Annenberg Institute
BROWN UNIVERSITY

EdWorkingPaper No. 26-1411

# Digital Incentives in Surveys: Response Rates and Sociodemographic Effects in a Large-Scale Parental Nudge Intervention

Kalena E. Cortes
Texas A&M University

Brian Holzman
Texas A&M University

Melissa Gentry
Texas A&M University

Miranda Lambert
Texas A&M University

This study examines how digital incentives influence survey participation and engagement in a large randomized controlled trial of parents across six school districts. We test how incentive amount and information about vendor options affect response behavior and explore differences by language background. Incentivized parents were more likely to engage in the program, from starting the survey to choosing an essential-goods gift card. However, Spanish-speaking parents exhibited distinct patterns—greater survey participation rates but lower gift redemption rates. Increasing incentive value and providing advance information both improved engagement. Findings inform the design of equitable, effective digital incentive strategies for diverse populations.

VERSION: February 2026

Suggested citation: Cortes, Kalena E., Brian Holzman, Melissa Gentry, and Miranda Lambert. (2026). Digital Incentives in Surveys: Response Rates and Sociodemographic Effects in a Large-Scale Parental Nudge Intervention. (EdWorkingPaper: 26-1411). Retrieved from Annenberg Institute at Brown University: https://doi.org/10.26300/0eja-hv07

# Digital Incentives in Surveys: Response Rates and Sociodemographic Effects in a Large-Scale Parental Nudge Intervention

Kalena E. Cortes *
Texas A&M University

Brian Holzman
Texas A&M University

Melissa Gentry
Texas A&M University

Miranda Lambert
Texas A&M University

***This version: January 2026***

**Abstract:** This study examines how digital incentives influence survey participation and engagement in a large randomized controlled trial of parents across six school districts. We test how incentive amount and information about vendor options affect response behavior and explore differences by language background. Incentivized parents were more likely to engage in the program, from starting the survey to choosing an essential-goods gift card. However, Spanish-speaking parents exhibited distinct patterns—greater survey participation rates but lower gift redemption rates. Increasing incentive value and providing advance information both improved engagement. Findings inform the design of equitable, effective digital incentive strategies for diverse populations.

**JEL Codes:** C93, I24, J15.

**Keywords:** digital incentives; RCT; program engagement; digital divide.

**Acknowledgements:** We thank the organizers of the Redefining Digital Access session organized by the Committee on the Status of Minority Groups in the Economics Profession at the 2026 ASSA meeting, Luisa Blanco and Mary Lopez, as well as the discussant, Pamela Jakiela. We are grateful to the National Science Foundation (NSF) for generous funding support for the study "Middle School Parent Engagement Text Messaging Study," Grant Number SES-1918016 (Cortes, PI; Holzman, Co-PI). This research uses confidential data from the Texts4Teens Middle School Texting Program (AEARCTR-0009762: Middle School Parent Engagement Text Messaging Study - Grade-Specific Program Analysis Plan). Any errors are attributable to the authors.

*** Cortes** (*corresponding author*): The Bush School of Government and Public Service, 4220 TAMU, 2088 Allen Building, Texas A&M University, College Station, TX 77843; Research Fellow at the Institute for the Study of Labor (IZA); and Research Associate at the National Bureau of Economic Research (kcortes@tamu.edu). **Holzman** (*corresponding author*): Department of Educational Administration & Human Resource Development, 4226 TAMU, Texas A&M University, College Station, TX 77843 (bholzman@tamu.edu). **Gentry** and **Lambert**: Department of Economics, 4228 TAMU, Texas A&M University, College Station, TX 77843 (mdgentry@tamu.edu & miranda.lambert@tamu.edu).

## I. INTRODUCTION

U.S. parents represent an increasingly heterogeneous population. Diversity in racial, ethnic, and linguistic backgrounds has continued to expand within the U.S. schooling system. The share of Hispanic students in public schools grew from 24% in the 2012-13 school year to 29% in 2022-23 (National Center for Education Statistics, 2024). There has also been a modest increase in the share of children who speak a non-English language at home—from 18% in 2000 to 22% in 2024 (The Annie E. Casey Foundation, 2025). A growing body of program evaluations has examined low-cost text message (SMS) interventions designed to promote parental engagement in children's learning and development (e.g., Bergman and Chan, 2017; Kraft and Monti-Nussbaum, 2017; York, Loeb, and Doss, 2018). While evidence suggests that such interventions are particularly effective for parents of students from disadvantaged backgrounds (Cortes et al., 2021; Cortes et al., 2023), these programs also face challenges in sustaining participation and engagement—from reading the text messages to completing follow-up surveys.

