# Can Nudges Increase Take-up of the EITC?: <br> Evidence from Multiple Field Experiments 

# Elizabeth Linos, Allen Prohofsky, Aparna Ramesh, Jesse Rothstein, and Matthew Unrath 

Online Appendix

Appendix Table 1 lists the assignment rates and stratification used in each study. Appendix Table 2 lists the minimum detectable effects stated in the pre-analysis plan for each study.

Appendix Tables 3 to 8 present full balance checks for each of the available baseline covariates and each treatment. There is one table for each study. In each, the first column shows the control group mean and standard deviation. The next series of columns, one for each treatment arm, shows the estimated difference between that treatment arm and the control group, along with standard errors. These are the $\beta_{j}$ coefficients from Equation 2, using the baseline covariates as dependent variables. The final column of each table shows a p-value for the hypothesis that the means are the same in each treatment group as in the control; that is, that all of the $\beta_{j} \mathrm{~s}$ are jointly zero. Very few of the estimated $\beta_{j}$ s are statistically significant, evaluated individually, and all of the estimated effects are substantively small. None of our tests indicate joint significance for any study or covariate.

The final columns of Appendix Tables 3 to 8 present estimated treatment effects on our primary outcomes, tax filing and EITC claiming. These are again based on Equation 2, and correspond to the individual treatment arm effects plotted in Figure 3.

Appendix Figures 1 and 2 use the CalFresh data from Study 6 to simulate annual incomes and EITC credit eligibility for each family in our sample. We plot the histograms of those two measures, separately for the subsets of the control group who do and do not file tax returns. These figures indicate that filers have much higher incomes and higher credit eligibility than non-filers, on average. Twenty-five percent of non-filers are eligible for credits of $\$ 300$ or less, as compared with $9 \%$ of filers. Nevertheless, $75 \%$ of non-filers are eligible for credits in excess of $\$ 300$ - enough to outweigh the potential financial costs of paying a tax preparer to file returns (U.S. Government Accountability Office 2014, National Society of Accountants n.d.).

The various treatment letters and text messages are reproduced in Appendix Figures 3 to 18.

## Appendix Table 1: Randomization details by study

| Study | Treatment <br> arms | $\mathbf{N}$ <br> (households) | Assignment frequencies / <br> proportions | Strata |
| :--- | :--- | :--- | :--- | :--- |
| 1 | 1 | 639,244 | 200,000 control; remainder <br> treatment* | Zip code, dummies for <br> white/nonwhite and <br> college/non-college |
| 2 | 4 | 96,370 | 10,000 to each treatment <br> arm; remainder control | County, zip code, missing DOB, <br> Study 1 assignment |
| 3 | 4 | $1,084,018$ | $20 \%$ to each treatment arm; <br> $20 \%$ control | County, zip code, missing DOB, <br> Study 1 and Study 2 assignment |
| 4 | 8 | 204,285 | 15,000 to each treatment <br> group; remainder control | County, zip code, Study 1 <br> assignment and Study 3 assignment |
| 5 | 1 | 38,093 | $50 \%$ treatment; $50 \%$ control | County, race, single adult, four bins <br> of income, presence of children |
| 6 | 3 | 47,102 | $25 \%$ to each treatment arm; | County, presence of children, low or <br> moderate income, primary |

Notes. Study 1 used the TargetSmart records updated through spring 2018, and excluded those older than 70. Studies 2 and 3 included older individuals and those added in the 2019 update. Study 2 limited to a subset of records in six counties (Alameda, Contra Costa, Marin, Riverside, San Francisco, San Mateo, and Santa Clara). For Studies 1-4, some zip codes contained too few observations to assign observations to treatment and control with nearly equal probabilities. We grouped observations in these less populous zip codes to a simulated county-level "zip code", and used this simulated zip code for stratification. For Study 5, we stratified on four income bins: $\$ 0$ to $\$ 5000, \$ 5000$ to $\$ 11,500$, $\$ 11,500$ to $\$ 20,000$ and $\$ 20,000$ to $\$ 50,000$. The race variable used for stratification had four values: White, Latinx, Black/Asian/PI/American Indian/Alaskan Native. The indicator for single adult reflected whether we identified the case as having one working-age adult or more than one working-age adult. For Study 6, we stratified on two broader income bins: $\$ 0$ to $\$ 12,500$ and $\$ 12,500$ to $\$ 55,000$; primary languages were the four languages in which we distributed the messages, English, Chinese, Spanish, and Vietnamese.

