MOBILE TECH & THE POTENTIAL FOR SOCIAL IMPACT:
Insights from a survey on phone use among low-income New Yorkers

November 2014

A report by:

Significance Labs

Significance Labs is a Brooklyn-based social impact incubator. The programs encourage entrepreneurs, designers, and developers to build products for communities that are often overlooked by technology.

With support from:

Redlich Horwitz Foundation

The Redlich Horwitz Foundation is dedicated to improving the lives and long-term outcomes of children and young adults in the foster care system in New York and elsewhere. It currently funds over 20 unique organizations across four program areas including permanency, older youth, youth advocacy and system reform.

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INTRODUCTION

At Significance Labs, people often ask us why we think building technology for low-income communities is a good opportunity. A lot of people ask about whether these communities have access to smartphones and computers in order to use the technology we develop. Others inquire about whether low-income users are technologically literate enough to make use of the products. And some question the behaviors we rely on, like a willingness to input personal information into mobile forms.

From our experience working with low-income communities, we had anecdotal answers to these questions. In focus groups and home visits, we saw wide usage of smartphones and apps. We heard that families relied on Facebook to communicate with family abroad and that folks owned multiple phones. But we wanted a more systematic perspective as well. We searched for data to help us think about these questions. We found a number of high quality studies on phone ownership on a broad and national level, but we wanted to a deeper look at behaviors specific to New York City since this is the population we're building for.

This survey is an effort to answer these questions more rigorously. We also hope these findings will be useful for other groups thinking about how best to reach out to, deliver services to and support low-income communities. The audience is three-fold:

1. Technology developers like us who build products for these communities. This data shows which platforms people use, and how they interact with their devices, and therefore can provide guidance on what and how to build.

2. Non-profits organizations who provide services to low-income communities. This data breaks down usage by demographic, showing variance among categories like gender and age. For non-profits, we think that this granular look at phone use and ability to tailor it to specific beneficiary groups could enhance the ways that organizations reach out to clients.

3. Other people and organizations – governments, established technology firms, academics - looking to understand how technology can have a social impact. This data provides an in-depth look into phone ownership and usage among low-income New Yorkers that hasn't previously been available.

The survey was conducted in-person from July – October 2014 in New York City. In total, we received responses from 2,030 people, but our conclusions are only based on the 1900 respondents that reported a household income of $50K or less. Based on census data, about 48% of households have an income of $50K or less, or roughly 1.48 million households. You can learn more about our methodology and the population we surveyed in the appendix or by clicking here: http://significancelabs.org/survey/.

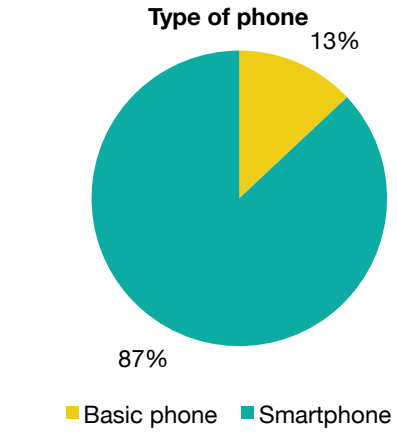
We've organized our findings into four insights. For each, you'll find a summary of our analysis, how it might be applied, and – in a few cases - examples of organizations who effectively apply these insights in their products. It's followed by a short conclusion and our thoughts on what the results mean for us as we continue to build products for low-income New Yorkers.

INSIGHT 1

Low-income New Yorkers have more access to smartphones than you might expect.

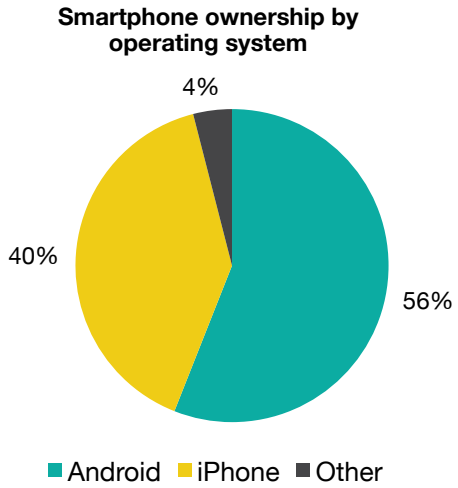
While administering our survey, we only collected responses from folks who had phones. Based on the Pew Center Internet Project, this includes about 84% of those living on less than $30K per year and 90% of those with a combined household income of $30K - $50K.[1] Of those surveyed who owned a phone, 87% of respondents owned a smartphone compared to 13% of respondents who owned a basic phone. We define the difference loosely in that a smartphone has app capabilities and data, while a basic phone does not.

