



# Literature Review on Multicultural Strategies for Behavior Change

FINAL REPORT

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# Executive Summary

## INTRODUCTION

The Recycling Partnership contracted with Cascadia Consulting Group and Martha Burwell Consulting LLC to conduct a literature review on multicultural communication and behavior change strategies.

The literature review focused on findings associated with recycling and resource conservation and included other fields of study such as public health and political engagement where there may be transferable best practices for reaching multicultural community members.

Researchers initially scanned approximately 100 articles. The team narrowed the articles for review down to 26 sources based on the titles and abstracts that appeared to most directly apply to the research questions. An appendix contains more in-depth summaries of 12 articles that were most informative for this study.

## KEY FINDINGS

The team reviewed the selected literature and identified themes in barriers and motivators for multicultural community participation that spanned programs in resource conservation, public health, political engagement, and the other fields of study. The key barriers and motivators (separate from language mismatch) are listed below in Table 1.

**Table 1. Barriers and motivators to multicultural participation in programs across varied sectors.**

Barriers	Motivators
Mistrust of institutions	Contact by a trusted source
Lack of specific knowledge	Contact by members who share a cultural identity
Resource conflicts, such as time or money	Regular, repeated contact
Low self-efficacy	Altruistic messaging
	Accessible messaging
	Norms
	Variety of outreach and communication methods

A number of the articles in the review also provided detail about their process and/or methods of engagement with multicultural community members. Key elements that support multicultural community engagement either by reducing barriers or enhancing motivators include:

- ▶ Taking into account practical design and implementation elements, such as providing materials in multiple forms (e.g., both digital and print or text and audio) and using appropriate language (e.g., having options available in languages other than English).
- ▶ Involving community members in the process of program design, development, and implementation.
- ▶ Taking into account cultural context, values, and existing knowledge in program design and implementation.
- ▶ Avoiding the use of stereotypes or negative framing of demographic groups.

## PUTTING IT INTO PRACTICE

The findings emphasize thoughtful identification of one's audience, an understanding of beliefs, values, and practices of the audience of focus, and reflection of those beliefs, values, and practices in the programs and educational materials that are developed for these audiences. As the articles cited in this literature review highlight, it's critical to understand that cultural groups, particularly those delineated by race and ethnicity, are not homogeneous, and there are significant cultural variations within groups. Factors that can contribute to cultural variations beyond race and ethnicity include geography, country of origin, length of time in the region, educational background, socioeconomic status, immigration and/or refugee status, and language proficiency.

This literature review highlights broad best practices and approaches but cautions that there are no "one size fits all" approaches since understanding local context and cultures are such a key component of success. While some types of messaging may appeal to many groups, to engage specific communities, a deep cultural understanding, partnership with community members from the audience of focus, and in the long-term, working towards more pathways for service providers and staff who share the cultural background and values of the audiences they work with are needed.

When considering the three categories of findings—barriers, motivators, and processes, it is noteworthy that interpersonal factors were present in all three areas. In fact, the majority of findings in the barriers and processes categories were interpersonal. Motivators included a range of both types of factors. With this in mind, our findings initially point to the need for an approach that is focused less at the individual level, and more at the group level.

To support successful partnerships, consider and seek to reduce past barriers to community member participation, such as by developing the cultural competence of current service providers and staff, compensating community members who share knowledge, time, and resources, and ensuring community members have knowledge about and access to opportunities for community participation.

# Background

## RESEARCH OBJECTIVES

The Recycling Partnership contracted with Cascadia Consulting Group and Martha Burwell Consulting LLC to conduct a literature review on multicultural communication and behavior change strategies. Research objectives for the literature review included the following:

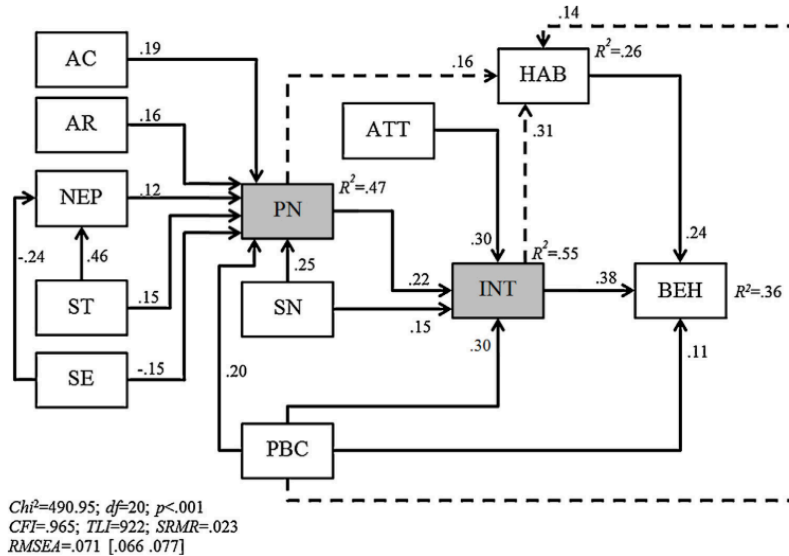
- ▶ What research has already been conducted on multicultural community engagement, and where are there notable research gaps?
- ▶ What methods for behavior change and communication does available research and data show are effective among multicultural communities?
- ▶ Does the available research and data recommend any specific approaches for specific multicultural communities?
- ▶ Can research findings be applied at scale to inform educational programs and strategies developed by The Recycling Partnership and its community partners and funders?