Incentives are widely used in experimental research to promote effort, engagement, and accurate responses while mitigating nonresponse bias arising from differential attrition across groups (Charness, Gneezy, and Halladay, 2016; Dutz et al., 2026; MaCurdy, Mroz, and Gritz, 1998; Plott, 1986; Svorenčík and Maas, 2016). Yet questions remain about their effectiveness across groups and the design features that shape individual behavior. Despite this work, less is known about how individuals from different backgrounds respond to incentives, particularly considering the *digital divide*, or sociodemographic disparities in technology and information access (Warschauer, 2010). Moreover, specific incentive features, such as the monetary amount or whether participants are informed about the available reward options, may also influence response

rates and help reduce nonresponse bias across subgroups, potentially narrowing the lingering effects of the digital divide.

We analyze a large randomized controlled trial (RCT) of an SMS-based nudge intervention with middle school parents across six Texas school districts to examine (1) the impact of incentives on program engagement and (2) how changes in design features like incentive amount and information provision affect behavior. We also explore language differences, given the growing linguistic diversity in U.S. schools. Our findings reveal meaningful variation in how parents respond to incentives. Overall, incentivized parents are more likely to engage with the program—from starting and completing the survey to claiming a gift from an essential-goods vendor. However, Spanish-speaking parents exhibit distinct patterns of engagement: they are more likely to start and finish the survey but less likely to claim a gift. We also find that increasing the incentive amount and, to an extent, providing advance information about vendor options enhance program engagement. While the effects of incentivization are largely consistent across language groups, Spanish-speaking parents appear slightly less responsive to the monetary incentive when claiming a gift and choosing an essential-goods vendor, yet more responsive to advance information about available vendor options. These results contribute to a growing understanding of how individuals respond to digital incentives and provide practical insights for researchers and practitioners designing incentive programs for diverse populations in program evaluations.

## II. The Program, Randomization Details, Data, and Sample Characteristics

This paper is part of a larger multi-year RCT called *Texts4Teens*, a parenting intervention that uses weekly text messages to provide facts and tips on how parents can support their child's academic trajectory and socioemotional development as they transition from middle to high

school. To improve end-of-year survey response rates in the 2021-22, 2022-23, and 2023-24 school years, a subset of parents was offered small monetary incentives in the form of gift cards upon survey completion. Parents were assigned to incentive and non-incentive conditions using blocked randomization.[1] Those assigned to the incentive condition were informed of the incentive when notified about the survey and were directed to the incentive platform's website, where they entered their email address—a requirement for receiving the gift card. They then received an email confirmation with a link to select a gift card from six vendors: Amazon, CVS Pharmacy, Kroger, Starbucks, Target, or Walmart. Depending on the school year, parents had one to two months to complete the survey and claim their incentive. In 2021-22, 20% of parents were randomized to receive a $5 incentive, whereas in 2022-23 and 2023-24, 50% were randomized to receive $10 incentives. In 2023-24, parents were additionally notified of the six vendor options in the survey reminder text message; in prior years, these options were disclosed only upon survey completion and at the incentive platform's website.

Data were drawn from multiple sources: parent- and child-level sociodemographic information provided by school districts, response data from a 10-minute end-of-year parent survey, and administrative records from the incentive platform. The analytic sample includes 30,455 parents (Incentivized: $N$ = 10,963; Non-Incentivized: $N$ = 19,492) across six districts. Table 1 presents summary statistics and covariate balance tests comparing the incentivized and non-incentivized groups. Nearly three-fourths of children in the sample are Hispanic, and about half of parents have children eligible for free or reduced-price lunch (FRPL). Additionally, 25% of parents opted to receive Spanish-language messages. Covariate balance was achieved across all observed

[1] Depending on the school district, we blocked at the school-by-grade-by-language level, while for other districts, we blocked at the school-by-grade level.

characteristics, including child age, gender, race/ethnicity, messaging language, and *Text4Teens* treatment group, with a slight, but economically insignificant difference in FRPL eligibility.

## III. Empirical Strategy

We estimate linear probability models to assess the effects of being incentivized on six measures of parent engagement. The model is specified as follows:

$$Y_{isgt} = \beta_1 \cdot Incentive_{isgt} + \beta_2 \cdot X_{isgt} + \theta_{sg} + \psi_t + \varepsilon_{isgt} \quad (1)$$

where $Y_{isgt}$ is a binary engagement outcome for parent *i* in school *s*, grade *g*, and year *t*. The outcomes include: *Start Survey* (if the parent began the end-of-year survey), *Finish Survey* (if the parent completed the survey), *Email Delivered* (if the parent provided the platform a functioning email address and was sent an email), *Email Open* (if the parent opened that email), *Gift Claimed* (if the parent visited the incentive platform website and claimed a gift card), and *Essential Goods* (if the parent chose a gift from a vendor selling essential goods—Amazon, CVS Pharmacy, Kroger, Target, or Walmart—rather than nonessential goods, such as Starbucks). $Incentive_{isgt}$ indicates whether the parent was randomly assigned to the incentivized group. $X_{isgt}$ represents baseline covariates (child age, gender, race/ethnicity, FRPL eligibility, parent texting language, and *Texts4Teens* treatment group). $\theta_{sg}$ captures school-by-grade fixed effects[2], $\psi_t$ captures year fixed effects, and $\varepsilon_{isgt}$ is the regression error term. Standard errors are clustered at the school-by-grade level to account for arbitrary correlation in $\varepsilon_{isgt}$ within clusters.