Compared to national data, our sample reported significantly higher smartphone ownership. The Pew Center Internet Project reports that 56% of adults have smartphones.[2] We suspect our results are skewed due to the fact our sample is predominately young to middle age and exclusively urban. The Pew Center's statistic is also from 2013, so changing ownership trends may also explain some of the difference.



The 13% of respondents that own basic phones were more likely to be female and native English speakers than our survey population as a whole. However, our sample is small for basic phone ownership, and therefore the trends we see in might be a misrepresentation.

One of the things we asked smartphone users was what type of operating system they had on their phone. 56% reported using an Android operating system and 40% reported using iOS. Only 4% reported using other systems like Windows or Blackberry. These numbers hold true across all demographics like age, gender or income level.



We looked at numbers from the International Data Center on the cost of each smartphone to better understand our data. According to their analysis, the gap between the cost of an Android and iPhone has been widening over the years. In 2010, the price of an Android was $441 compared to an iPhone selling for $702. Last year, an Android cost $276 and an iPhone cost $650.[3]

Slightly more than a quarter of our sample owned more than one phone. Among these multi-phone owners, 63% reported that only one of their phones has a contract that allows for calling and texting. This suggests that many respondents use different phones for different purposes. For example, we heard anecdotally that many folks

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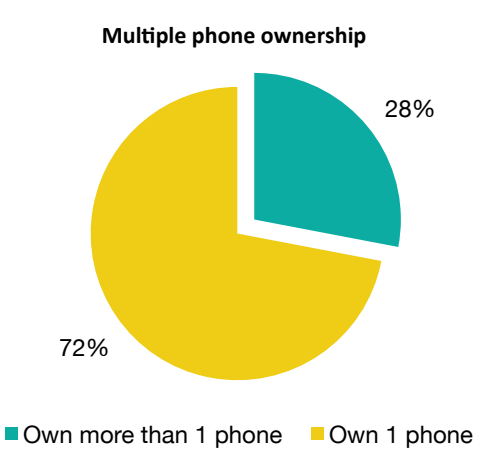
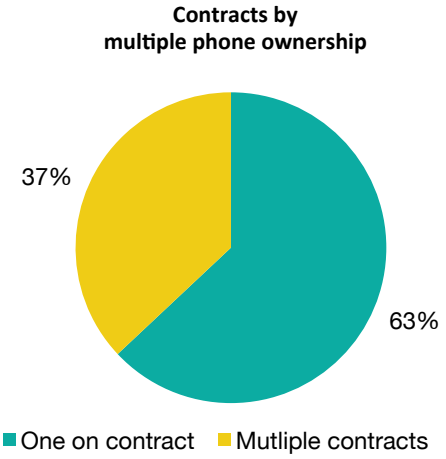
[1] Pew Research Center Internet Project Survey, *Cell Phone and Smartphone Ownership Demographics*, http://www.pewinternet.org/data-trend/mobile/cell-phone-and-smartphone-ownership-demographics/.
[2] Ibid.
[3] International Data Center, Smartphone Momentum Still Evident with Shipments Expected to Reach 1.2 Billion in 2014 and Growing 23.1% Over 2013, According to IDC , http://www.idc.com/getdoc.jsp?containerId=prUS24857114.

have a government-sponsored phone or another basic phone with a contract for calling and texting and a smartphone that they can use for an internet connection in places with Wi-Fi.