## ENVIRONMENTAL BEHAVIOR CHANGE

There is a noteworthy body of research on factors that cause individuals to engage in environmentally friendly behavior. Several actors are interested in this topic, ranging from nonprofits interested in mitigating the effects of climate change, companies selling eco-friendly products, and governments hoping to engage everyday people in behavior such as water use reduction and recycling.

Many studies have used one or more of three theoretical frameworks: the Theory of Planned Behavior (TPB), the Norm-Activation-Theory (NAT), and the Value-Belief-Norm Theory (VBN). Each of these has strengths and weaknesses in their ability to integrate the wide variety of potential antecedents to environmental behavior. For an overview of these theories, see *A comprehensive model of the psychology of environmental behaviour—A meta-analysis* (Klöckner 2013).

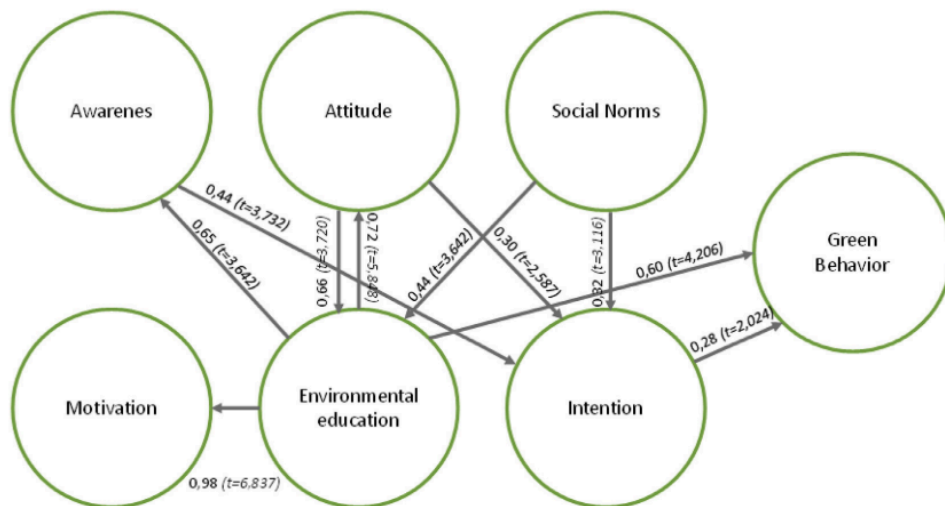
More recent research has indicated that these models may not be sufficient for the complexities behind environmental behavior change—especially when considering diverse cultures. As an example, consider a recent meta-analysis. Klöckner (2013) combined the three aforementioned theories to create a new framework, called the “comprehensive action determination model” (CADM). As the researchers explain, “in line with the TPB, the model assumes that individual environmentally relevant behaviour is determined directly by intentions and perceived behavioural control. In addition, it integrates habit strength as a third direct predictor of behaviour” (p. 1031). The new model, displayed below, was tested using 56 independent data sets. The researchers found that the key drivers to environmental behavior change are attitudes, personal norms, perceived behavioral control, and social norms, which together form the intent to act.



**Fig. 4.** Results of the meta-analytical structural equation modelling based on the pooled correlation matrix. *Notes.* All exogenous variables (ST, SE, AR, AC, ATT, PBC, SN) are specified to covariate. The respective correlations can be found in Table 1. AC, awareness of consequences; AR, ascription of responsibility; ATT, attitudes; BEH, behaviour; HAB, habit; INT, intention; NEP, new environmental paradigm; PBC, perceived behavioural control; PN, personal norm; SN, social norm; ST, self-transcendence values; SE, self-enhancement values.

Image: Klöckner (2013), p. 1032.

Similarly, Varela-Candamio et al (2017) tested a wide range of environmental behavior change theories, finding that no one theory sufficed. Interestingly, the researchers also found that *intention* was a key step before behavior change.



**Fig. 3.** Results of the structural equation model.

Image: Varela-Candamio et al (2017), p. 1572.

These studies as well as many others have identified a multitude of antecedents that may influence environmental behavior. In order to manage complexity, for the purposes of this literature review, we'll categorize the most common types of antecedents into two categories: intrapersonal and interpersonal.

**Intrapersonal antecedents** consider *internal* psychological mechanisms. These can include:

- ▶ **Attitudes** (Varela-Candamio et al 2017, Klöckner 2013, Marques 2013)
- ▶ **Personal norms**, or a feeling of what one "should" do (Geiger 2019, Klöckner 2013)
- ▶ **Intention** (Varela-Candamio et al 2017, Klöckner 2013)
- ▶ **Environmental self-identity** or seeing oneself as the type of person that is environmentally friendly (Geiger 2019)
- ▶ **Perceived behavioral control**, also seen as "self-efficacy" or the belief that one is able to successfully participate or complete a task (Geiger 2019, Klöckner 2013)
  - In studies on green *purchasing* behavior, this is conceptualized as **perceived consumer effectiveness (PCE)**, or the belief that buying a green product will indeed make a difference towards environmental goals (Marques 2013)
- ▶ **Personal values** (Hurst et al 2013)
- ▶ **Environmental concerns** (Marques 2013)
- ▶ **Motivation** (Varela-Candamio et al 2017)
- ▶ **Past environmentally-friendly behavior, or habits** (Geiger 2019, Klöckner 2013)

**Interpersonal antecedents** are influenced by one's relationships as part of a group. These can include:

- ▶ **Social norms** (Klöckner 2013, Geiger 2019, Varela-Candamio et al 2017)
  - Geiger (2019) identified two versions of social norms: injunctive (whether others would approve or disapprove), and descriptive (seeing what others do).
- ▶ **Environmental knowledge** (Varela-Candamio et al 2017, Marques 2013)
- ▶ **Awareness** (Varela-Candamio et al 2017)

These classifications necessarily overlap in some areas, so the categories should be considered loose. In addition, these models do not account for **contextual factors**, which are understood to influence recycling behavior. Contextual factors are the practical, design-based aspects, such as having a recycling bin or the frequency and ease of recycling pick-up or drop-off.