Leveraging variation across years, we test how increasing the incentive amount from $5 to $10 and providing advance information about vendor options affect engagement rates. These analyses

[2] To ensure consistency across school districts, models include school-by-grade fixed effects, as some districts had too few Spanish-speaking parents to support blocking by language. This specification may reduce statistical precision.

shed light on how both the design and delivery of digital incentive structures—including their magnitude, framing, and informational transparency—can influence participation and engagement in program evaluations.

Lastly, we estimate alternative specifications in which the incentivized indicator, $Incentive_{isgt}$, in Equation (1) is interacted with texting language to examine whether the impact of being assigned to receive an incentive varies by parents' language preference.

## IV. Discussion of Findings

### *A. Main Incentive Results*

Columns (1)-(2) of Table 2 show that, in general, incentivized parents are 12 percentage points more likely to start the survey (117% of non-incentivized mean: 0.10), and 11 percentage points more likely to finish the survey (145% of non-incentivized mean: 0.07). At face value, offering parents a small monetary incentive—either $5 or $10—substantially increased survey participation. We also observed that incentivized parents were more likely to have their email delivered, open the email they received, claim their gift, and choose an essential-goods vendor. Parents who received texts in Spanish are 3.3 percentage points (45% of non-incentivized mean) more likely than English-speaking parents to finish the survey but are 0.6 percentage points less likely to redeem a gift card. Broadly, the positive association between Spanish-speaking and starting and finishing the survey shifts to null or smaller associations in later stages. This disparity highlights challenges and opportunities in engaging parents from diverse linguistic backgrounds.

### *B. Raising Incentives: Increasing the Dollar Amount from $5 to $10*

Table 3, Panel A presents results examining whether increasing the incentive amount from $5 to $10 impacts program engagement. These models limit the sample to the 2021-22 and 2022-23 school years, during which parents received $5 and $10 incentives, respectively. We leverage this between-year variation in the following model:

$$Y_{isg} = \beta_1 \cdot Incentive_{isg} + \beta_2 \cdot TenDollar_{isg} + \beta_3 \cdot Incentive_{isg} \cdot TenDollar_{isg} + \beta_4 \cdot X_{isg} + \theta_{sg} + \varepsilon_{isg} \quad (2)$$

where $Y_{isg}$ is a binary engagement outcome for parent *i* in school *s*, and grade *g*. An interaction term between being incentivized ($Incentive_{isg}$) and receiving $10 (in 2022-23; $TenDollar_{isg}$) captures how increasing the incentive amount affects program engagement among incentivized parents.

The first row of Panel A shows positive effects on all outcomes. We find a 5.3 percentage-point impact on finishing the survey (61% of non-incentivized mean). We also find smaller but positive 3.2 and 2.7 percentage-point effects on claiming a gift and choosing an essential-goods merchant. Similar to Table 2, we find that Spanish-speaking parents behave in different ways than English-speaking parents. While they are, again, more likely to start and finish the survey, they are less likely to redeem a gift card.

### *C. Highlighting Options: Providing Information about the Incentive Options*

Panel B of Table 3 presents results from models that show whether providing advance information about the incentive options affects program engagement. In these specifications, we restricted the sample to the 2022-23 and 2023-24 school years. In 2022-23, parents did not receive details about the gift card vendor choices until they completed the survey and visited the website

of the incentive platform. In 2023-24, parents were informed of the six vendor options in each survey reminder text, shifting awareness of available choices from the gift-claiming stage to the survey-start stage.[3] In both years, incentivized parents were promised $10 gift cards. Using the variation across years, we estimated the following model:

$$Y_{isg} = \beta_1 \cdot Incentive_{isg} + \beta_2 \cdot Information_{isg} + \beta_3 \cdot Incentive_{isg} \cdot Information_{isg} + \beta_4 \cdot X_{isg} + \theta_{sg} + \varepsilon_{isg} \quad (3)$$

where $Y_{isg}$ is a binary engagement outcome for parent *i* in school *s*, and grade *g*. By interacting incentivization ($Incentive_{isg}$) with receiving advance information (in 2023-24; $Information_{isg}$), we assess how providing parents with merchant options affects outcomes among incentivized parents.