Applying insights

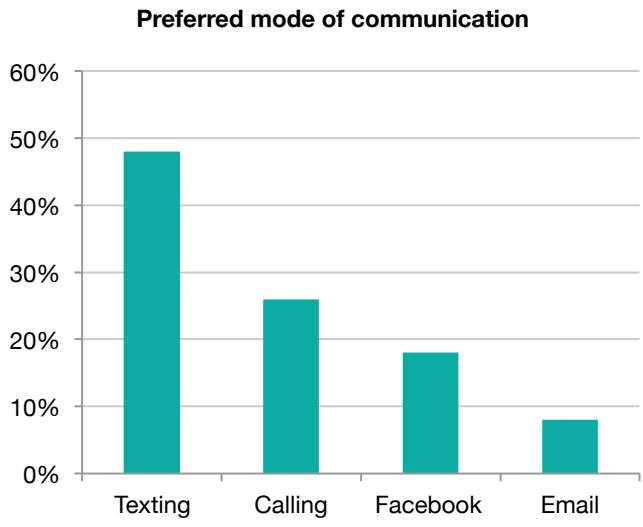
The substantial portion of low-income New Yorkers who own smartphones represents a growing opportunity to use technology to connect with this population. Moreover, we know from national data that this may be the best way to reach many of them digitally. The Pew Center reports that 45% of households living under less that $30K per year and 39% of those living on $30K - $50K use mobile phones as their primary way to access the internet (as opposed to home broadband).[4] For those developing products and services that benefit low-income users, we think these findings highlight the importance of building mobile-friendly products in addition to traditional web solutions, or replacing them all together. We also think it may make more sense to build first for Android operating systems – or via non-native apps - because it will make the product accessible to a larger portion of the market. And considering widening gap on smartphone price between the systems, we'd argue that building programs for Android isn't just useful in the short-term, but will likely remain true for years to come.

INSIGHT 2

Texting is the most popular mode of communicating on smartphones.

When asked to rank how often they used different modes of communication on their smartphone, nearly half of respondents reported texting as their mostly frequent choice, followed by calling at 26% and then Facebook at 18%.

Conversely, 52% of our sample reported email is their least used mode of communication, followed by Facebook at 30%. When we looked further into the



[4] Pew Research Center Internet Project, *Cell Internet Use 2013*, http://www.pewinternet.org/2013/09/16/main-findings-2/.

data, we found that respondents who listed Facebook last tend to have higher incomes, work full-time, and are older in age.

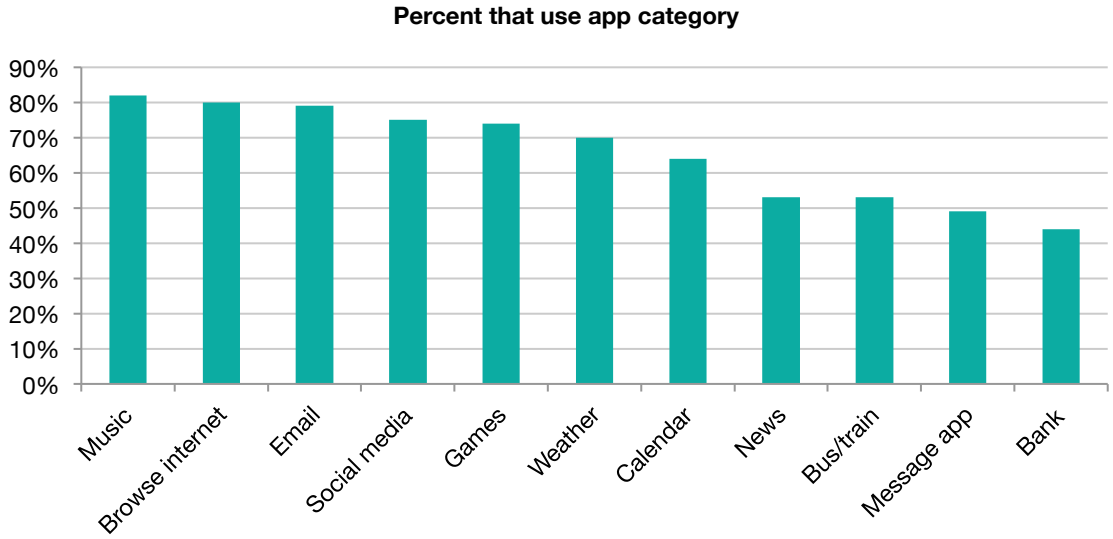
Applying insights:
There are a couple of important lessons to draw from this data around communication preferences. First, texting is the preferred method of communication across the board, regardless of age, gender, and income level. This suggests that in many circumstances, communication strategies that incorporate texting may be more likely to be effective. Second, our findings show that email is least preferred, so in many cases it may be risky to pursue an e-mail only communication strategy (particularly if you are hoping for frequent, high-touch interaction). Finally, our results show that what contributes to an effective communication channel can vary depending on the target sub-group. While Facebook is a useful way to reach young people, it might not be a useful strategy for targeting older individuals who are working full-time. Regardless of your target audience, it's important to understand their communication and design your strategies and products accordingly.