## SEGMENTED MARKETING AND OUTREACH

Since one key goal of this review was to scan the literature on multicultural communication, we include a brief introduction on marketing segmentation.

When it comes to marketing strategies, segmentation is nothing new. As Randle and Dolnicar (2012) succinctly put it: segmentation acknowledges "that not all consumers are the same and that they have to be treated in different ways. Mass marketing is generally considered an inefficient alternative" (pg 3). There are many ways that audiences are segmented, such as gender, age, and location. Research has shown that segmentation based on ethnoracial groups and culture can also be effective (Zúñiga 2016 p 95). However, while there is broad acceptance around a segmented approach for these demographic categories (George et al,

2014; Noar et al, 2007; Randle & Dolnicar 2012), the literature around the effectiveness of different methods of segmentation and outreach is relatively new, and still being developed.

## A MULTICULTURAL APPROACH

Multiculturalism emerged as a field of thought in the late 20th century, when attitudes regarding immigration in the United States shifted away from a “melting pot” or assimilation model (Burton 2005 p. 153). In contrast to the melting pot model, multiculturalism assumes that different groups of people who experience and view the world differently can indeed exist in the same geographic space—we don’t need to all be the same. Though definitions of those groups are variable. Most commonly, ethnoracial groups and immigration status is considered. However, religion, worldview, socioeconomic status, sexual orientation, age, ability, urban vs rural, and other factors are also commonly included in the understanding of multiculturalism.

In the decades since this field was born, many different types of multiculturalism have materialized. In this literature review, we will utilize *critical multiculturalism* as a research lens. Burton (2002) defines this type of multiculturalism as one that “foregrounds power, privilege and oppression within and between ethnic groups” (p. 209). Drawing from social science, and Critical Race Theory (CRT) in particular, critical multiculturalism draws attention to, and questions, differences between the “other” and the “dominant” groups. In the United States, the dominant group, generally speaking is the “colonized standard of Americanism: white Protestants of European, especially British, decent” (Burton 2005, p. 154). By default, the “other” groups are any that do not match the dominant group.

## APPLYING A CRITICAL MULTICULTURAL LENS

The Recycling Partnership, Cascadia, Consulting Group, and Martha Burwell Consulting identified several priority areas to research, including ethnoracial groups, immigration, and socioeconomic status.

There are practical reasons to prioritize these areas. The United States is becoming more ethnographically diverse, and that trend is not expected to slow down. Based on U.S. census data, non-Hispanic whites are projected to drop below 50% of the population by 2045. Additionally, the quickest-growing population is expected to be those with more than two ethnoracial categorizations, “followed by single-race Asians and Hispanics of any race” (Census 2018). As the U.S. Census predicts: “The causes of their growth are different, however. For Hispanics and people who are Two or More Races, their high growth rates are largely the result of high rates of natural increase, given the relatively young age structures of these populations. For Asians, the driving force behind their growth is high net international migration” (Census 2018). Given the United States’ history of wealth inequality, socioeconomic status is necessarily tied up with ethnoracial group and immigration.

There are also ethical reasons to prioritize these research areas. Another trend is the increasing effects of climate change and environmental degradation. While this is a pressing issue for all, it is especially prevalent for people of color and low-income communities, who are most likely to feel these effects, and are most likely to live in proximity to pollutants and other environmental hazards (Banzhaf, Ma and Timmons 2019). This aspect of the environmental movement, known as “environmental justice” is less discussed, but of particular importance for this literature review.



For an overview of the research on this topic, see *Environmental justice: The economics of race, place, and pollution* by Banzhaf et al (2019).

Applying a critical multicultural lens throughout this literature review means to keep “power, privilege and oppression” at top of mind. As multicultural technology design researcher Huatong Sun stated: “cross-cultural design is never neutral” (2012, p. 27). This lens, then, is a tool to help the researchers, and the readers, consider where power imbalances exist, and why.

## RECYCLING PARTICIPATION

Though recycling motivators and barriers for a general population were not a focus of this literature review, much of the available multicultural research provides a high-level summary of what is known about recycling values, motivators, and barriers more broadly.

- ▶ **Access to recycling.** Multiple studies cite convenience of recycling facilities and access to recycling infrastructure, such as storage space, availability of collection containers, and distance to a recycling bin as important factors on recycling behavior (Lakhan 2018, Yoreh 2010).
- ▶ **Cost.** Studies of statewide recycling programs in Minnesota and Massachusetts show that, of the studied factors, variable pricing of waste disposal (such as pay-as-you-throw pricing of garbage) increases the rate of recycling (Starr 2015; Sidique et al 2009).
- ▶ **Attitudes about recycling.** Studies included in this literature review (discussed under Research Findings) and literature reviews of recycling more broadly (Yoreh 2010) report a relationship between attitudes on recycling and recycling behavior.

Similarly, in surveys on factors that motivate recycling behavior, protecting the environment and reducing waste are among the most commonly reported reasons for recycling (DHM Research, 2019; The Recycling Partnership’s focus groups in Houston on recycling attitudes and behaviors).

When considering whether sociodemographic factors, such as gender, age, race, or income affect recycling behavior, the relationships are not clear, with some studies identifying an effect and some not (Yoreh 2010; Hellwig et al 2019; Curtis and Garcia 2016). These articles point to varying approaches and challenges in separating race and class in research.

