# Best Practices for Engaging Underserved Populations

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# Best Practices for Engaging Underserved Populations

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This work developed and applied a set of "best practices" when engaging marginalized populations to collect data, attitudes, and opinions around a research topic. To support city stakeholders making decisions to create more sustainable and equitable cities, data-driven simulation models are being developed. To ensure that these models are equitable, the needs of marginalized populations must be included. The challenge, however, in understanding these needs is that researchers have often struggled to reach and engage underserved populations. The best practices were developed by reviewing the literature from areas such as psychology, communication, and community planning. These best practices (Earn Trust Through Partnership, Be Multilingual & Inclusive, Communicate for Understanding, Respect Work Schedules and Cultural Norms, and Offer Something Useful) were then applied to the design of a data collection exercise for the study of weatherization decision making and behaviors of urban residents in an economically disadvantaged community. The results of the process were positive with high levels of participation and engagement. The use of the best practices allowed the researchers to better engage with the population, to the benefit of both groups. The development of these best practices will aid researchers in better engaging underserved populations across many areas of study.

## INTRODUCTION

Large-scale climate change and growing urban populations pose a challenge to city stakeholders making decisions in order to mitigate the impacts of these issues on the integrity of urban food, energy, and water systems (PSC, 2015; Cathleen, Peterson, Taraska, & Qian, 2016; OECD, 2011). One of the greatest challenges cities face will be providing basic services to marginalized populations (C40 Cities Climate Leadership Group, 2015). A marginalized population (also referred to as "underserved") may be defined as being excluded from mainstream life based on race, religion, sex, culture, or financial status (Given, 2008). Historically, marginalized populations' access to food, energy, and water systems has been particularly susceptible to interruption by climate events (PSC, 2015). City stakeholders (e.g., residents, community organizations, government planners, non-governmental programs) will make decisions on how to adapt to, and mitigate the impacts of, changes to the built environment and climate conditions. To facilitate this, robust, real-time, data-driven decision support systems are needed and must acknowledge the needs of underserved populations.

To address this need, methodologies are being designed to engage marginalized populations in action projects and data collection efforts to provide human behavior data for a suite of interlocking simulation models. These models will provide a key decision-support framework for city stakeholders to create more equitable, forward-thinking, and sustainable cities. However, to ensure that these models are equitable, it is vital to include and understand the needs of marginalized populations by collecting data directly.

The challenge in gathering this data, however, is multi-faceted, because of issues such as access, time, language, economic resources, and trust. Traditional survey methods (e.g., online, telephone) prove problematic, as members of underserved populations often have lower rates of access to utilities such as telephone and internet service (Haight, Quan-Haase, & Corbett, 2014). Because of these challenges, city officials have struggled to reach these populations. Furthermore, members of marginalized populations may have a heightened level of distrust of authority (Sun, Hu, Wong, He & Le, 2013).

This paper discusses techniques for overcoming these challenges and limitations by synthesizing existing literature on engaging marginalized populations and articulating a series of best practices. These best practices were then applied in a study of the attitudes, knowledge, and practice of home weatherization and energy efficiency behaviors by members of a marginalized community in a large Midwestern city. Results from the process focus on the community engagement and the successes of the best practices.

## BEST PRACTICES FROM THE LITERATURE

The literature from multiple fields, including communication, psychology and community planning was reviewed. Specific focus was placed on the challenges researchers encountered and techniques used to access and engage marginalized populations. For each section below, the challenges will be identified, techniques will be reviewed, and the actionable best practices will be summarized.

### Best Practice # 1: Earn Trust Through Partnership

Earning trust from marginalized populations can be difficult due to trust issues with people of authority, largely due to three factors related to those in positions of power: 1) they enjoy a power that marginalized populations do not have, 2) any prejudices held are amplified by their privilege, and 3) historically, marginalized populations have been denied the same resources (Sun, Hu, Wong, He, & Le, 2013). To gain the trust of marginalized individuals, a bond must be formed. Because this can be time consuming and difficult to initiate,

one avenue to gain access involves creating an alliance with an existing public figure that is trusted by the community (Cetin & Novoselac, 2015).