Examples that inspire us:
Kinvolved is a web application for teachers and after school program leaders to record attendance and provide real-time notifications to adults in a student's network (like parents, coaches or mentors) about lateness or absenteeism. When a teacher takes attendance in the classroom, adults are immediately notified via text messages or email updates depending on their preference. By letting adults tailor a method of communication to stay involved with their students' education, Kinvolved is able to deliver critical real-time information in a format that adults are already comfortable using.

INSIGHT 3

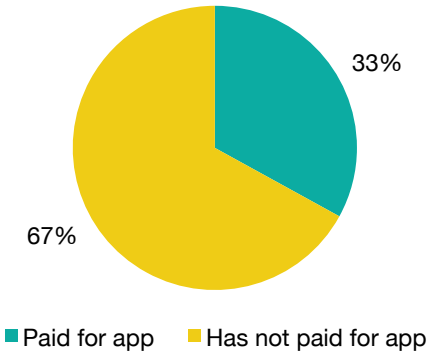
Low-income smartphone owners already use a wide variety of apps, and many are willing to pay for them.

Since we are interested in usage and behavior patterns, we asked survey respondents about the different types of tasks they currently complete using their phones. We specifically asked about app categories including: music, browsing the internet, email, social media, games, weather, calendar, news, bus/train scheduling, messenger app (outside of texting) and banking.



App usage among the communities we surveyed is high: the average person uses 6-7 app categories regularly on their smartphone and every single category was cited by at least 40% of our respondents. The highest reported categories (at 75%+ of all respondents) were: music, browsing the internet, email, games and social media. The lowest reported categories (used by 40-55% of respondents) include: mobile banking, any messenger app outside of the phone's native texting function, transportation, and news. We found that these trends are consistent across gender, employment status, student status and if respondent is a native English speaker. It's important to note that this question asked purely about any use as opposed to frequent use. This may help to explain why 79% of smartphone owners reported to using an email app despite the fact it was reported as the least preferred communication method. Our data shows that app use varies most with age. Not surprisingly, older respondents are less likely to play games or use social media but more likely to use a calendar app or read the news.

Smartphone owners paying for apps



We also found that folks are willing to pay for apps. Roughly a third of respondents reported having previously purchased an app on their smartphone. As one might expect, we found that people are more likely to pay for an app as income rises. When probed about which apps people purchased, we commonly heard that apps were for children. However, more often than not, folks did not specify which app they purchased or what it did.

Applying insights

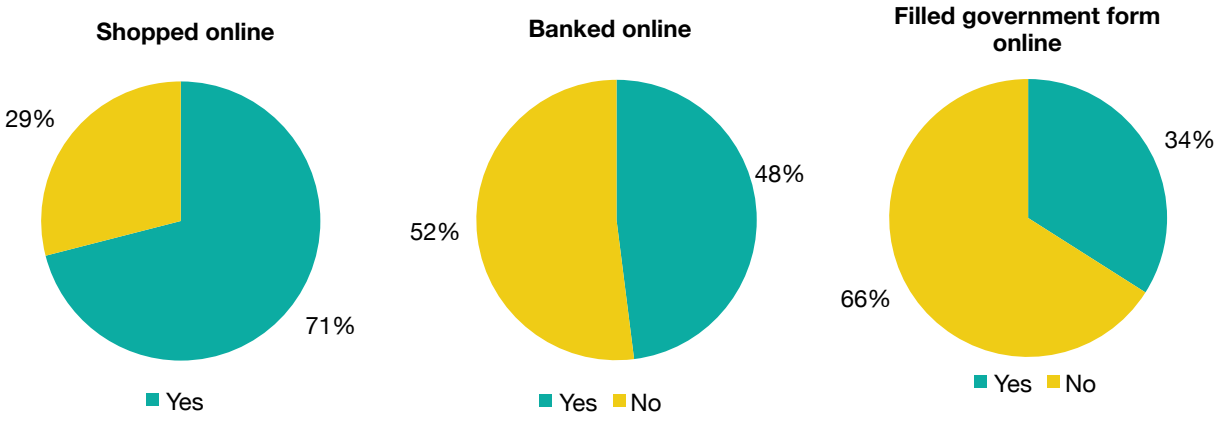
Our data shows that low-income smartphone owners use apps regularly for a range of different functions, with entertainment at the top of the list. When thinking about how to use mobile platforms to share information or provide services, it's worth considering approaches that entertain and engage users through strategies like gameification. Additionally, people's willingness to pay for apps suggests that even low-income people will make room in their budgets for technology products that provide value.