# Definitions

**Culture:** “a shared meaning system that includes the group members’ “values, beliefs, norms, practices, patterns of communication, familial roles, and other social regularities” that forms the “fundamental way in which people think, feel, and behave” in order to understand yourself and your surroundings. (Huang & Shen 2016, p. 696).

Researchers studying culture at a national level often utilize research by Geert Hofstede, who defines culture as “a collective programming of the mind which distinguishes one group from another” (cited in Cho et al 2013, p. 1053, from Hofstede 1980, p. 25). Hofstede created seven cultural dimensions, that have since been used in numerous studies on culture. While it is beyond the scope of this paper to delve into each area, one dimension that emerges in the literature review is individualism / collectivism. As described in Wang (2013) “Individualism emphasizes self - reliance, prioritizes personal goals over in - group goals, and places more importance on attitudes than on social norms. Collectivism emphasizes interdependence, prioritizes in - group goals over personal goals, and places more importance on social norms than attitudes” (p. 43).

A map of Hofstede’s categorization of individualism / collectivism globally is included below. However, while influential, Hofstede’s approach has several shortcomings, particularly being one that over-generalizes and collapses complex cultural nuances and was developed from a skewed data sample that focused on IBM employees (Sun 2012). This framework is also not particularly useful for studying in-country cultural differences, and ignores factors such as ethnoracial groups, socioeconomic status, and so on.

Collectivism – Individualism World map

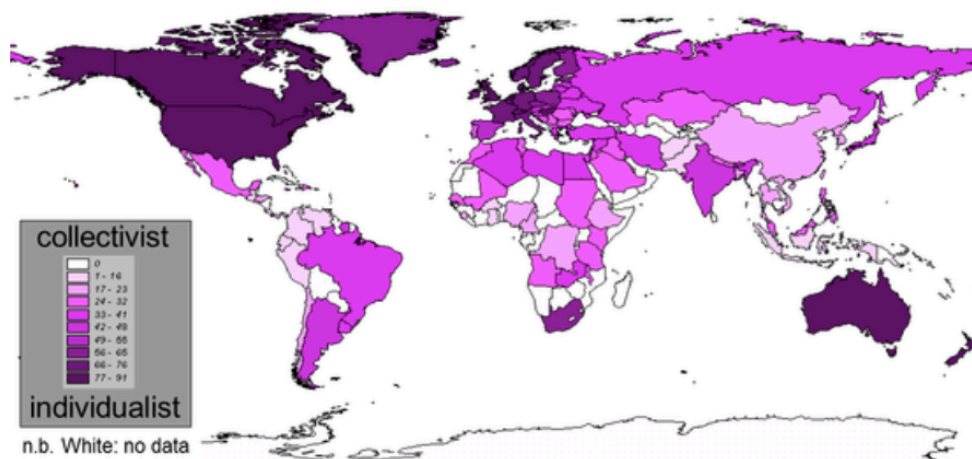


Image: Geert Hofstede <https://geerthofstede.com/culture-geert-hofstede-gert-jan-hofstede/6d-model-of-national-culture/>

**Multiculturalism: cultural pluralism, or the opposite of the “melting pot” mindset.**

While multiculturalism can include many different factors, for this literature review, we will focus on ethnorace, immigration, and socioeconomics

**Critical multiculturalism: A multicultural approach that “foregrounds power, privilege and oppression within and between ethnic groups” with a goal to create a more inclusive and equitable society.** (Burton 2002, p. 209)

**Ethnorace: the intersection of ethnicity and race.**

For the purposes of this literature review, due to the lack of consistency of applying the terms “ethnicity” and “race,” in the literature, we will often use “ethnorace” as a preferred term. García et al (2012) explain the background to this term:

“Scholars have long debated which is the more appropriate term to describe group experiences. The word “race” presupposes a common biological or genealogical ancestry among people. “Ethnicity” places more of an emphasis on cultural practices than on common genetic traits. Many scholars use the terms “race/ethnicity” or “ethnorace” to describe the ways in which factors often attributed to culture, such as language, can be racialized. In other words, ascriptive attributions can be based on linguistic or cultural practices that are not “racial” (or biological), but still can have racialized consequences.” (García et al 2012)

**Immigration: the movement of individuals, families, and communities across national borders, to live permanently in a new country.**

For the purposes of this paper, we define immigration broadly, without differentiating between different generations, languages spoken, and other details. This is largely due to limitations in the current body of research. As George et al explain: “distinctions such as immigrant versus nonimmigrant, English-speaking versus non-English-speaking, documented versus undocumented, and generational differences were seldom reflected in the literature” (George et al 2014, pg 26).

**Socioeconomic status: “the social standing or class of an individual or group. It is often measured as a combination of education, income and occupation. Examinations of socioeconomic status often reveal inequities in access to resources, plus issues related to privilege, power and control.”** (APA 2019)

Like immigration, we define socioeconomic status broadly, due to limitations in the existing research. We also acknowledge the intersections between socioeconomic status, ethnorace, and immigration, which often cannot be separated.

## Approach

The research team conducted a two-phase research approach to identify key studies to include in the literature review.

**The initial review** was a broad-based search to understand the availability of relevant research, potentially relevant fields of study beyond waste management and resource conservation and

identify commonly used keywords. The scope of the study was limited to recent research, which the team defined as material published after 2010.