Appendix Table 2: Pre-registration minimum detectable effect estimates

| Study | OSF ID | MDE <br> Any treatment vs. control | MDE <br> Individual treatment arm vs. control |
| :--- | :--- | :--- | :--- |
| 1 | https://osf.io/ct58w | 0.3 percentage point | $\mathrm{n} / \mathrm{a}$ |
| 2 | https://osf.io/z8ebc | 0.8 pp | 1.4 pp |
| 3 | https://osf.io/z8ebc | 0.3 pp | 0.4 pp |
| 4 | $\mathrm{https://osf.io/z8ebc}$ | 0.6 pp | 1.1 pp |
| 5 | https://osf.io/msh7t | 1.6 pp | $\mathrm{n} / \mathrm{a}$ |
| 6 | https://osf.io/p2q4y | 1.4 pp | 1.7 pp |

Notes. The pre-analysis plan for study 5 was posted before the eventual sample size was known, and does not contain a power calculation. We estimate this MDE in the same way that we estimated the MDE for Study 6, as described in that study's posted pre-analysis plan. Studies 2-4 are all described in the same pre-analysis plan. We used different numbers to identify those experiments than we do here. Study 3 corresponds to what we called in the pre-analysis plan Experiment 1, Study 4 corresponds to Experiment 2, and Study 2 corresponds to Experiment 3.

Appendix Table 3: Differences in subjects' characteristics by treatment assignment in Study 1

|  | Control Group <br> Average <br> (mean/sd) | Basic Text | P-value from <br> F-test: $\beta=0$ |
| :--- | :---: | :---: | :---: |
| Baseline Characteristics |  |  |  |
| Age | $47.250^{* * *}$ | 0.017 | 0.674 |
| Male | $(13.712)$ | $(0.041)$ |  |
|  | 0.424 | -0.000 | 0.991 |
| White | $(0.494)$ | $(0.001)$ |  |
|  | 0.424 | -0.000 | 0.526 |
| Married | $(0.494)$ | $(0.000)$ |  |
|  | 0.187 | -0.001 | 0.645 |
| Have Children | $(0.390)$ | $(0.001)$ |  |
|  | 0.586 | 0.002 | 0.281 |
| College Grad | $(0.493)$ | $(0.002)$ |  |
|  | 0.377 | -0.002 | 0.123 |
| Filed Early | $(0.485)$ | $(0.001)$ |  |
|  | 0.219 | -0.001 | 0.641 |
| Treatment Effects | $(0.413)$ | $(0.001)$ |  |
| Filed Return |  |  |  |
| Claimed EITC | 195,199 | 444,044 |  |
| N |  |  | 0.967 |

Notes. Standard errors in parentheses; standard deviations in square brackets. Asterisks indicate statistical significance of individual coefficients; ${ }^{*}=10 \%,{ }^{* *}=5 \%,{ }^{* * *}=1 \%$. The $p$-values in the final column are for tests of the hypothesis that the treatment effect on the indicated characteristic or outcome is zero.
Appendix Table 4: Differences in subjects' characteristics by treatment assignment in Study 2