INSIGHT 4

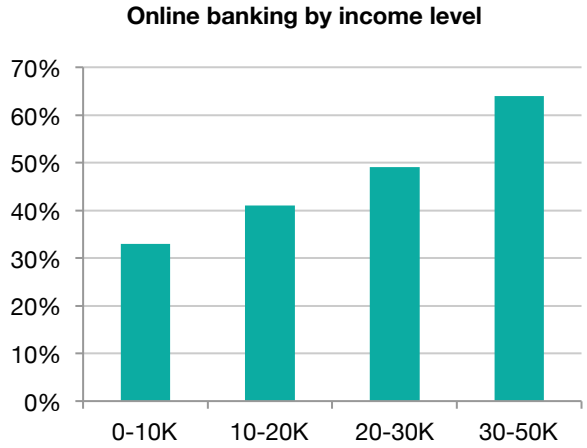
Low-income New Yorkers trust technology with personal information.

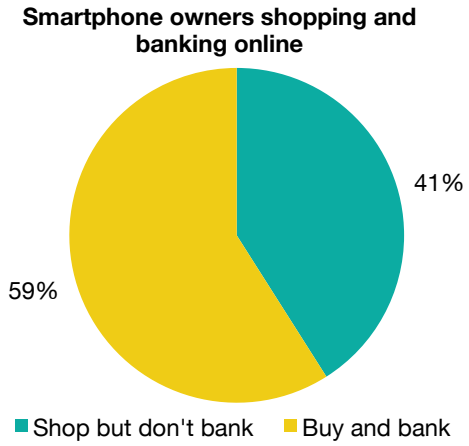
One of the areas we were most interested to explore through our survey was trust. We've heard anecdotally about a number of cases where the folks we work with were scammed – sometimes by members of their own communities – and we've heard others express a distrust for institutions like government agencies or banks. We wondered how their caution might impact their actions online, where they'd be exposed to identify theft, and a range of other threats.

In order to better understand trust and technology, we asked respondents what kind of information they input online and for what purpose. Our survey shows that roughly 71% of respondents reported buying something online, 48% have used online banking and 34% have filled out a government form that requires personal information like an address and social security number. Importantly, this question was not specific to mobile and represents the number of folks who have carried out the activity on a computer or phone. In addition, responses may be skewed by the availability of online channels for each behavior (i.e. they are many more outlets and possible purchase occasions for online shopping than for completing government forms).



One of the more interesting findings was that 41% of respondents who shopped online did not bank online, despite the fact both activities require the submission of financial information. One possible explanation is that people feel more comfortable making payments online than they do making other financial transactions. When we probed respondents as to the reason for not using online banking, the most frequently used explanations were that they preferred ATMs and face-to-face service. Another possible explanation relates to income as online banking was more common as income rose. It may be that some lower-income respondents lack the opportunity to bank online (either due to being unbanked or banking at institutions with less developed online offerings), but can still make online purchase through the use of credit or pre-paid cards.





Applying insights

A meaningful share of low-income New Yorkers are willing to input personal information online, and this provides a wide range of new opportunities, from mobile payment platforms to anonymous communication with civic agencies to replacing paper applications with mobile sites. As organizations design new products to meet this growing demand, it will continue to be critical to build systems that protect privacy, use data responsibly, and meet legal and regulatory requirements, but the question should be how not if.

Examples that inspire us:

Propel creates mobile enrollment applications for government services like the Supplemental Nutrition Assistance Program (SNAP, formerly known as food stamps). Currently, the process to apply for SNAP can be tedious, with long waits at welfare centers and complicated paperwork. Propel simplified the process by building easyfoodstamps.com, which enables SNAP applicants to submit the required information without stepping foot in a welfare office. In order to submit an application, applicants must provide personal information including income level, address and social security number. By building on applicants' trust in technology and comfort with filling out online forms, Propel is able to meet clients where they are and lessen the burden of accessing critical benefits.

CONCLUSION

People still talk about the digital divide as being a matter of physical access or digital literacy. We think both these explanations are wrong. As this survey shows, low-income New Yorkers have access to technology and use it in a myriad of ways on a daily basis. We found that low-income New Yorkers:

1. Have more access to smartphones than you might expect.
2. Are more likely to use Android operating systems.
3. Most prefer texting and least prefer email.
4. Use a wide variety of apps, and in many cases are willing to pay for them.
5. Trust technology with personal information.