To conduct the initial review, the research team used the following keywords and sector searches to identify potentially relevant studies:

**Table 2. Research sectors and examples of keywords used to identify research for this study.**

Sector	Keywords
All sectors	Multicultural, diverse, behavior change, communication strategies, culturally responsive, culturally appropriate
Recycling and resource conservation	Recycling participation, recycling education
Public health	Community-based participatory research
Social marketing	Community-based social marketing
Corporate marketing	Audience segmentation
Political engagement	Get out the vote

The team screened article titles and abstracts for approximately 100 articles identified approximately 26 core sources that seemed to most directly apply to the research questions set out by The Partnership.

In the second research phase, the consultant **team identified several systematic reviews** (such as academic literature reviews or meta-analyses) on the topic of multicultural engagement or program participation that covered as many as 20 to 60 research articles each. The team intentionally included this research to increase the coverage of this review and assess the available literature for consistency in themes across research sectors.

For each of the systematic reviews as well as literature identified as highly relevant to this study, the research team documented barriers, motivators, methods for engaging community members, and other key findings. These summaries are included as an appendix to this report.

**Table 3. Article type and subgroup counts**

Article type	Any subgroup	Ethnoracial	Socioeconomic	Immigration	Multiple groups
<b>Systematic review</b>	4 (15%)	4 (15%)	1 (4%)	1 (4%)	2 (8%)
<b>Quantitative</b>	8 (31%)	8 (31%)	0 (0%)	2 (8%)	1 (4%)
<b>Qualitative</b>	8 (31%)	7 (27%)	3 (12%)	2 (8%)	5 (19%)
<b>Mixed methods</b>	6 (23%)	5 (19%)	2 (8%)	5 (19%)	4 (15%)
<b>All methods</b>	<b>26 (100%)</b>	<b>24 (92%)</b>	<b>6 (23%)</b>	<b>10 (38%)</b>	<b>12 (46%)</b>

# Research Findings

This section summarizes research findings in three primary areas:

- ▶ **Barriers** to multicultural community engagement and participation in recycling,
- ▶ **Motivators** that encourage diverse groups to participate in recycling, and
- ▶ **Process/methods** for more effective community engagement and participation.





Table 4 lists commonly cited sources and summarizes the studied population, study methods, objectives, and major themes. Sources for which the research team produced a more detailed summary (included in Appendix) are shaded in yellow below. Icons are also used to denote the primary area of study for the selected articles as follows:

- ▶ : Health research
- ▶ : Political participation
- ▶ : Resource conservation and recycling






Articles without an icon are sources that represent other areas of study, such as marketing.

MULTICULTURAL STRATEGIES FOR BEHAVIOR CHANGE  
RESEARCH FINDINGS






Table 4. Summary of key sources, audiences, objectives, methods, and themes

Short Name	Article Title	Studied Population	Study Objective	Methods	Themes
Bhattacharjee et al (2014)	When Identity Marketing Backfires: Consumer Agency in Identity Expression	General population	Evaluate strategies that rely on "identify marketing," that connect consumer identity to a particular brand.	Five substudies focusing on identify marketing methods; participants recruited via Mechanical Turk (online) to respond to messaging.	Avoid reducing individual agency
 Curtis and Garcia (2016)	Building cultural bridges: Inclusive environmental planning and outreach through university-community partnerships	Latino multifamily residents in Metro Oregon area	Enhance understanding of environmental concerns, attitudes, and behavior among Latino multifamily residents	In-person surveys, recruited via door-to-door outreach at multifamily properties. 185 responses were included in the analysis.	Norms; accessible messaging; incorporate community values; Incorporate community values
 DHM Research (2019)	Metro Recycling Focus Groups	Spanish-speaking, Hispanic/Latinx residents in Metro Oregon area	Gauge awareness of regional recycling rules and understand what information will be most helpful for behavior change.	Four focus groups (37 participants total). Focus groups were led by a bilingual, Hispanic/Latinx moderator.	Norms; altruistic messaging; enhance self-efficacy; accessible messaging
 Garbers et al (2016)	Adapting the Get Yourself Tested Campaign to Reach Black and Latino Sexual-Minority Youth	Black, Latinx, LGBTQIA+ youth (15-25 years)	Identify and test strategies to enhance STD testing and treatment among sexually active youth	Two focus groups on barriers to testing and reactions to existing campaigns and revisions. To evaluate the campaign, researchers compared STD testing rates before and during the campaign. Staff also gathered weekly feedback to adapt strategies during the campaign period as needed.	Enhance self-efficacy; community participation; avoid stereotypical or negative framing
 García and Michelson (2012)	Mobilizing Inclusion: Transforming the Electorate Through Get-Out-the-Vote Campaigns	Ethnoracial communities	discover why some voter mobilization efforts are successful, and why some are not. The underlying goal is to identify techniques to increase political participation of "low-propensity voters," especially low-income and ethnoracial minority groups.	<i>In-depth analysis of methods described in Michelson et al (2009)</i> Field experiments embedded in outreach efforts by nine community-based organizations from 2006-2008. Experiments included randomly assigned treatment and control groups and statistical evaluation of impact.	Mistrust of institutions; contact by a trusted source; regular, repeated contact