We find a 4.6 percentage-point effect on starting the survey (51% of non-incentivized mean) and a 3.0 percentage-point effect on finishing it (46% of non-incentivized mean). While these results are positive, they are slightly smaller than the analogous results in Panel A, which examined the effects of increasing the dollar amount. There are no positive impacts on other engagement outcomes. The positive effect of advance information about vendor options may have been sufficient to prompt parents to begin and complete the survey but not strong enough to motivate them to enter their email or further engage with the incentive platform. However, we still find variation by language, with Spanish speakers more likely to start and finish the survey and less likely to redeem a gift card.

[3] For example, one reminder text message stated: "Dear ${m://FirstName} Parent: We want to know what you think about our Texts4Teens texts! After you complete our 10-minute survey at the following link, you'll get a $10 gift card (Amazon, CVS, Kroger, Starbucks, Target, or Walmart): ${l://SurveyURL}."

### *D. Heterogeneous Effects by Texting Language*

Overall, incentives generally increase program engagement, with some variation by design features such as dollar amount and advance information. Parents receiving texts in Spanish also engage differently than English-speaking parents—they are more likely to start and finish the survey and less likely to claim a gift. To examine whether Spanish speakers react differently to increased incentive amounts or advance information, we incorporate interaction terms in our models: a Spanish-language indicator interacted with the incentive variable, and three-way interactions (e.g., incentive × ten-dollar × Spanish).[4] To ease interpretation, Figure 1 displays the corresponding average marginal effects (AMEs) or contrasts of AMEs.

The main incentive effect—shown in the first set of bars in each plot—is positive for English- and Spanish-speaking parents, mirroring the results in Table 2. There is little evidence that incentive impacts vary by language, as most confidence intervals overlap, except for claiming a gift and choosing an essential-goods vendor, where the effects are significantly smaller for Spanish speakers. Increasing incentive amounts (second set of bars) yields positive effects, though estimates for Spanish speakers are somewhat less precise. However, differences between groups are not statistically significant. Providing advance information (third set of bars) has no significant effects for either group on outcomes ranging from receiving an email to choosing an essential-goods vendor. The effects on starting and finishing the survey are positive only for Spanish-speaking parents, with a significant language difference for starting the survey. Broadly, few incentive effects differ by language, though baseline engagement rates continue to vary across groups (Tables 2-3). These findings suggest that while incentives may not close engagement disparities, tailoring incentive structures to specific populations could further enhance outcomes.

[4] Full results from these models are available in the Appendix.

## V. CONCLUDING REMARKS

Given the growing diversity of U.S. schools, it is essential that researchers understand which strategies best engage parents from different backgrounds. Incentives are one promising approach, as they can improve data accuracy in survey-based program evaluations (Dutz et al., 2026). While our findings show that incentivized parents were more likely to engage with the program, the design features of the incentives accentuated their effects. Thus, our study offers insights for field experiments in the digital era, revealing how incentives can address challenges related to participation and engagement.

Moreover, engagement patterns differ by language preference, with Spanish speakers exhibiting stronger survey participation but little to no advantage in subsequent engagement stages. This pattern may reflect a *digital divide by language*—perhaps the platform was less receptive to Spanish-speaking users, or linguistic minorities faced greater challenges navigating unfamiliar technologies. While our study cannot offer concrete explanations for these differences, they highlight a new axis of inequality that should be considered in experimental design and the implementation of incentives.

## REFERENCES


Bergman, Peter, and Eric W. Chan. 2021. "Leveraging Parents through Low-Cost Technology: The Impact of High-Frequency Information on Student Achievement." *Journal of Human Resources* 56 (1): 125–58.

Charness, Gary, Uri Gneezy, and Brianna Halladay. 2016. "Experimental Methods: Pay One or Pay All." *Journal of Economic Behavior & Organization* 131 (Part A): 141–50.

Cortes, Kalena E., Hans Fricke, Susanna Loeb, David S. Song, and Benjamin N. York. 2021. "Too Little or Too Much? Actionable Advice in an Early-Childhood Text Messaging Experiment." *Education Finance and Policy* 16 (2): 209–32.

Cortes, Kalena E., Hans Fricke, Susanna Loeb, David S. Song, and Benjamin N. York. 2023. "When Behavioral Barriers Are Too High or Low: How Timing Matters for Text-Based Parenting Interventions." *Economics of Education Review* 92: 102352.

Dutz, Deniz, Ingrid Huitfeldt, Santiago Lacouture, Magne Mogstad, Alexander Torgovitsky, and Winnie van Dijk. 2026. "Selection in Surveys: Using Randomized Incentives to Detect and Account for Nonresponse Bias." *The Review of Economic Studies*. https://www.restud.com/selection-in-surveys-using-randomized-incentives-to-detect-and-account-for-nonresponse-bias/.

Kraft, Matthew A., and Manuel Monti-Nussbaum. 2017. "Can Schools Enable Parents to Prevent Summer Learning Loss? A Text-Messaging Field Experiment to Promote Literacy Skills." *The ANNALS of the American Academy of Political and Social Science* 674 (1): 85–112.

