the fee waiver did not increase application rates more than the simple message telling people about the fee waiver. This suggests that once motivated people become aware of the fee waiver program, they are able to find the information they need to access its benefits. One interpretation of this pattern is that this population of immigrants has a general lack of knowledge about the program rather than confusion about how to access it.

**More Research Needed on In-Person Workshops:** We found that the invitation treatment increased the likelihood of a person attending the in-person workshop by 17 percentage points, but we did not detect a difference in the actual application rates between the invitation and control groups. This suggests that the people who attended the workshop may have been able to complete the application without attending that specific workshop. One explanation is that the immigrants who attend workshops are already a self-selected group of interested and able applicants, and the invitation is not effective as assisting those with less motivation or capacity. Because we only asked about one specific workshop in our follow-up survey, these results would also be consistent with a scenario in which members of the control group attended a citizenship workshop at the same rate as the invitation group, but not the specific workshop that was asked about on the survey. However, this scenario seems unlikely.

**Additional Barriers Exist:** The results suggest that the financial barrier caused by the application fee is not the only barrier preventing low-income immigrants from applying for citizenship. Additional research could be done to understand what other barriers exist. Immigrant service providers should consider rigorous evaluations of their outreach strategies to determine what are the most effective ways to encourage naturalization among eligible immigrants.



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## 6 Appendices for Nudges for Citizenship Fee Waivers

### 6.1 Appendix I: Full Treatments

Figure 2: Control closing message.



Good news! Based on your responses it appears that you are likely eligible for a federal fee waiver to cover the cost of the naturalization application and therefore you do not need to participate in the fee voucher lottery. It appears you are likely eligible for the federal fee waiver because you receive means-tested benefits and/or your household income is below 150% of the Federal Poverty Guidelines.

Please contact your local [Office for New Americans Opportunity Center](#) to find out how you can apply for the federal fee waiver and learn about the naturalization process.



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Figure 3: Enhanced closing message.



Thank you for completing the NaturalizeNY registration. We have some exciting information to share with you.

Based on the information you provided about your income and government benefits you receive, you may be eligible for a U.S. Citizenship and Immigration Services (USCIS) fee waiver. Everyone who is eligible for the waiver can apply for free. Therefore, you do not need to participate in the NaturalizeNY voucher lottery.

In order to apply for a fee waiver, you will need to complete an additional form when you submit your citizenship application.

Here are next steps you can take to apply for a fee waiver and citizenship.

- 1) **Review** the required [forms to apply for the fee waiver](#).
  
- 2) **Call** a [service provider](#) close to you to schedule an appointment to receive free assistance with your application. Be sure to ask them about the Federal Fee Waiver.
  
- 3) **Submit** your application with the fee waiver form and, if you are eligible, avoid paying the expensive fee.

Find out more about this opportunity and find a local service provider to receive free application assistance by contacting the New Americans Hotline at 1-800-566-7636 or visiting the [Office for New Americans website](#).



Powered by Qualtrics

Figure 4: Enhanced message sent via email.



Thank you for completing the NaturalizeNY registration. We have some exciting information to share with you.

Based on the information you provided about your income and government benefits you receive, you may be eligible for a U.S. Citizenship and Immigration Services (USCIS) fee waiver. Everyone who is eligible for the waiver can apply for free. Therefore, you do not need to participate in the NaturalizeNY voucher lottery.

In order to apply for a fee waiver, you will need to complete an additional form when you submit your citizenship application.

Here are next steps you can take to apply for a fee waiver and citizenship.

- 1) **Review** the [required forms to apply for the fee waiver](#).
- 2) **Call** a [service provider](#) close to you to schedule an appointment to receive free assistance with your application. Be sure to ask them about the **Federal Fee Waiver**.
- 3) **Submit your application** with the fee waiver form and, if you are eligible, avoid paying the expensive fee.

Find out more about this opportunity and find a local service provider to receive free application assistance by contacting the New Americans Hotline at 1-800-566-7636 or visiting the [Office for New Americans website](#).

Figure 5: Invitation closing message.



English

Thank you for completing the NaturalizeNY registration. We have some exciting information to share with you.

Based on the information you provided about your income and government benefits you receive, you may be eligible for a U.S. Citizenship and Immigration Services (USCIS) fee waiver. Everyone who is eligible for the waiver can apply for free. Therefore, you do not need to participate in the NaturalizeNY voucher lottery.

In order to apply for a fee waiver, you will need to complete an additional form when you submit your citizenship application.

Would you like to schedule an appointment to apply for citizenship and a fee waiver?