MULTICULTURAL STRATEGIES FOR BEHAVIOR CHANGE  
RESEARCH FINDINGS

Short Name	Article Title	Studied Population	Study Objective	Methods	Themes
 George et al 2014	A Systematic Review of Barriers and Facilitators to Minority Research Participation Among African Americans, Latinos, Asian Americans, and Pacific Islanders	African Americans, Latinos, Asian Americans, and Pacific Islanders in the United States	Assess the experienced or perceived barriers and facilitators to health research participation.	Systemic review of prior published studies (44 articles total).	Mistrust of institutions; lack of specific knowledge; resource conflicts; contact by a trusted source; norms; altruistic messaging; incorporate cultural context
 Huang & Shen (2016)	Effects of Cultural Tailoring on Persuasion in Cancer Communication: A Meta-Analysis	Ethnicity/race. Reviewed studies were tailored to African Americans, Asian Americans, Hispanics, Pacific Islanders	Evaluate impact of "cultural tailoring" on effectiveness of communication on cancer prevention and screening services.	Systemic review of prior published studies (36 articles total).	Narrative components; incorporate cultural context
Kolavalli (2019)	Whiteness and Food Charity: Experiences of Food Insecure African-American Kansas City Residents Navigating Nutrition Education Programs	African-American food-aid seekers in Kansas City	Explore limitations of a colorblind, race-neutral approach to program services in the context of food charity programs.	58 interviews with food-aid seekers, through one-on-one interviews (31 people) and focus groups (27 people). Study also included participant observation at four separate food charity class cycles (each seven weeks long).	Resource conflicts; incorporate cultural context
 Lakhan (2016)	Effectiveness of Recycling Promotion and Education Initiatives among First-Generation Ethnic Minorities in Ontario, Canada	Residents that self-identify as a visible minority and a first-generation immigrant in southern Ontario	Test recycling promotion and education material on first-generation ethnic minorities.	Eight focus groups over an 8-week period, each with 8-12 participants (77 participants total).	Mistrust of institutions; contact by a trusted source; norms
 Lakhan (2018)	The garbage gospel: Using the theory of planned behavior to explain the role of religious institutions in affecting pro-environmental behavior among ethnic minorities	Visible minorities with religious affiliations in Ontario, Canada	Assess if engaging community partners in design and delivery of recycling education is more effective at reaching minority groups.	A two-phase survey at 12 religious organizations in 3 study regions. Researchers conducted surveys before and after an educational campaign, 8 weeks apart. 169 participants completed both the pre- and post-campaign survey.	Contact by a trusted source
 Miafodzyeva et al (2013)	Recycling behaviour of householders living in multicultural urban area: a case study of	Urban residents in Järva, Sweden (64% of population of foreign origin in 2010).	Identify if there are correlations between attitudes about recycling, qualities of the recycling facilities,	Survey by mail and several supplemental interviews. Researchers received 248 responses and conducted 20 interviews.	Mistrust of institutions; contact by a trusted source; norms; altruistic messaging; enhance self-efficacy

MULTICULTURAL STRATEGIES FOR BEHAVIOR CHANGE  
RESEARCH FINDINGS

Short Name	Article Title	Studied Population	Study Objective	Methods	Themes
	Järva, Stockholm, Sweden		environmental concern, or sociodemographics on self-reported recycling behavior.		
 Michelson et al (2009)	New Experiments in Minority Voter Mobilization Third and Final Report on the California Votes Initiative	Low-income and ethnic communities in southern California.	Identify strategies that expand voter participation among low-income and ethnic voters.	Field experiments embedded in outreach efforts by nine community-based organizations from 2006-2008. Experiments included randomly assigned treatment and control groups and statistical evaluation of impact.	Contact by a trusted source; regular, repeated contact; community participation
 Pryor (2014)	How Communication Design Motivates Voter Participation: Comparing Instrumental vs. Social Rhetoric	Washington State non-registered voters and voters with Spanish surnames.	Help assess what voting message is more effective: information about registration process or why it's important to vote	Quantitative analysis of voting registration and turn-out. The study covered 187,897 non-registered WA state residents, assigned to two treatment groups (different postcard messaging) and a control group.	Enhance self-efficacy; accessible messaging; avoid reducing individual agency
 Segev (2015)	Modelling household conservation behaviour among ethnic consumers: the path from values to behaviours	Hispanic first- and second-generation immigrant students (from a southeastern public university)	Explore the relationship between pro-environmental attitudes and conservation behavior	Survey, with 410 respondents.	Lack of specific knowledge; resource conflicts; low self-efficacy; altruistic messaging; self-efficacy supporting messaging; incorporate community values
 Tomioka et al (2012)	Adapting Stanford's Chronic Disease Self-Management (CDSM) Program to Hawaii's multicultural population	Participants in Hawaii: Caucasian, Asian, and Native Hawaiians and Pacific Islanders (NHPs)	Describe process for adapting a chronic disease self-management program for Asian and Pacific Islander communities.	Adapted and tracked changes to a CDSM program with workshop leaders, then evaluated workshop retention and satisfaction (through surveys immediately after and as a 6-month follow-up). 584 people completed the workshops, 492 completed the first survey, and 422 completed the follow-up survey 6-months later.	Contact by a trusted source (specifically training and using local facilitators); community participation
 Uybico et al (2007)	Recruiting Vulnerable Populations into Research: A Systematic Review of Recruitment Interventions	"vulnerable" populations (race, elderly, low income, "diverse")	Evaluate evidence on interventions to enhance enrollment of vulnerable populations in health research studies.	Systemic review of prior published studies (48 articles total).	Mistrust of institutions; lack of specific knowledge



## BARRIERS

This section summarizes barriers identified in the literature review to multicultural community participation or engagement across the sectors included in this study. The four most common barriers include: mistrust of institutions, lack of specific knowledge, resource conflicts, and low self-efficacy.

### Mistrust of institutions

Mistrust of institutions was the most common barrier, and one that emerged consistently across all fields of research included: recycling and resource conservation, public health, social marketing, corporate marketing, and political engagement. The most common reasons for mistrust included a feeling that the institution doesn't care about "people like me," a fear of lack of confidentiality, concerns about safety, and worries that immigration legal status could be compromised. An underlying theme was a collective history of mistreatment and/or exclusion by U.S. institutions such as health care and politics. Two sub-themes were identified, including lack of cultural competency by staff, and lack of confidence in recycling processes.