MaCurdy, Thomas, Thomas Mroz, and R. Mark Gritz. 1998. "An Evaluation of the National Longitudinal Survey on Youth." *Journal of Human Resources* 33 (2): 345–436.

National Center for Education Statistics. 2024. "Racial/Ethnic Enrollment in Public Schools." *Condition of Education*, May. https://nces.ed.gov/programs/coe/indicator/cge.

Plott, Charles. 1986. "Rational Choice in Experimental Markets." *The Journal of Business* 59 (4, Part 2): S301–27.

Svorenčík, Andrej, and Harro Maas, eds. 2016. *The Making of Experimental Economics: Witness Seminar on the Emergence of a Field*. Cham: Springer International Publishing.

The Annie E. Casey Foundation. 2025. "Children Who Speak a Language Other than English at Home." *KIDS COUNT Data Center*, September. https://datacenter.aecf.org/data/line/81-children-who-speak-a-language-other-than-english-at-home.

Warschauer, Mark. 2010. "Digital Divide." In *Encyclopedia of Library and Information Sciences*, 3rd ed., edited by Marcia J. Bates and Mary Niles Maack. Boca Raton, FL: CRC Press.

York, Benjamin N., Susanna Loeb, and Christopher Doss. 2019. "One Step at a Time: The Effects of an Early Literacy Text-Messaging Program for Parents of Preschoolers." *Journal of Human Resources* 54 (3): 537–66.

Table 1: Sample Summary Statistics
and Covariate Balancing Test among Incentivized and Non-Incentivized Groups

| | Panel A: Overall Sample Mean | Panel B: Incentivized Mean | Panel C: Non-Incentivized Mean | Mean Difference | p-value | |
|---|---|---|---|---|---|---|
| Age | 12.373 | 12.320 | 12.403 | -0.001 | 0.929 | |
| | (1.101) | (1.096) | (1.102) | [0.006] | | |
| Female | 0.494 | 0.497 | 0.492 | 0.004 | 0.533 | |
| | | | | [0.007] | | |
| White | 0.185 | 0.175 | 0.190 | -0.001 | 0.875 | |
| | | | | [0.004] | | |
| Black | 0.036 | 0.036 | 0.036 | 0.000 | 0.857 | |
| | | | | [0.002] | | |
| Hispanic | 0.728 | 0.738 | 0.722 | -0.001 | 0.789 | |
| | | | | [0.004] | | |
| Other Race | 0.051 | 0.050 | 0.051 | 0.002 | 0.390 | |
| | | | | [0.002] | | |
| Free & Reduced-Price Lunch | 0.568 | 0.586 | 0.558 | -0.010 | 0.030 | * |
| | | | | [0.005] | | |
| Spanish-Language Texts | 0.251 | 0.255 | 0.249 | -0.001 | 0.738 | |
| | | | | [0.002] | | |
| Texts4Teens Program | 0.500 | 0.500 | 0.501 | 0.000 | 0.920 | |
| | | | | [0.001] | | |
| Observations | 30,455 | 10,963 | 19,492 | | | |

*Sources:* Data from Texts4Teens Middle School Texting Program.
*Notes:* Standard deviations are shown in parentheses for continuous variables. Standard errors are clustered at the school-by-grade level and are shown in brackets. + p<0.10, * p<0.05, ** p<0.01, *** p<0.001 denotes statistical significance.

Table 2: The Effects of Providing Incentives on Program Engagement

| | (1) Start Survey | (2) Finish Survey | (3) Email Delivered | (4) Email Open | (5) Gift Claimed | (6) Essential Goods |
|---|---|---|---|---|---|---|
| Incentivized | 0.117*** | 0.107*** | 0.161*** | 0.125*** | 0.107*** | 0.085*** |
| | (0.005) | (0.004) | (0.004) | (0.003) | (0.003) | (0.003) |
| Spanish-Language Texts | 0.041*** | 0.033*** | 0.005+ | -0.002 | -0.006* | -0.002 |
| | (0.005) | (0.005) | (0.003) | (0.003) | (0.002) | (0.002) |
| Obs. | 30,455 | 30,455 | 30,455 | 30,455 | 30,455 | 30,455 |
| $R^2$ | 0.039 | 0.039 | 0.119 | 0.094 | 0.082 | 0.066 |
| Non-Incentivized Mean | 0.100 | 0.074 | -- | -- | -- | -- |
| Student-Level Controls | Yes | Yes | Yes | Yes | Yes | Yes |
| School-by-Grade FE | Yes | Yes | Yes | Yes | Yes | Yes |