There is an upcoming citizenship workshop on **Saturday, June 30** at John Jay College in Manhattan where you can receive help filling out your application.

Would you like to make an appointment for that event now?

Yes

No

NEXT



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Figure 6: Invitation closing message if a participant did not want to schedule an appointment.



In order to apply for a fee waiver, you will need to complete an additional form when you submit your citizenship application.

Here are next steps you can take to apply for a fee waiver and citizenship.

- 1) **Review** the required [forms to apply for the fee waiver](#).
- 2) **Call** a [service provider](#) close to you to schedule an appointment to receive free assistance with your application. Be sure to ask them about the **Federal Fee Waiver**.
- 3) **Submit your application** with the fee waiver form and, if you are eligible, avoid paying the expensive fee.

Find out more about this opportunity and find a local service provider to receive free application assistance by contacting the New Americans Hotline at 1-800-566-7636 or visiting the [Office for New Americans website](#).



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## 6.2 Appendix II: Outcome Questions

1. Have you submitted your U.S. citizenship application?

- Yes
- No

2. When you submitted your application, did you have to pay a fee?

- Yes, I paid a fee of \$725.
- Yes, I paid a fee of \$405.
- No, I did not pay a fee.

3. Did you attend CUNY Citizenship Now's citizenship event at John Jay College on June 30, 2018?

- Yes
- No
- I don't know

### 6.3 Appendix III: Regression Outcomes



Table 1: Balance Checks for Nudge Study (All Participants)

	Treatment Groups:	
	Enhanced	Invitation
Household Income Per Capita (1,000s)	0.028 (0.017)	0.010 (0.017)
Years on Green Card	0.014 (0.013)	0.008 (0.012)
Age	-0.003 (0.009)	0.004 (0.009)
Female	0.231 (0.209)	0.301 (0.212)
Dominican Republic	0.093 (0.258)	-0.001 (0.263)
Ecuador	-0.462 (0.403)	-0.600 (0.422)
Jamaica	-0.226 (0.401)	-0.035 (0.399)
Married	0.020 (0.315)	-0.166 (0.311)
Single	0.089 (0.318)	-0.054 (0.314)
High School/GED degree	-0.117 (0.314)	-0.210 (0.311)
Some College	0.006 (0.316)	-0.219 (0.317)
BA degree or higher	0.208 (0.323)	0.156 (0.320)
Spanish (registered)	0.518 (0.257)	0.323 (0.263)
Constant	0.122 (0.585)	0.309 (0.591)
Observations	748	
Pseudo $R^2$	0.014	
Chi-Square	21.68	
P-value	0.706	

*Note:* Multinomial logit regression coefficients shown with robust standard errors in parentheses. The reference category is participants in the control group that received no additional nudge. Chi-Square and P-value in the bottom rows are from an omnibus Chi-Square test against the null that all slope coefficients are jointly equal to zero. This model is based on the sample of all participants. One participant did not report their gender, which is why analyses that include Female have only 748 observations.

Table 2: Balance Checks for Nudge Study (Responders to follow-up survey)

	Treatment Groups:	
	Enhanced	Invitation
Household Income Per Capita (1,000s)	0.023 (0.021)	0.004 (0.020)
Years on Green Card	0.005 (0.015)	0.005 (0.014)
Age	-0.006 (0.011)	0.011 (0.010)
Female	0.207 (0.244)	0.329 (0.241)
Dominican Republic	0.168 (0.309)	0.191 (0.301)
Ecuador	-0.319 (0.459)	-0.414 (0.469)
Jamaica	0.101 (0.479)	0.156 (0.474)
Married	-0.233 (0.361)	-0.069 (0.358)
Single	-0.049 (0.367)	0.233 (0.365)
High School/GED degree	-0.119 (0.357)	-0.134 (0.349)
Some College	0.435 (0.374)	0.025 (0.371)
BA degree or higher	0.381 (0.380)	0.322 (0.372)
Spanish (registered)	0.716 (0.303)	0.280 (0.299)
Constant	0.228 (0.690)	-0.179 (0.705)
Observations	561	
Pseudo $R^2$	0.023	
Chi-Square	26.90	
P-value	0.415	

*Note:* Multinomial logit regression coefficients shown with robust standard errors in parentheses. The reference category are participants in the control group that received no additional nudge. Chi-Square and P-value in the bottom rows are from an omnibus Chi-Square test against the null that all slope coefficients are jointly equal to zero. This model is based on the samples of all participants who responded to the follow-up survey.