|  | Control Group <br> Average (mean/sd) | FTB formal | FTB informal | GSO formal | GSO informal | P -value from <br> F-test: $\beta=0$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Baseline Characteristics |  |  |  |  |  |  |
| Age | $\begin{gathered} 43.499^{* * *} \\ (11.484) \end{gathered}$ | $\begin{gathered} -0.175 \\ (0.140) \end{gathered}$ | $\begin{gathered} 0.107 \\ (0.140) \end{gathered}$ | $\begin{aligned} & -0.116 \\ & (0.140) \end{aligned}$ | $\begin{gathered} 0.227 \\ (0.140) \end{gathered}$ | 0.169 |
| Male | $\begin{gathered} 0.628 \\ (0.683) \end{gathered}$ | $\begin{aligned} & -0.003 \\ & (0.006) \end{aligned}$ | $\begin{gathered} 0.004 \\ (0.006) \end{gathered}$ | $\begin{gathered} -0.001 \\ (0.006) \end{gathered}$ | $\begin{aligned} & -0.001 \\ & (0.006) \end{aligned}$ | 0.922 |
| White | $\begin{gathered} 0.443 \\ (0.497) \end{gathered}$ | $\begin{gathered} 0.001 \\ (0.005) \end{gathered}$ | $\begin{gathered} 0.001 \\ (0.005) \end{gathered}$ | $\begin{gathered} 0.005 \\ (0.005) \end{gathered}$ | $\begin{gathered} 0.002 \\ (0.005) \end{gathered}$ | 0.901 |
| Married | $\begin{gathered} 0.241 \\ (0.520) \end{gathered}$ | $\begin{gathered} 0.007 \\ (0.004) \end{gathered}$ | $\begin{aligned} & -0.003 \\ & (0.004) \end{aligned}$ | $\begin{gathered} 0.002 \\ (0.004) \end{gathered}$ | $\begin{gathered} 0.006 \\ (0.004) \end{gathered}$ | 0.188 |
| Have Children | $\begin{gathered} 1.159 \\ (0.762) \end{gathered}$ | $\begin{gathered} 0.008 \\ (0.006) \end{gathered}$ | $\begin{aligned} & -0.000 \\ & (0.006) \end{aligned}$ | $\begin{gathered} -0.001 \\ (0.006) \end{gathered}$ | $\begin{aligned} & -0.002 \\ & (0.006) \end{aligned}$ | 0.724 |
| College Grad | $\begin{gathered} 0.213 \\ (0.409) \end{gathered}$ | $\begin{gathered} 0.004 \\ (0.006) \end{gathered}$ | $\begin{gathered} 0.003 \\ (0.006) \end{gathered}$ | $\begin{gathered} -0.002 \\ (0.006) \end{gathered}$ | $\begin{gathered} 0.010 \\ (0.006) \end{gathered}$ | 0.484 |
| Filed Early | $\begin{gathered} 0.115 \\ (0.319) \end{gathered}$ | $\begin{gathered} 0.002 \\ (0.003) \end{gathered}$ | $\begin{gathered} 0.003 \\ (0.003) \end{gathered}$ | $\begin{gathered} -0.001 \\ (0.003) \end{gathered}$ | $\begin{aligned} & -0.007^{*} \\ & (0.003) \end{aligned}$ | 0.245 |
| Filed in 2017 | $\begin{gathered} 0.377 \\ (0.485) \end{gathered}$ | $\begin{gathered} 0.001 \\ (0.005) \end{gathered}$ | $\begin{gathered} 0.004 \\ (0.005) \end{gathered}$ | $\begin{aligned} & -0.000 \\ & (0.005) \end{aligned}$ | $\begin{aligned} & -0.001 \\ & (0.005) \end{aligned}$ | 0.934 |
| Treatment Effects |  |  |  |  |  |  |
| Filed Return | $\begin{gathered} 0.377 \\ (0.485) \end{gathered}$ | $\begin{gathered} 0.001 \\ (0.005) \end{gathered}$ | $\begin{aligned} & -0.001 \\ & (0.005) \end{aligned}$ | $\begin{gathered} -0.000 \\ (0.005) \end{gathered}$ | $\begin{gathered} -0.007 \\ (0.005) \end{gathered}$ | 0.644 |
| Claimed EITC | $\begin{gathered} 0.077 \\ (0.266) \end{gathered}$ | $\begin{aligned} & -0.003 \\ & (0.003) \end{aligned}$ | $\begin{gathered} 0.004 \\ (0.003) \end{gathered}$ | $\begin{aligned} & -0.000 \\ & (0.003) \end{aligned}$ | $\begin{gathered} 0.000 \\ (0.003) \end{gathered}$ | 0.513 |
| N | 56,370 | 10,000 | 10,000 | 10,000 | 10,000 |  |