One possibility is identifying "gatekeepers" or community leaders (Sixsmith, Boneham & Goldring, 2003). Gatekeepers have the local influence, respect, and power to add credibility to the project (Seidman, 1998). It is possible to gain access to the entire community through gatekeepers. For example, Cetin and Novoselac (2015) gained the trust of underserved individuals by approaching a non-profit, low income housing company, who served as an advocate for the research team and offered a variety of resources. They helped put up flyers that included both the university logo and their logo, creating a tie from the team to an already trusted figure in the community (Cetin & Novoselac, 2015). In a project that interviewed Spanish-speaking women regarding birth control, trust was gained by partnering with local non-profits and human service agencies (Campo, Kohler, Askelson, Ortiz & Losch, 2015).

It is important to keep in mind, however, that the relationship researchers have with the community partners carries into the relationship with participants. This can lead to possible data bias (Sixsmith et al., 2003).

Key takeaways include:
- Form a partnership with community "gatekeepers" or a population important to the community
- Ask a trusted public figure to endorse the research
- Co-brand literature or recruitment material with trusted groups

## Best Practice #2. Be Multilingual & Inclusive

Communities with marginalized populations are often multilingual and include many non-English speaking participants (May, 2006). This presents multiple challenges related to inclusivity that involve communication, data capture & dissemination. Researchers must understand the language composition of the targeted community, including what languages are spoken, level of multilingualism, demographics of language instruction, and resident preferences.

Four levels of equivalence need to be considered in translation: linguistic, functional, cultural, and metric (Pena, 2007). Linguistic equivalence is often achieved by a direct translation, but the other three factors require a deeper understanding of the culture of the community (i.e. what certain words mean, and when certain words are used as phrases and metaphors). For example, in a study aimed at a Spanish-speaking group, interviews were conducted in Spanish and transcribed in English. A second translator compared the two scripts side by side by, modifying to ensure accuracy (Campo et al. 2015). Words with similar meanings can drastically change the way a sentence is perceived by a researcher. In linguistically diverse communities, non-English speakers are often accompanied by someone who translates for them. Children and adolescents often act as language brokers or translators for their non-English speaking parents (Tse, 1995). There can be positive and negative effects from this arrangement. In the case of asking families about their energy consumption habits, having the English-speaking child weigh in can be beneficial, as they are likely reading the English language energy bills. However, if researchers are asking an adult about a thought or emotion personal to them, having a child translate could introduce a bias, acculturative stress, and discomfort (Weisskirch & Alva, 2002).

It is recommended that researchers construct their data collection mechanism with attention to minimizing potential uncomfortable situations if adults have such "translators." If the child agrees to translate, record the interview and have it translated by a second individual to ensure that nothing was lost in translation (Campo et al., 2015).

Key takeaways include:
- Prepare multi-lingual surveys and flyers
- Offer materials in appropriate languages
- If children act as translators, record interviews so that they can be translated and cross checked later.

## Best Practice #3: Communicate for Understanding

Understanding the languages spoken by potential participants is a first step (Best Practice #2) in a multi-faceted approach to effective communication. Written communication must be visually engaging and rhetorically effective (Schriver, 2012). Two components of communication particularly relevant to engaging marginalized populations are images and similarity. Images are often used to convey ideas across language barriers while perceived similarity between two communicators leads to more effective communication.

*Images.* The use of images can "bridge barriers of language and culture" (Horton, 1993, p. 68), as well as succinctly represent complex information (Otten, Cheng, & Drewnowski, 2015). Representing information pictorially leverages the human brain's capacity for visual processing to communicate faster and more effectively (Otten et al., 2015). Images help a user comprehend complex material faster (Rochester, 1992), which is especially important when working with populations who may be under time constraints. Images also serve a practical purpose to the researcher: they require less translation than a text-based document (Horton, 1993). Additionally, replacing text with images where possible reduces the occurrence of erroneous translation (Jones, Kennelly, & Mueller, 1992).