- ▶ Lakhan (2016) reported that "municipalities could not be trusted" was a recurring topic among visible minorities over 8 focus groups on recycling and recycling educational material. It was not quantified in the article, but Lakhan notes an "us" vs "them" theme in focus groups and that focus group participants expressed a belief that waste management services were racialized, with focus group participants receiving fewer or inferior services.
- ▶ UyBico et al (2007) found that mistrust of research and institutions was a barrier that prevented participation in medical research. This lack of trust could be exacerbated by worries about lack of confidentiality, safety concerns, lack of knowledge, language and cultural differences, which were also noted as barriers. To alleviate mistrust, researchers hypothesized that community outreach could be the most useful approach to engage people of color, low income, and elderly individuals in medical research—as opposed to less direct methods such as social marketing.
- ▶ García and Michelson (2012), in their book *Mobilizing Inclusion: Transforming the Electorate Through Get-Out-the-Vote Campaigns* describe how throughout a series of experiments, it was determined that the most successful campaigns to encourage political participation included utilizing canvassers from the same neighborhood as the potential voters. This particularly helped build trust with voters of color, as reported in Michelson et al (2009) report *New Experiments in Minority Voter Mobilization*, which was based on the same experiments. These findings correspond with a body of literature demonstrating that those who have been historically excluded from, or hurt by, the political system, such as people of color, hold deep levels of mistrust in government. As Barreto (2018) succinctly explains "If people of color do not believe the political system cares about "people like me" it makes it much more difficult for any amount of outreach to resonate" (p. 185).
  - In *Adapting the Get Yourself Tested Campaign to Reach Black and Latino Sexual-Minority Youth* (2016) Garbers et al conducted focus groups with Black and Latinx LGBT youth in New York City, with the goal to increase STD testing. They found that a

key barrier preventing testing was a lack of trust, particularly with poorly trained providers. In particular: “they expressed concerns about the confidentiality of testing services and the information they disclose to providers during the clinical encounter... The consequences of a confidentiality breach were particularly of concern when discussing same-sex partners with providers not trained (or settings not designed) to serve LGBT youth.” (p. 4-5)

- As one male focus group member explained “I feel sharing your business with people you hardly know, it's like, it's really unsafe for your own well- being because you don't know them and you don't know what they're capable of if you tell them something” (p. 15)
- ▶ George *et al* 2014 also found mistrust reported as a barrier across all racial/ethnic groups included in the study (African American, Asian American, Latino, and Pacific Islanders); noted as a factor in 34 out of 44 studies (77%) reviewed. Elements of mistrust included a perception that the research will not benefit people of color, a mismatch of the research agenda and community needs, fear of being treated as a lab rat, and concerns related to legal consent processes.
- ▶ Two sources (George *et al* 2014; García *et al* 2012) describe how fear may be a particularly strong trust-related barrier for immigrants in medical research participation and political participation, respectively. George *et al* found that for both Latinx individuals and Asian Americans, “legal status and fear of deportation for immigrants” was a major concern when considering participating in medical research (p.22).
- ▶ García *et al* described a similar phenomenon, though in less concrete terms: “Seventy two percent of infrequent voters are U.S. born; only 28 percent are naturalized citizens. It seems clear that registering to vote remains a significant hurdle for the integration of foreign-born voters into the political process” (p. 200). The researchers also touch on the intersectional complexity of the political participation of naturalized citizens, describing how higher income, a college degree, and home ownership all relate to higher voting levels, which immigrants are less likely to have access to. As the chart below illustrates, people of color and naturalized citizens are significantly less likely to be registered to vote when compared to white and U.S.-born citizens.