[^0]$*=10 \%, * *=5 \%$,

|  | Control Group <br> Average <br> (mean/sd) | Basic Info | 211 Info | Text Assistance | Credit Amt | P-value from <br> F-test: $\beta=0$ |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| Baseline Characteristics |  |  |  |  |  |  |
| Age | $59.930^{* *}$ | -0.042 | 0.017 | -0.038 | 0.033 | 0.476 |
|  | $(21.096)$ | $(0.050)$ | $(0.050)$ | $(0.050)$ | $(0.050)$ |  |
| Male | 0.550 | $-0.000^{* *}$ | -0.002 | -0.002 | -0.002 | 0.055 |
|  | $(0.640)$ | $(0.002)$ | $(0.002)$ | $(0.002)$ | $(0.002)$ |  |
| White | 0.548 | -0.001 | -0.001 | -0.002 | -0.001 | 0.700 |
|  | $(0.498)$ | $(0.001)$ | $(0.001)$ | $(0.001)$ | $(0.001)$ |  |
| Married | 0.269 | -0.001 | 0.000 | -0.001 | -0.001 | 0.702 |
|  | $(0.512)$ | $(0.001)$ | $(0.001)$ | $(0.001)$ | $(0.001)$ |  |
| Have Children | 0.946 | -0.001 | -0.002 | -0.002 | -0.002 | 0.666 |
|  | $(0.821)$ | $(0.002)$ | $(0.002)$ | $(0.002)$ | $(0.002)$ |  |
| College Grad | 0.223 | -0.001 | -0.001 | -0.001 | -0.001 | 0.923 |
|  | $(0.416)$ | $(0.002)$ | $(0.002)$ | $(0.002)$ | $(0.002)$ |  |
| Filed Early | 0.111 | -0.001 | -0.000 | -0.000 | -0.000 | 0.659 |
|  | $(0.314)$ | $(0.001)$ | $(0.001)$ | $(0.001)$ | $(0.001)$ |  |
| Filed in 2017 | 0.411 | -0.001 | -0.001 | -0.000 | 0.000 | 0.875 |
|  | $(0.492)$ | $(0.001)$ | $(0.001)$ | $(0.001)$ | $(0.001)$ |  |
| Treatment Effects |  |  |  |  |  |  |
| Filed Return |  |  |  |  |  |  |
|  |  | 0.390 | -0.001 | -0.002 | -0.002 | -0.001 |
| Claimed EITC | $(0.488)$ | $(0.001)$ | $(0.001)$ | $(0.001)$ | $(0.001)$ | 0.583 |
|  | 0.063 | -0.000 | $-0.002^{*}$ | -0.001 | 0.000 | 0.017 |
| N | $(0.244)$ | $(0.001)$ | $(0.001)$ | $(0.001)$ | $(0.001)$ |  |

Appendix Table 6: Differences in subjects' characteristics by treatment assignment in Study 4
$\left.\begin{array}{lccccccccc}\hline \hline & \begin{array}{c}\text { Control Group } \\ \text { Average } \\ \text { (mean/sd) }\end{array} & \begin{array}{c}\text { Formal/ } \\ \text { Baseline }\end{array} & \begin{array}{c}\text { Formal/ } \\ \text { Amount }\end{array} & \begin{array}{c}\text { Formal/ } \\ \text { VITA }\end{array} & \begin{array}{c}\text { Formal/ } \\ \text { Amount+VITA }\end{array} & \begin{array}{c}\text { Informal/ } \\ \text { Baseline }\end{array} & \begin{array}{c}\text { Informal/ } \\ \text { Amount }\end{array} & \begin{array}{c}\text { Informal/ } \\ \text { VITA }\end{array} & \begin{array}{c}\text { Informal/ } \\ \text { Amount+VITA }\end{array} \\ \hline \text { Baseline Characteristics } & & & & & & & & & \\ \text { P-value from } \\ \text { F-test: } \beta=0\end{array}\right]$
Notes. Standard errors in parentheses; standard deviations in square brackets. Asterisks indicate statistical significance of individual coefficients; ${ }^{*}=10 \%,{ }^{* * *}=5 \%$,

Appendix Table 7: Differences in subjects' baseline characteristics by treatment assignment, Study 5, TY2017

|  | Control Group Average <br> (mean/sd) | Basic Text | P-value from <br> F-test: $\beta=0$ |
| :--- | :---: | :---: | :---: |
| Baseline Characteristics |  |  |  |
| Age | $36.95^{* * *}$ | 0.01 | 0.94 |
|  | $(11.07)$ | $(0.10)$ |  |
| Male | 0.36 | 0.00 | 0.96 |
|  | $(0.48)$ | $(0.00)$ |  |
| White | 0.27 | -0.00 | 0.94 |
|  | $(0.45)$ | $(0.00)$ |  |
| English | $0.86^{*}$ | 0.00 | 0.65 |
|  | $(0.35)$ | $(0.00)$ |  |
| Presence of Other Adults | 0.34 | -0.00 | 0.48 |
|  | $(0.47)$ | $(0.00)$ |  |
| Presence of Children | 0.73 | 0.00 | 0.98 |
|  | $(0.44)$ | $(0.00)$ |  |
| Filed Previous Year | 0.70 | 0.01 | 0.20 |
|  | $(0.46)$ | $(0.00)$ |  |
| Filed before treatment started | 0.67 | 0.00 | 0.75 |
|  | $(0.47)$ | $(0.00)$ |  |
| Predicted Total EITC Amount | 2915.16 | -2.89 | 0.80 |
|  | $(2155.56)$ | $(11.24)$ |  |