While images save time in translation, it typically takes longer to create an image than write a sentence. To avoid misinterpretation, care must be taken to understand that the meanings of images and symbols may vary with culture (Horton, 1993). Images should be examined for neutrality (Rochester, 1992) and account for the reading habits of the viewers (e.g., left to right, right to left) (Dreyfuss, 1984).

*Similarity.* The perceived dissimilarity between a researcher and a participant may be a barrier to communication (Rogers & Bhowmik, 1971), especially along the lines of race, ethnicity, and sex (McPherson, Smith-Lovin, Cook, 2001; Shrum, Cheek, & MacD, 1988). The concept of "homophily" is the tendency for individuals to associate with those who are similar: "We are usually more comfortable when we think others are similar to us" (Infante, Rancer & Womach, 1997, p. 271).Voluntary communication between individuals or groups tends to be homophilious, and, as such, tends to be more effective (Rogers & Bhowmik, 1971).

Conversely, heterophilic communication may cause message distortion or breakdowns in communication

relationships (Rogers & Bhowmik, 1971). Additionally, homophily and effective communication have an interdependent relationship; effective communication breeds a sense of similarity and vice versa (Rogers & Bhowmik, 1971). Further, perceptions of similarity have been tied to perceptions of credibility (Wang, Walther, Pingree, & Hawkins, 2008; Wright, 2000). This implies that a researcher's credibility can be influenced by how similar they seem.

To overcome these barriers and increase perceived similarity, researchers may choose to adopt a more informal style of speech and writing that mirrors the way in which the participant speaks (Heylighen & Dewaele, 1999). Informal speech tends to require less time to be processed and understood (Heylighen & Dewaele, 1999; Givon, 1985). As such, especially when trying to build similarity, it is important to use language that is familiar and accessible to the participant. In fact, in the area of government communications to citizens, countries (including the United States in 2010) are starting to pass legislation mandating that professional communications are written in "plain language" accessible to a wider audience (Schriver, 2012). For example:

- Formal: "Individuals who adhere to a high-triacylglycerol diet are at risk for developing atherosclerosis."
- Familiar: "A high-fat diet can lead to "clogged" arteries."

However, familiar speech has some disadvantages. The primary disadvantage of familiar speech is the possibility for it to be misinterpreted (Heylighen & Dewaele, 1999). Unlike formal language, familiar or informal language may also have a limited time period in which its original context still applies (Heylighen, 1993). Attempts at familiarity may be interpreted as inauthentic (Heylighen & Dewaele, 1999).

Key takeaways include:
- Use images to bridge language and culture barriers
- Use language that is familiar and accessible to participants

**Best Practice #4: Respect Schedules and Cultural Norms**

The times and locations that the population in general will be most willing to participate can be vastly different from group to group (Cetin & Novoselac, 2015). Location is key. Some research teams have had success going door to door, while others have found that certain communities are not as receptive to individuals coming into their homes and therefore do not answer their doors. Finding subjects in public areas (e.g., coffee shops, grocery stores) can be effective since the public space is familiar and widely trusted (Stokes, Villanueva, Bar, & Ball-Rokeach, 2015). This can also be a way to gain trust of individuals, assuming that the coffee shops and grocery stores support the research being done.

Respecting time constraints is also important. Cetin and Novoselac (2015) accessed populations by going door to door. However, to show respect for the community, they first asked the housing organization for ideal times to canvas the neighborhood. A majority of the community attended Sunday morning religious services. In nice weather, residents would take their children to the park to play and would not be home.

Late evening was not convenient for most people, as they either had small children, or worked long hours.