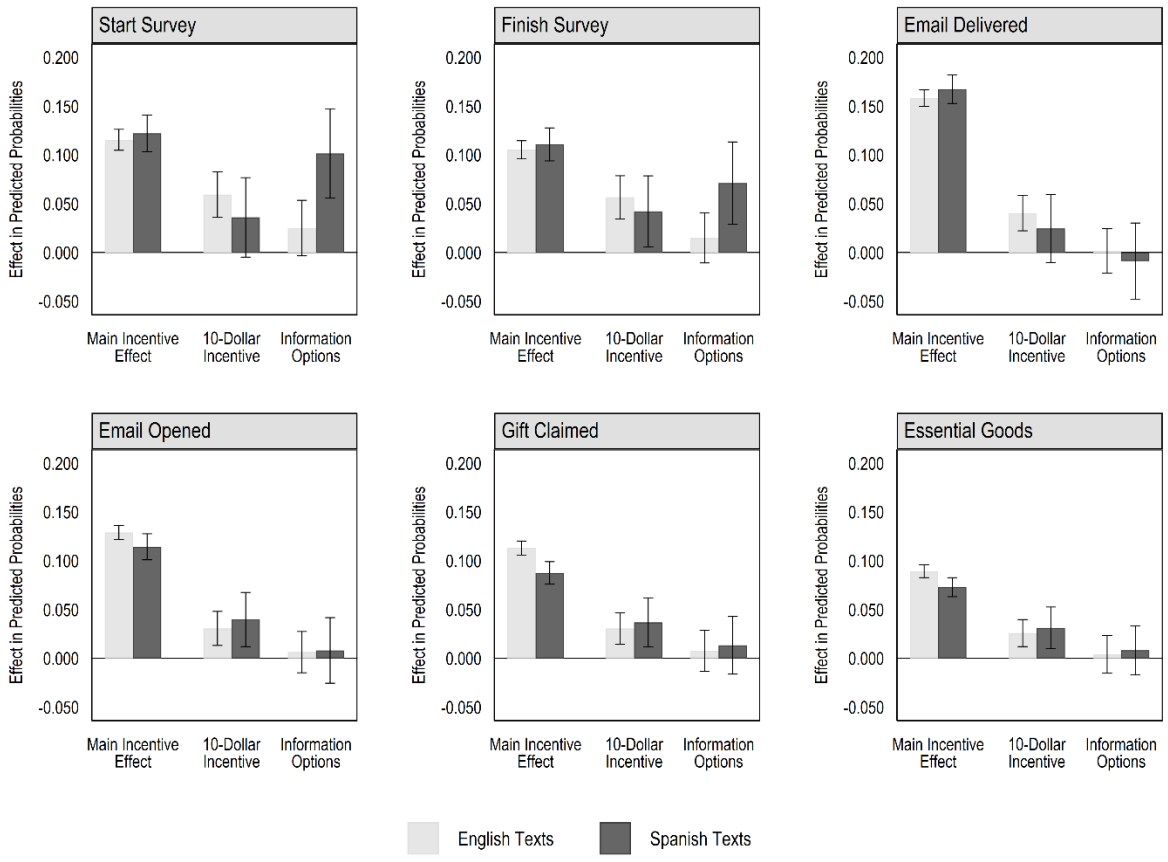
*Notes:* Controls: children's age, gender, race/ethnicity, free and reduced-price lunch status, and program treatment status. Standard errors are clustered at the school-by-grade level (shown in parentheses). + p<0.10, * p<0.05, ** p<0.01, *** p<0.001 denotes statistical significance.