## Treatment Effects

| Filed Return | 0.79 | 0.01 | 0.17 |
| :--- | :---: | :---: | :---: |
|  | $(0.41)$ | $(0.00)$ |  |
| Claimed EITC | 0.70 | 0.00 | 0.91 |
|  | $(0.46)$ | $(0.00)$ |  |
| N | 19,009 | 19,084 |  |

Notes. Standard errors in parentheses; standard deviations in square brackets. Asterisks indicate statistical significance of individual coefficients; ${ }^{*}=10 \%,{ }^{* *}=5 \%,{ }^{* * *}=1 \%$. The $p$-values in the final column are for tests of the hypothesis that the treatment effect on the indicated characteristic or outcome is zero.
Appendix Table 8: Differences in subjects' baseline characteristics by treatment assignment, Study 6, TY2018
$\left.\left.\begin{array}{lccccc}\hline \hline & \begin{array}{c}\text { Control Group Average } \\ (\text { mean/sd) }\end{array} & & & \text { Average Credit } \\ \text { Amount }\end{array} \quad \begin{array}{c}\text { Personalized } \\ \text { Credit Amt }\end{array}\right) \begin{array}{c}\text { P-value from } \\ \text { F-test: } \beta=0\end{array}\right]$
Notes. Standard errors in parentheses; standard deviations in square brackets. Asterisks indicate statistical significance of individual coefficients; ${ }^{*}=10 \%,{ }^{*}{ }^{* *}=5 \%$, $* * *=1 \%$. The $p$-values in the final column are for tests of the hypothesis that all of the treatment coefficients (the $\beta$ s in equation (2)) are jointly zero. We show balance on the variable for number of children in the household, as opposed to presence of children which we showed in Appendix Table 7, because we stratified on a dummy for presence of children during randomization for Study 6 , ensuring perfect balance on that variable.

Appendix Figure 1: Estimated income for filers and non-filers in Study 6 control group


Notes. The figure plots the distribution of predicted annual income among subjects in the Study 6 control group separated by those who did and did not file a return. We group households into bins of $\$ 500$. We also mark, using the dotted and solid vertical lines, the income levels in TY 2018 at which the IRS requires single and married taxpayers must file a return, which are $\$ 12,000$ and $\$ 24,000$, respectively.

Appendix Figure 2: Estimated EITC amount for filers and non-filers in Study 6 control group


Notes. The figure plots the distribution of estimated EITC eligibility amounts among subjects in the Study 6 control group, separated by those who did and did not file a tax return. We group households into bins of $\$ 50$. The heaps at around $\$ 500, \$ 3,500, \$ 6,000$ and $\$ 6,500$ correspond to the maximum EITCs for families with zero, one, two, or three or more children in TY2018, respectively. The dotted line marks predicted EITC amount of $\$ 300$, representing the approximate cost that families are charged by some for-profit preparers to file their return.

# Appendix Figure 3: Study 1, Golden State Opportunity text messages 

## Messages sent in March read:

Hello, this is a volunteer from CalEITC4Me, we're texting to let people know they may be leaving up to $\$ 6,000$ in tax money on the table, visit our website to see if you are eligible for the EITC and free tax preparation! Have you filed your taxes yet? goo.gl/42PR24

## Messages sent in April read:

Hello! My name is <name> with CalEITC4me. Have you filed your taxes yet? You may want to file this year because of the recently expanded California Earned Income Tax Credit! Thousands of Californians are claiming this cash-back credit. You don't want to miss out! If you want to know how to claim it, text me back! We are here to help! Click here! Para Espanol responda con la palabra: Espanol bit.ly/CalEITC4Me

Appendix Figure 4: Study 2, treatment arm 1 (FTB messenger, formal letter)


You can claim the refund even if you do not owe taxes. Claiming your refund will not affect your eligibility for other government programs.