Key takeaways include:
- Use public areas to initially meet with participants
- If going door to door, be aware of "off-limit" times
- Wear clothing with a logo representing your research institution and possibly your community partner

**Best Practice #5: Offer Something Useful**

Members of underserved populations often have less discretionary time; they often work more than one job and/or are a parent. Thus, it is crucial to compensate them for their time. Gift card incentives could be to local businesses that are accessible and useful to the population. The amount and retail business of the gift card will vary by community (Campo et al., 2015; Cetin & Novoselac, 2015). It has also been useful to offer rewards for referring additional candidates, known as snowball recruiting (Campo et al., 2015)

In addition to compensation, it is important to make sure that getting to a research study does not cost the participant anything. For example, participants may rely on public transportation; therefore, an offer of either a transit voucher for travel to a study or an offer to meet locally for data collection may not only increase participation but also demonstrate inclusivity. Offering child care, will enable caregivers who would otherwise be paying a babysitter a greater chance to participate (Cetin & Novoselac, 2015).

Key takeaways include:
- Offer a useful gift card or product as compensation for time spent with researcher
- Offer necessary accommodations (e.g., travel assistance, child care) to avoid burden on participants

## APPLICATION

The best practices were applied to the design of a data collection activity centered on the energy use, energy efficiency, and weatherization habits of members of a marginalized group. Researchers developed a short survey, conducted an action project with compensation for participants, and devised an activity for children.

**Recruitment**

The target populations for this study were residents of three neighborhoods in a large Midwestern city. The demographics of the neighborhoods are given in Table 1.

**Table 1. Demographics of the three participating neighborhoods**

| Neighborhood | #1 | #2 | #3 |
|---|---|---|---|
| Population (2010) | 3,187 | 2,605 | 2,584 |
| %White/Black/Asian/Other | 54/13/8/25 | 60/14/2/24 | 55/41/2/2 |
| % Hispanic/Not Hispanic | 41.5/58.5 | 32/68 | 26/74 |
| Median Household Income | $24,300 | $20,803 | $32,706 |
| % Own/Rent | 54.3/45.7 | 56.1/43.9 | 59.5/40.5 |
| % English/Spanish | 66.2/31.7 | 76 22.5 | 73 /24.2 |

To better understand the population and begin to gain trust (Best Practice #1), the research team established partnerships with local non-profit groups and a local high

school group. These groups were organizers for a community middle school holiday party.

## Creating the Setting

The setting in which the survey was distributed was carefully considered. The team set up a booth which was designed to offer something useful to the participants (Best Practice #5), to provide a children's activity to be inclusive to families (Best Practice#2), and to be located next to one of the team's community-youth partners (Best Practice #1). Participants were offered the chance to win one of four $25 gift cards to a local hardware store right on the bus line (Best Practice #5). While adults were offered rope caulk and the chance to win prizes, children received an equivalent prize of play clay for participating in an energy conservation and weatherization game. This allowed the parent to complete the survey without worrying where their children would be. The team was careful to advertise both the opportunity to win prizes and the services offered at the booth (information on weatherization, tool lending services, and rope caulk tutorials).

## Creating the Survey Instrument

The survey was provided in English and Spanish (Best Practice #2). It was created to be a "first-contact" to gather preliminary data and recruit participants for later studies. It was designed to be quick to complete (ideally while parents were waiting in line with their children (#4)), and designed with pictures accompanying some answers to make the document more accessible and overcome some language barriers (#2 & #3). It was intentionally free of potentially sensitive information to respect trust/privacy concerns that may be unique to a marginalized population (#1).

## Participants and Procedure

The questionnaire consisted of ten questions, some with accompanying images (Figure 1). Thirty-four adult participants completed the survey. Twenty participants took the survey in English, 14 in Spanish.



**Figure 1. Sample question with accompanying images**

When a potential participant approached the table, they were asked if they had any questions about weatherization and if they would like to participate in a short survey. Participants were given the survey in their preferred language. Once the survey was completed, participants completed an entry into a drawing and indicated whether they consented to be contacted about similar research in the future. Participants were also given boxes of rope caulk and shown how to install it.