Table 3: The Effects of Changing Incentive Designs on Program Engagement

| | (1) Start Survey | (2) Finish Survey | (3) Email Delivered | (4) Email Open | (5) Gift Claimed | (6) Essential Goods |
|---|---|---|---|---|---|---|
| | Panel A: Increasing Dollar Amount from $5 to $10 | | | | | |
| Incentivized × Ten Dollars | 0.054*** | 0.053*** | 0.037*** | 0.033*** | 0.032*** | 0.027*** |
| | (0.009) | (0.009) | (0.007) | (0.007) | (0.007) | (0.006) |
| Incentivized | 0.074*** | 0.067*** | 0.137*** | 0.103*** | 0.085*** | 0.067*** |
| | (0.008) | (0.007) | (0.006) | (0.006) | (0.005) | (0.005) |
| Ten Dollars (Year 2023) | -0.032*** | -0.029*** | -0.006** | -0.003+ | -0.002 | -0.001 |
| | (0.006) | (0.005) | (0.002) | (0.002) | (0.002) | (0.001) |
| Spanish-Language Texts | 0.055*** | 0.043*** | 0.006* | -0.002 | -0.006* | -0.002 |
| | (0.006) | (0.005) | (0.003) | (0.003) | (0.003) | (0.002) |
| Obs. | 25,469 | 25,469 | 25,469 | 25,469 | 25,469 | 25,469 |
| $R^2$ | 0.038 | 0.038 | 0.125 | 0.098 | 0.085 | 0.070 |
| Non-Incentivized Mean | 0.116 | 0.087 | -- | -- | -- | -- |
| Student-Level Controls | Yes | Yes | Yes | Yes | Yes | Yes |
| School-by-Grade FE | Yes | Yes | Yes | Yes | Yes | Yes |
| | Panel B: Dollar Amount at $10 and Providing Information Options | | | | | |
| Incentivized × Information Options | 0.046*** | 0.030* | -0.001 | 0.007 | 0.009 | 0.005 |
| | (0.013) | (0.012) | (0.011) | (0.010) | (0.010) | (0.009) |
| Incentivized | 0.128*** | 0.120*** | 0.174*** | 0.136*** | 0.116*** | 0.094*** |
| | (0.007) | (0.007) | (0.006) | (0.005) | (0.005) | (0.005) |
| Information Options (Year 2024) | -0.036*** | -0.024*** | 0.009** | 0.006* | 0.004 | 0.004 |
| | (0.008) | (0.006) | (0.003) | (0.003) | (0.003) | (0.002) |
| Spanish-Language Texts | 0.025*** | 0.023*** | 0.005 | -0.002 | -0.008+ | -0.002 |
| | (0.006) | (0.006) | (0.005) | (0.005) | (0.004) | (0.004) |
| Obs. | 16,192 | 16,192 | 16,192 | 16,192 | 16,192 | 16,192 |
| $R^2$ | 0.057 | 0.056 | 0.107 | 0.087 | 0.076 | 0.062 |
| Non-Incentivized Mean | 0.091 | 0.065 | -- | -- | -- | -- |
| Student-Level Controls | Yes | Yes | Yes | Yes | Yes | Yes |
| School-by-Grade FE | Yes | Yes | Yes | Yes | Yes | Yes |

*Notes:* Controls: children's age, gender, race/ethnicity, free and reduced-price lunch status, and program treatment status. Standard errors are clustered at the school-by-grade level (shown in parentheses). + p<0.10, * p<0.05, ** p<0.01, *** p<0.001 denotes statistical significance.

Figure 1: Heterogeneous Effects of Incentives on Program Engagement for English and Spanish Speakers




*Notes:* Results present average marginal effects (AMEs) of the effects of incentives, or contrasts of AMEs of the effects of increasing incentives and providing advance information on vendor choices. Controls: children's age, gender, race/ethnicity, free and reduced-price lunch status, and program treatment status. Standard errors are clustered at the school-by-grade level. Error bars show 95% confidence intervals.

## APPENDIX

Appendix Table 1: The Effects of Providing Incentives on Program Engagement by Texting Language

| | (1) Start Survey | (2) Finish Survey | (3) Email Delivered | (4) Email Open | (5) Gift Claimed | (6) Essential Goods |
|---|---|---|---|---|---|---|
| Incentivized | 0.115*** | 0.105*** | 0.158*** | 0.129*** | 0.113*** | 0.089*** |
| | (0.005) | (0.005) | (0.004) | (0.004) | (0.004) | (0.003) |
| Spanish-Language Texts | 0.039*** | 0.031*** | 0.002 | 0.003* | 0.003* | 0.004*** |
| | (0.006) | (0.005) | (0.001) | (0.001) | (0.001) | (0.001) |
| Incentivized × Spanish | 0.007 | 0.006 | 0.009 | -0.015* | -0.026*** | -0.016** |
| | (0.010) | (0.009) | (0.008) | (0.007) | (0.006) | (0.005) |
| Obs. | 30,455 | 30,455 | 30,455 | 30,455 | 30,455 | 30,455 |
| $R^2$ | 0.039 | 0.039 | 0.119 | 0.095 | 0.082 | 0.067 |
| Non-Incentivized Mean | 0.100 | 0.074 | -- | -- | -- | -- |
| Student-Level Controls | Yes | Yes | Yes | Yes | Yes | Yes |
| School-by-Grade FE | Yes | Yes | Yes | Yes | Yes | Yes |

*Notes:* Controls: children's age, gender, race/ethnicity, free and reduced-price lunch status, and program treatment status. Standard errors are clustered at the school-by-grade level (shown in parentheses). + p<0.10, * p<0.05, ** p<0.01, *** p<0.001 denotes statistical significance.