Are you eligible? Visit ftb.ca.gov/YourMoney to learn more about the credit and see if you are eligible.
Claim your $\quad$ File your federal and state tax return now to claim your full refund.
refund
A trained tax preparer in your neighborhood can help you file for free. Find free help at:

| "Site_Name» | Open "Open_Date» to "Close_Date" | Languages <br> spoken |
| :--- | :--- | :--- |
| "Address_Line_1" | "hours_1" | "Language» |
| "Address_Line_2" | "hours_2" |  |
| "City», "STate» "Zip" | "hours_3" |  |
| Appointment required? | "hours_4" |  |
| "Appointment» | "hours_5" |  |

There may be other convenient locations as well. «call_info_text» to book an appointment or find out what to bring.


Appendix Figure 5: Study 2, treatment arm 2 (FTB messenger, informal letter)


If you or your spouse worked in 2018, you may be eligible for a refund called the Earned Income Tax Credit. We are reaching out to households that might be eligible for the refund but may not have received it before.

The credit provides cash back to Californians who earned income last year. Eligible Californians received an average of $\$ 2,500$ in 2018. Your refund depends on your family size and how much you earned last year.

You can claim the refund even if you do not owe taxes. Claiming your refund will not affect your eligibility for other government programs.

| Are you eligible? $\quad>\begin{aligned} & \text { Visit ftb.ca.gov/Money to learn more about the } \\ & \text { refund and see if you are eligible. }\end{aligned}$ |  |  |  |
| :---: | :---: | :---: | :---: |
| Claim your refund! <br> File your federal and state tax return now to claim your full refund. A trained tax preparer in your neighborhood can help you file for free. |  |  |  |
| Find free help at: |  |  |  |
| "Site_Name" <br> "Address_Line_1" <br> "Address_Line_2" <br> «City", «State" «Zip" | Open «Open_Date»torclose_Date» <br> «hours_1" <br> «hours_2" <br> «hours_3" <br> Psychological: informal <br> letter |  | Languages spoken: "Language» |
| There may be other convenient locations as well. «call_info_text» to book an appointment or find out what to bring. |  |  |  |

Appendix Figure 6: Study 2, treatment arm 3 (GSO messenger, formal letter)


You can claim the refund even if you do not owe taxes. Claiming your refund will not affect your eligibility for other government programs.

| Are you eligible? | Visit CaIEITC4Me.org/Credit to learn more about the credit and see if you are eligible. |
| :---: | :---: |
| Claim your refund | File your federal and state tax return now to claim your full refund. <br> A trained tax preparer in your neighborhood can help you file for free. Find free help at: <br> There may be other convenient locations as well. call_info_ to book an appointment or find out what to bring |
| OLCJosh FrydayPresident, CalEITC4MeGolden State Opportunity FoundationGolden State Opportunity Foundation is a non-profit dedicated to a future where all Califomians can achieve financial security. |  |

Appendix Figure 7: Study 2, treatment arm 4 (GSO messenger, informal letter)


If you or your spouse worked in 2018, you may be eligible for a refund called the Earned Income Tax Credit. We are reaching out to households that might be eligiblefor the refund but may not have received it before.

The credit provides cash back to Californians who earned income last year. Eligible Californians received an average of $\$ 2,500$ in 2018. Your refund depends on your family size and how much you earned last year.

You can claim the refund even if you do not owe taxes. Claiming your refund will not affect your eligibility for other government programs.


## Appendix Figure 8: Study 3, Golden State Opportunity text messages

- Treatment 1: Basic Informational Message + Link
- Hi-this is <volunteer name>, a volunteer with CalEITC4Me. I'm contacting households who might qualify for a tax refund. Even if you don't owe taxes, you could get cash back by filing a tax return. Visit caleitc4me.org/CashBack to learn more about your eligibility and to claim your EITC refund.
- Treatment 2: Phone number/call option
- Hi-this is <volunteer name>, a volunteer with CalEITC4Me. I'm contacting households who might qualify for a tax refund. Even if you don't owe taxes, you could get cash back by filing a tax return. Call <local hotline phone number> to get free help with filing your return and to claim your EITC refund.


## - Treatment 3: Offer Text-based Assistance

- Hi-this is <volunteer name>, a volunteer with CalEITC4Me. I'm contacting households who might qualify for a tax refund. Even if you don't owe taxes, you could get cash back by filing a tax return. Text "yes" and I can help you claim your EITC refund.
- Treatment 4: Benefit Value
- Hi-this is <volunteer name>, a volunteer with CalEITC4Me. I'm contacting households who might qualify for a tax refund. Even if you don't owe taxes, you could get cash back by filing a tax return. Eligible families got back an average of $\$ 2,000$ last year. Text "yes" and I can help you claim your EITC refund.