## PROCESS RESULTS AND DISCUSSION

To illustrate and exemplify best practices when engaging marginalized populations, the discussion of the results will focus on the anecdotal outcomes of applying these practices.

### Best Practice #1: Earn Trust through Partnership

The team created partnerships by focusing on a portion of the population that all three of the target neighborhoods want to support: youth (Shenk et al., 2016). While working to empower youth groups such as the outreach-minded high school group, the researchers created positive, tangible action rooted in participatory research that fosters community capacity-building, thus earning trust. Partnering with trusted community organizations worked well, and contributed directly to the positive outcomes of the study. This echoes the experiences of Cetin and Novoselac (2015). Throughout the event, the team engaged with the community groups to make the partnership more pronounced.

### Best Practice #2: Be Multilingual/Inclusive and Best Practice #3: Communicate for Understanding

Offering the survey in two languages was well received. Fourteen of 34 participants completed the questionnaire in Spanish. Many participants were bilingual but happy to have the choice of language. A small number of participants were not fluent in either language offered. In these cases, family members offered translation using the images as an aid. However, in the future, it would likely be beneficial to include a translator on the team. In addition, more images could increase the survey's generalizability, regardless of language.

Reducing the formality of the language used in the survey and when interacting with the participants produced outcomes similar to those outlined in the literature (Heyligh & Dewaele, 1999). Additionally, when viewing and engaging with the rope caulk demonstration, participants readily asked the researchers for advice on weatherization, which they seemed to take into thoughtful consideration. This is a positive indicator for credibility and similarity (Want et al., 2008).

### Best Practice #4: Respect Schedules and Cultural Norms

While not controlled by researchers, the event time was outside of common working hours to maximize attendance, and attendees received free winter clothing for children, an added incentive. The incentive for completing the survey (and its brevity) also respected the participants' valued time. Only one participant failed to complete the survey. The neighborhoods have nearly an 8% higher percentage of children/youth than the rest of the city (Shenk et al., 2016), and the separate children's activity was well-received.

### Best Practice #5: Offer Something Useful

Participants responded positively to both the rope caulk and gift card incentives. Many reported that they knew exactly what they would use the card for. The final survey question asked about what participants planned to do as their next step to make their home more energy efficient; 26 out of 34 responded that they would use the rope caulk, indicating that this incentive was perceived as useful. Many participants

talked about how they planned to use the rope caulk at home and portrayed it as immediately helpful. In the future, it may be useful to increase the number of gift cards offered – many participants expressed that they had a project in mind for which the card would be useful.

**Engagement**

Participants were highly engaged in the survey and booth. Especially after viewing the rope-caulk demonstration, participants were willing to speak with the team about their experiences with weatherization and energy use ("Oh I do that at home!"). Participants were engaged with the demonstration and responded positively to the rope caulk sample they were given. The researcher demonstrating the rope caulk shared her experience using it on windows in her own home, thus establishing a degree of similarity with participants. Children were motivated by the prizes (chosen to mimic the rope caulk their parents received), but gave serious and thoughtful answers to the questions asked. While the game worked well, it was not as appealing to older children. Moving forward, having multiple games that would appeal to a larger age range would be beneficial, as would including them more in the demonstration of the rope caulk.

## CONCLUSION

Often, marginalized populations experience challenges that preclude their participation in data collection. The goal of this work has been to document and apply best practices to address these challenges. Overall, the data gathering activity and survey developed under these guidelines resulted in positive outcomes for both the researchers and participants. The data gathered was complete and included a relatively high number of participants given the size of the event. There was agreement among the research team that employing the best practices created better outcomes. For participants, there was a general positive attitude toward the study, with many participants telling their friends to visit the booth as well. In the future, these best practices could be verified through application and measuring the efficiency and outcomes of the techniques.

## ACKNOWLEDGMENTS

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