Table 3: Survey Response Checks for Fee Waiver Group

	Responded to Survey	
	(1)	(2)
Enhanced Message	-0.029 (0.045)	-0.041 (0.045)
Invitation Message	0.049 (0.044)	0.044 (0.044)
Household Income Per Capita (1,000s)		0.001 (0.003)
Years on Green Card		-0.004 (0.002)
Age		-0.001 (0.001)
Female		-0.005 (0.033)
Dominican Republic		0.004 (0.040)
Ecuador		0.057 (0.061)
Jamaica		0.124 (0.060)
Married		-0.068 (0.046)
Single		-0.027 (0.045)
High School/GED degree		-0.068 (0.045)
Some College		-0.028 (0.047)
BA degree or higher		-0.011 (0.047)
Spanish (registered)		0.168 (0.039)
Constant	0.741 (0.037)	0.809 (0.089)
Covariates	No	Yes
Observations	749	748
Adjusted R <sup>2</sup>	0.004	0.032
F-value	2.508	2.991
P-value	0.082	0.051

*Note:* Regression coefficients shown with robust standard errors in parentheses. Model 1 regresses whether a participant responded to the survey on the nudge group assignment indicators (the control group that received no additional nudge is the reference category). Model 2 adds covariates. The F-test is against the null that the regression coefficients on the nudge group assignment indicators are jointly equal to null.

Table 4: Intention-to-treat Effect Estimates for Nudge Study

	Applied for Naturalization	
	(1)	(2)
Enhanced Message	-0.011 (0.058)	0.003 (0.058)
Invitation Message	0.007 (0.058)	0.022 (0.058)
Household Income Per Capita (1,000s)		0.001 (0.003)
Years on Green Card		-0.002 (0.002)
Age		-0.003 (0.002)
Female		-0.004 (0.044)
Dominican Republic		-0.033 (0.052)
Ecuador		-0.039 (0.087)
Jamaica		-0.178 (0.078)
Married		0.062 (0.061)
Single		0.019 (0.060)
High School/GED degree		-0.076 (0.059)
Some College		-0.039 (0.063)
BA degree or higher		0.005 (0.064)
Spanish (registered)		-0.126 (0.052)
Constant	0.415 (0.048)	0.591 (0.119)
Covariates	No	Yes
Observations	561	561

*Note:* Regression coefficients shown with robust standard errors in parentheses. Models 1 and 2 regress the outcome on indicators for whether participants were assigned to the various nudge groups (the control group that received no additional nudge is the reference category).

Table 5: Intention-to-treat Effect Estimates for Fee Paid

	Paid Fee for Naturalization if Applied	
	(1)	(2)
Enhanced Message	-0.113 (0.085)	-0.113 (0.086)
Invitation Message	-0.064 (0.082)	-0.099 (0.082)
Household Income Per Capita (1,000s)		-0.009 (0.005)
Years on Green Card		-0.003 (0.004)
Age		0.003 (0.003)
Female		0.050 (0.065)
Dominican Republic		0.211 (0.085)
Ecuador		0.214 (0.115)
Jamaica		0.123 (0.141)
Married		0.073 (0.096)
Single		0.032 (0.102)
High School/GED degree		-0.073 (0.101)
Some College		-0.092 (0.101)
BA degree or higher		-0.034 (0.103)
Spanish (registered)		0.054 (0.090)
Constant	0.744 (0.067)	0.652 (0.197)
Covariates	No	Yes
Observations	224	224

*Note:* Regression coefficients shown with robust standard errors in parentheses. Models 1 and 2 regress the outcome on indicators for whether participants were assigned to the various nudge groups (the control group that received no additional nudge is the reference category).

Table 6: Citizenship Workshop Attendance

	Paid Fee for Naturalization if Applied	
	(1)	(2)
Enhanced Message	-0.000 (0.032)	0.006 (0.032)
Invitation Message	0.179 (0.040)	0.175 (0.039)
Household Income Per Capita (1,000s)		0.000 (0.002)
Years on Green Card		-0.003 (0.002)
Age		0.003 (0.001)
Female		-0.037 (0.032)
Dominican Republic		0.033 (0.041)
Ecuador		0.013 (0.057)
Jamaica		-0.019 (0.056)
Married		-0.080 (0.050)
Single		-0.071 (0.050)
High School/GED degree		0.008 (0.043)
Some College		-0.010 (0.043)
BA degree or higher		0.053 (0.051)
Spanish (registered)		-0.061 (0.040)
Constant	0.073 (0.027)	0.079 (0.093)
Covariates	No	Yes
Observations	524	524

*Note:* Regression coefficients shown with robust standard errors in parentheses. Models 1 and 2 regress the outcome on indicators for whether participants were assigned to the various nudge groups (the control group that received no additional nudge is the reference category).