Appendix Figure 9: Study 4, treatment arm 1 (formal, simple)
FRANCHISE TAX BOARD
FORMAL -SIMPLE
EITC MS A370
PO BOX 1565
RANCHO CORDOVA CA 95741-1565
first_name middle_name last_name name_suffix
full_-address
city, state zip


| Summary | If you or your spouse worked in 2018, you may be eligible for a refund called the Earned <br> Income Tax Credit. We are reaching out to households that might be eligible for the <br> refund but may not have received it before. |
| :--- | :--- |

The credit provides cash back to Californians who earned income last year. Your refund depends on your family size and how much you earned last year.
You can claim the refund even if you do not powe taxes. Claiming your refund will not affect your eligibility for other government pregrams.

Selvi Stanislaus
Executive Officer
California Franchise Tax Board


Appendix Figure 10: Study 4, treatment arm 2 (formal, credit amount)


FRANCHISE TAX BOARD
FORMAL -BENEFIT
EITC MS A370
PO BOX 1565
RANCHO CORDOVA CA 95741-1565
first_name middle_name last_name name_suffix
full_address
city, state zip


You can claim the refund even if you do not owe taxes. Claiming your refund will not affect your eligibility for other government programs.

Are you eligible? Visit ftb.ca.gov/Earn to learn more about the credit and see if you are eligible.
Claim your refund File your federal and state tax return to claim your full refund. You can file for free.
For free tax preparation help, visit: ftb.ca.gov/Earn

## Selir Stanislans

Selvi Stanislaus
Executive Officer
California Franchise Tax Board

Appendix Figure 11: Study 4, treatment arm 3 (formal, VITA info)


## FRANCHISE TAX BOARD

EITC MS A370
PO BOX 1565
RANCHO CORDOVA CA 95741-1565


## Selir Stanieslaus

Selvi Stanislaus
Executive Officer
California Franchise Tax Board

Appendix Figure 12: Study 4, treatment arm 4 (formal, credit amount + VITA info)


## FRANCHISE TAX BOARD

EITC MS A370
PO BOX 1565
RANCHO CORDOVA CA 95741-1565


Appendix Figure 13: Study 4, treatment arm 5 (informal, simple)


If you or your spouse worked in 2018, you may be eligible for a refund called the Earned Income Tax Credit. We are reaching out to households that might be eligible for the refund but may not have received it before.

The credit provides cash back to Californians who earned income last year. Your refund depends on your family size and how much you earned last year

You can claim the refund even if you do not owe taxes. Claimingyour refund will not affect your eligibility for other government programs.


Visit ftb.ca.gov/CaIEITC to learn more about the refund and see if you are eligible.

For free tax preparation help, visit: ftb.ca.gov/CaIEITC

Appendix Figure 14: Study 4, treatment arm 6 (informal, credit amount)

FRANCHISE TAX BOARD
IT'S YOUR MONEY
EITC MS A370
PO BOX 1565
RANCHO CORDOVA CA 95741-1565


INFORMAL - BENEFIT
first_name middle_name last_name name_suffix
full_address
city, state zip
Learning: average benefit amount
$\{$ Impgrtant information about the Earned Income Tax Credit

## YOU MAY BE ELIGIBLE FOR A REFUND!

Eligible Californians received an average of $\$ 2,500$ in 2018.
Find out how much money you could get back: ftb.ca.gov/EarnIt

If you or your spouse worked in 2018, you may be eligible for a refund called the Earned Income Tax Credit. We are reaching out to households that might be eligible for the refund but may not have received it before.

The credit provides cash back to Californians who earned income last year. Eligible Californians received an average of $\$ 2,500$ in 2018. Your refund depends on your family size and how much you earned last year.

You can claim the refund even if you do not owe taxes. Claiming your refund will not affect your eligibility for other government programs.

## Are you eligible?

Claim your refund!

Visit ftb.ca.gov/EarnIt to learn more about th credit and see if you are eligible.