We'd argue that the true digital divide is one of products – where the technologies that would be most useful to many low-income Americans aren't the ones we build. Instead of matching the San Francisco city dweller with a personal Uber driver, what if technology matched working moms with high quality emergency childcare? Or instead of locating the various spas with discounts in your neighborhood, what if technology located the healthy food shops that accept EBTs?

We hope that this report will pique the interest of people who build technology and want to use their skill sets to help a sector of people who tend to be left out. We also hope that it will help organizations that are working in the space today build more effective products and services, and inspire new ideas for front-line organizations delivering services to low-income New Yorkers.

MOBILE TECH & THE POTENTIAL FOR SOCIAL IMPACT:
Survey Methodology

DATA COLLECTION

The survey was conducted from July 2014 to October 2014 and surveyed 2030 people. Ten research assistants administered the survey. We made an explicit effort to hire research assistants from the population we surveyed.

The surveys were completed in one of two ways: 1) the respondent filled out the survey independently, or 2) the research assistant filled out the survey on behalf of the respondent. Upon analyzing responses, we estimate about 40% of all surveys were completed by the research assistant on behalf of the respondent. This is due to respondent preference, language or literacy barrier.

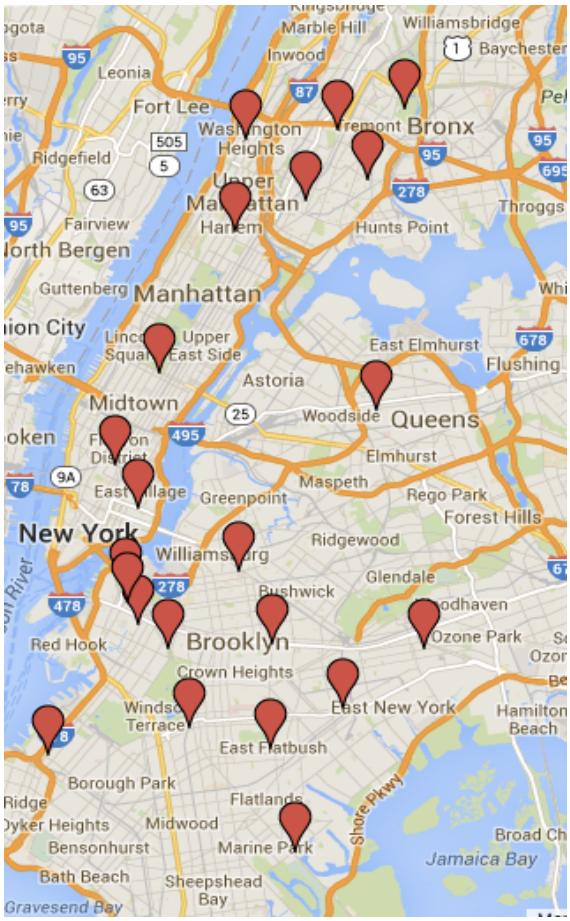
We did not offer any compensation in exchange for a respondent's participation. The survey was anonymous unless the respondent volunteered their information, which was collected and could be used for future programs at Significance Labs. Completing the survey itself, however, did not come with any exchange for the respondent and was completed on his or her own volition.

LOCATIONS

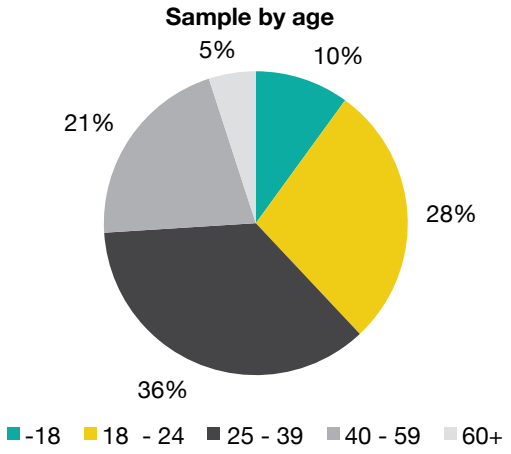
We collected data by canvasing in public places. Research assistants administered the survey throughout the five boroughs, though results do not reflect a perfect distribution. It was administered at different times during the day and all days of the week in attempt to vary background of respondents.