Appendix Table 2: The Effect of Increasing Dollar Amount from $5 to $10 on Program Engagement by Texting Language

| | (1) Start Survey | (2) Finish Survey | (3) Email Delivered | (4) Email Open | (5) Gift Claimed | (6) Essential Goods |
|---|---|---|---|---|---|---|
| Incentivized | 0.069*** | 0.064*** | 0.132*** | 0.108*** | 0.092*** | 0.072*** |
| | (0.009) | (0.008) | (0.007) | (0.007) | (0.006) | (0.006) |
| Ten Dollars (Year 2023) | -0.029*** | -0.026*** | -0.006** | -0.003* | -0.003 | -0.002 |
| | (0.006) | (0.005) | (0.002) | (0.002) | (0.002) | (0.002) |
| Spanish-Language Texts | 0.059*** | 0.047*** | 0.003 | 0.003* | 0.003* | 0.004** |
| | (0.009) | (0.007) | (0.002) | (0.001) | (0.001) | (0.001) |
| Incentivized × Ten Dollars | 0.059*** | 0.057*** | 0.040*** | 0.031*** | 0.031*** | 0.026*** |
| | (0.012) | (0.011) | (0.009) | (0.009) | (0.008) | (0.007) |
| Incentivized × Spanish | 0.019 | 0.013 | 0.023 | -0.022+ | -0.032** | -0.022* |
| | (0.019) | (0.018) | (0.017) | (0.013) | (0.011) | (0.010) |
| Ten Dollars × Spanish | -0.011 | -0.012 | -0.001 | 0.001 | 0.001 | 0.001 |
| | (0.014) | (0.011) | (0.001) | (0.001) | (0.001) | (0.001) |
| Incentivized × Ten Dollars × Spanish | -0.023 | -0.014 | -0.016 | 0.009 | 0.006 | 0.005 |
| | (0.026) | (0.024) | (0.021) | (0.017) | (0.015) | (0.013) |
| Obs. | 25,469 | 25,469 | 25,469 | 25,469 | 25,469 | 25,469 |
| $R^2$ | 0.038 | 0.039 | 0.125 | 0.099 | 0.086 | 0.071 |
| Non-Incentivized Mean | 0.116 | 0.087 | -- | -- | -- | -- |
| Student-Level Controls | Yes | Yes | Yes | Yes | Yes | Yes |
| School-by-Grade FE | Yes | Yes | Yes | Yes | Yes | Yes |

*Notes:* Controls: children's age, gender, race/ethnicity, free and reduced-price lunch status, and program treatment status. Standard errors are clustered at the school-by-grade level (shown in parentheses). + p<0.10, * p<0.05, ** p<0.01, *** p<0.001 denotes statistical significance.

Appendix Table 3: The Effect of Providing Information Options on Program Engagement by Texting Language

| | (1) Start Survey | (2) Finish Survey | (3) Email Delivered | (4) Email Open | (5) Gift Claimed | (6) Essential Goods |
|---|---|---|---|---|---|---|
| Incentivized | 0.129*** | 0.120*** | 0.172*** | 0.139*** | 0.123*** | 0.098*** |
| | (0.008) | (0.008) | (0.006) | (0.006) | (0.006) | (0.005) |
| Information Options (Year 2024) | -0.006 | -0.003 | 0.010** | 0.007* | 0.005+ | 0.005+ |
| | (0.008) | (0.007) | (0.003) | (0.003) | (0.003) | (0.003) |
| Spanish-Language Texts | 0.051*** | 0.039*** | 0.004+ | 0.007** | 0.006** | 0.008*** |
| | (0.011) | (0.009) | (0.002) | (0.002) | (0.002) | (0.002) |
| Incentivized × Information Options | 0.025+ | 0.015 | 0.002 | 0.006 | 0.008 | 0.004 |
| | (0.014) | (0.013) | (0.012) | (0.011) | (0.011) | (0.010) |
| Incentivized × Spanish | -0.005 | -0.002 | 0.007 | -0.014 | -0.026** | -0.017* |
| | (0.016) | (0.015) | (0.011) | (0.010) | (0.009) | (0.008) |
| Information Options × Spanish | -0.111*** | -0.078*** | -0.003 | -0.006* | -0.005* | -0.006** |
| | (0.013) | (0.010) | (0.003) | (0.002) | (0.002) | (0.002) |
| Incentivized × Information Options × Spanish | 0.076** | 0.056* | -0.010 | 0.002 | 0.006 | 0.004 |
| | (0.026) | (0.023) | (0.020) | (0.018) | (0.016) | (0.014) |
| Obs. | 16,192 | 16,192 | 16,192 | 16,192 | 16,192 | 16,192 |
| $R^2$ | 0.059 | 0.057 | 0.107 | 0.087 | 0.076 | 0.063 |
| Non-Incentivized Mean | 0.091 | 0.065 | -- | -- | -- | -- |
| Student-Level Controls | Yes | Yes | Yes | Yes | Yes | Yes |
| School-by-Grade FE | Yes | Yes | Yes | Yes | Yes | Yes |

*Notes:* Controls: children's age, gender, race/ethnicity, free and reduced-price lunch status, and program treatment status. Standard errors are clustered at the school-by-grade level (shown in parentheses). + p<0.10, * p<0.05, ** p<0.01, *** p<0.001 denotes statistical significance.