For free tax preparation help, visit:
ftb.ca.gov/EarnIt

Appendix Figure 15: Study 4, treatment arm 7 (informal, VITA info)


## FRANCHISE TAX BOARD

IT'S YOUR MONEY
EITC MS A370
PO BOX 1565
RANCHO CORDOVA CA 95741-1565
INFORMAL - VITA
first_name middle_name last_name name_suffix
full_address
city, state zip


## YOU MAY BE ELIGIBLE FOR A REFUND!

If you or your spouse worked in 2018, you may be eligible for a refund called the Earned Income Tax Credit. We are reaching out to households that might be eligible for the refund but may not have received it before.

The credit provides cash back to Californians who earned income last year. Your refund depends on your family size and how much you earned last year.

You can claim the refund even if you do not owe taxes. Claiming your refund will not affect your eligibility for other government programs.

| Compliance: Local in-person |
| :---: |
| free tax preparation information |

## Are you eligible?

Visit ftb.ca.gov/GetIt to learn more about the
refund and see if you arg eligible.

File your federal and state tax return now to claim your filt refund. A trained tax preparer in your neighborhood can help you file for free.

| Find free help at: |  |  |
| :---: | :---: | :---: |
| "Site_Name" | Open «Open_Date» to «Close_Date»: | Languages |
| "Address_Line_2" | «hours_2" | «Language» |
| "City", «State" "Zip) | «hours_3" |  |
|  | «hours 4*) |  |
|  | «hours_6" |  |
| Appointment required? | «hours_7" |  |
| There may be other convenient locations as well. «call_info_text» to book an appointment or find out what to bring. |  |  |

[^1]Appendix Figure 16: Study 4, treatment arm 8 (informal, credit amount + VITA info)


## Appendix Figure 17: Study 5, CA Department of Social Services/CalFresh text messages, tax year 2017

## Text 1:

Hi, this is <county>. Have you claimed your tax refund? We estimate you're owed about $\$ x, x x x$ from state and federal earned income tax credits. File your taxes to get the refund you earned! Reply " 1 " to learn how to get your taxes done for free or " 2 " to stop these texts. Standard messaging rates apply.

## Text 2:

You can use free online software to prepare your taxes at www.myfreetaxes.org (sponsored by the United Way). For in-person assistance, find the closest volunteer site at irs.treasury.gov/freetaxprep. Would you like information for a nearby site? If yes, reply " 1 ".

Notes. Those who responded with a " 1 " to the first message were sent the second message. Those who responded with a " 1 " to the second message were sent the address and hours of the closest VITA site to the client's 9 digit zip code. When that site required appointments, the text also included a link for registration. Texts were sent in English or Spanish, depending on the language indicated in the CalFresh record, and were delivered over two days in a single blast in March 2018.

Appendix Figure 18: Study 6, CA Department of Social Services/CalFresh text messages, tax year 2018

- Treatment 1: Control Text
- Text 1: Hi <name>. This is <county name> County. You may qualify for cash back thanks to tax credits.
- Text 2: Claim your refund by filing a tax return. See if you're eligible at caleitc4me.org/Cash. Call 211 to file your taxes for free.
- Treatment 2: Average Benefit
- Text 1: Hi <name>. This is <county name> County. You may qualify for cash back thanks to tax credits. Eligible families got back $\$ 2,500$ on average last year.
- Text 2: Claim your refund by filing a tax return. See if you're eligible at caleitc4me.org/YourMoney. Call 211 to file your taxes for free.
- Treatment 3: Personalized Benefit
- Text 1: Hi <name>. This is <county name> County. You may qualify for cash back thanks to tax credits. Based on our records, you could get back $<\$$ credit amount $>$.
- Text 2: Claim your refund by filing a tax return. See if you're eligible at caleitc4me.org/Money. Call 211 to file your taxes for free.


## Appendix References

National Society of Accountants. (n.d.). 2016-2017 Income \& Fees of Accountants and Tax Preparers in Public Practice Survey Report.
US Government Accountability Office. (2014). Paid Tax Return Preparers: In a Limited Study, Preparers Made Significant Errors, testimony presented to the US Senate Committee on Finance (GAO-14-467T).


[^0]:    Notes. Standard errors in parentheses; standard deviations in square brackets. Asterisks indicate statistical significance of individual coefficients; ${ }^{*}=10 \%$, ${ }^{* *}=5 \%$, ${ }^{* * *}=1 \%$. The $p$-values in the final column are for tests of the hypothesis that all of the treatment coefficients (the $\beta$ s in equation (2)) are jointly zero.

[^1]:    中文 | 한국어 | Русский | Tiếng Việt $\rightarrow$ ftb.ca.gov/Lang7