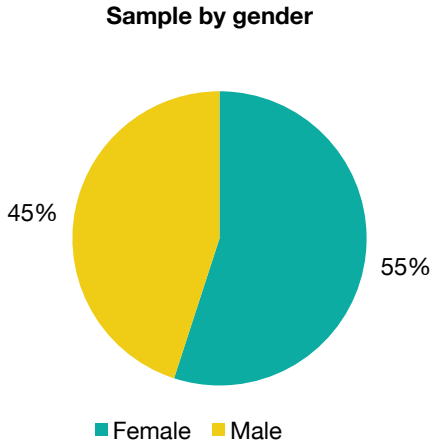
Locations surveyed included:

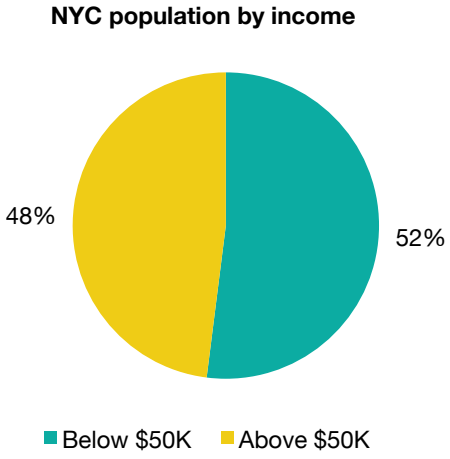
- Shopping streets and malls
- Trains
- Parks
- Farmer's markets
- Neighborhood block parties and annual celebrations
- NYCHA housing developments
- Welfare centers
- Universities
- Churches
- Non-profit programs and events
- Clinic waiting rooms

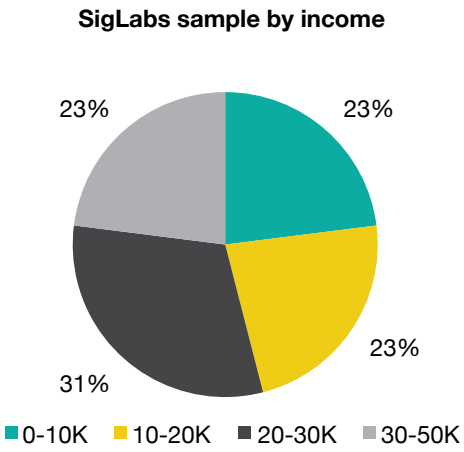


OUR SAMPLE









The first two charts show the gender and age breakdown of our sample. Compared to NYC citywide census data as well as sources such as the Robin Hood Poverty Tracker, our sample is slightly younger, with a majority falling between ages 18-40 years old. This group represents 64% of our sample but only 33.5% of the total population - most of the difference comes from an underrepresentation of -18 individuals. Our sample aligns with citywide data on gender, showing that slightly more low-income respondents to our survey were female. The income breakdown of our sample is also shown. Our survey focused on NYC's 52% below $50K/year.

LIMITATIONS

We know a survey captures a moment in time, and there are important limitations to our methodology that we need to acknowledge before making conclusions about what we've learned.

First, it's important to note that numbers aren't people. What we learned from talking to people has been equally as insightful to our product development as the numbers we're aggregating.

Second, there is an interviewer-respondent dynamic that we can't capture in data. It's possible that a portion of any disparity between answers and actual behavior is due to way the question is asked and who it is asked by. Not only are respondents being asked to give answers in a public place by a stranger, in many cases, the questions are being read to them by someone else who may translate or emphasize the question differently than they would have on their own. We thought a lot about this before we launched the survey, and made an explicit effort to hire folks from the communities we were surveying to administer the question and to train them to conduct the survey uniformly. That said, it's impossible to control for this bias entirely and therefore it shouldn't be taken as a perfectly accurate depiction of what respondents do in reality.

Third, our non-probability sampling means that research assistants had discretion over whom they surveyed. They may have selected respondents that were similar to themselves, potentially biasing our pool towards younger and more technically-savvy respondents

Lastly, a majority of the surveys were administered in public places. This means that respondents needed to be mobile, commute, or have an interest in the events we sampled (such as markets or neighborhood events). In attempt to collect responses outside of this group, research assistants also administered the survey by door-to-door in New York City Housing Administration buildings. However, this comprises a smaller portion of the sample.