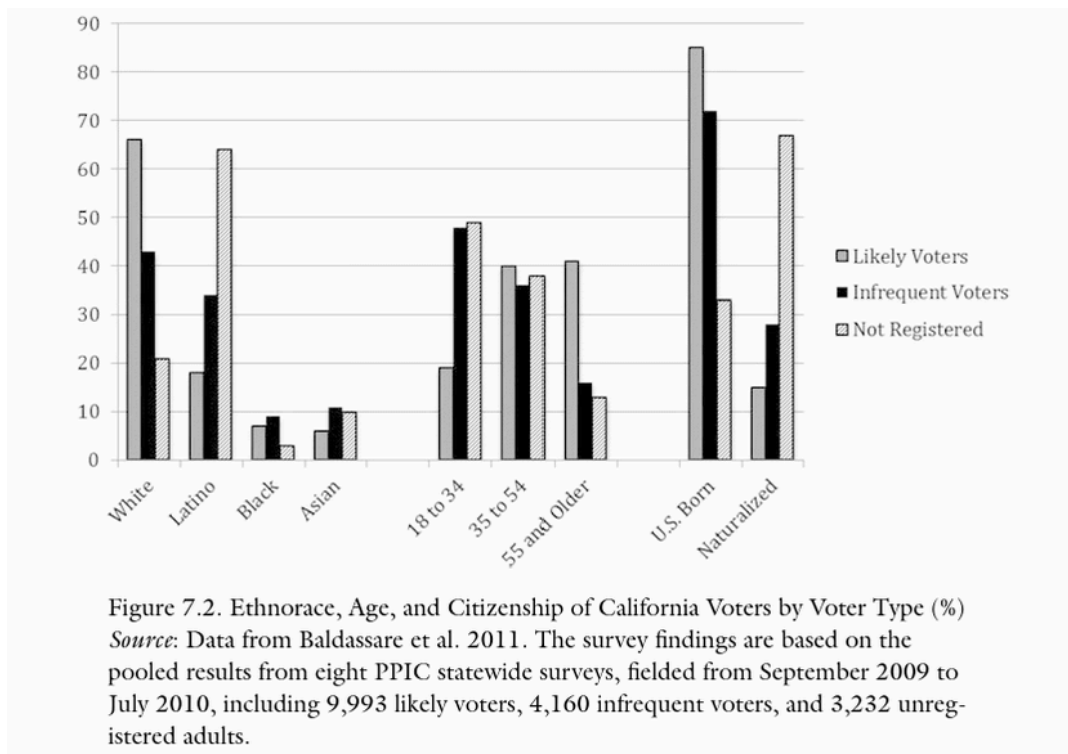


Image: Garcia et al (2012) p. 199

### Lack of staff cultural competency

A theme related to mistrust of institutions in the literature on multicultural engagement strategies the sectors included in the literature review is inadequate cultural competency of the staff or programs providing services.

- ▶ In Lakhan’s 2016 study on the response of visible minority residents in southern Ontario to recycling and education messaging, Lakhan asked focus group members to navigate a municipality’s website to find information on recycling and waste management. 33 out of 77 focus group participants reported that material on the municipality’s web pages were translated incorrectly. In this study, 24 of the respondents said this was insulting to them. Quotes recorded included, “if you’re not going to do it properly, then don’t do it at all,” and “it shows how much they (the municipality) care about us.”
- ▶ Pardasani and Bondyopadhyay (2014) conducted a survey of Caucasian, Black, and Latino residents in Northwest Indiana on healthcare and social services identified statistically significant differences in how Caucasians rated the cultural competency of their health services provider. Black and Latino respondents were less likely to report that it was “easy to talk to staff” when they called or walked into an agency than Caucasian respondents. They were also less likely to report that agency staff “listened to me carefully when I talk to them” and less likely to report “social services I visit treat me with respect.”

## Lack of confidence in recycling processes

Finally, a theme to consider related to trust in institutions that appeared in the recycling literature was a reported lack of confidence sorted material is recycled or beneficially used.

- ▶ Lakhan 2016: In focus group, 27 out of 77 (35%) said, “it’s all going to end up in the dump anyway” in response to whether they would recycle more because of information in an advertisement; Lakhan reports a perception among focus group participants that the municipalities are not actually recycling material that is collected and among some participants, perceived as a cash grab to charge for recycling.
- ▶ Miafodzyeva et al 2013: In survey of urban residents in a multicultural region of Sweden (64% of the population is of foreign origin), 29% had “little or neither high nor low” confidence that sorted waste is used in a “good way.” (15% said they do not know; 56% said they had very high or fairly high confidence sorted waste is used in a good way)
- ▶ Anderson et al 2013 posit that a contributor to differences in recycling participation in South Africa between Africans and white households (in addition to socioeconomic disparities) is that participating in recycling is an activity that contributes to common good but with benefits that are neither immediate nor personal and requires trusting institutions that the benefits accrue. The authors write, “None of these conditions existed for the non-white populations during apartheid...The persistence of these behaviors from those who had been excluded from the larger community and denied benefits associated with membership in that community is not strange, especially when expectations for a better existence have been slow to be met.”

## Lack of specific knowledge

Inadequate or inaccessible information was another common barrier. Specifically, lack of knowledge around what opportunities exist and how one can participate. This barrier was particularly noticeable when layered or complex knowledge is required. Language mismatch was reported in many studies as well, which prevented knowledge sharing.

- ▶ George et al 2014: In the context of health research studies, research on minority participation reported lack of access to information about research opportunities was a barrier (present in 32% of articles reviewed). Related to the lack of access to information were barriers specific to information available to non- or limited-English speakers through translated material or bilingual staff.
- ▶ When discussing mechanisms for participation in medical research participation by “vulnerable” populations (defined as people of color, low-income and elderly), UyBico et al (2007) described how a lack of knowledge about medical research functioned as a barrier at both the individual and institutional level.
- ▶ Segev (2015) found in a study on household conservation behaviors of Hispanic Americans that lack of “concrete” knowledge was a barrier in particular for conservation behaviors, such as recycling, that were more complex. Lack of environmental knowledge more generally functioned as a barrier for overall household conservation behaviors.
- ▶ Similarly, in chapter two of *Mobilizing Inclusion: Transforming the Electorate Through Get-Out-the-Vote Campaigns* (2009) Michalson and Bedolla describe how a main factor

preventing voting was lack of accessible information around *who* to vote for and *how* to vote. This was particularly important for reducing voter drop-off (when a voter leaves much of the ballot empty) and encouraging voting beyond hot-button issues or well-known politicians.

- ▶ Language mismatch can also contribute to lack of knowledge. Language barriers were noted in multiple studies, including social marketing designed to recruit multicultural volunteers (Randle and Dolnicar 2012), health research participation (UyBico et al 2007), political participation (García et al 2012; Michelson et al 2009; Pryor 2014) and corporate marketing (Zúñiga 2016).

## Resource conflicts, including lack of time

Research included in this review called out resource conflicts as a barrier to participation in programs. Time, money, childcare, and transportation were each mentioned more than once. When seeking input and participation from community members such as through co-design processes, focus groups, or other methods, whether in the design or implementation of a new strategy, this is an important consideration.

- ▶ George et al 2014: Research participants cited competing demands related to working multiple jobs, caretaking of children or relatives, and/or being a single head of the household. Consider that participating in health research incurs out of pocket costs such as transportation and childcare. Study participants expressed interest in compensation in direct health care, such as for health screenings or services that might not otherwise be available to them.
- ▶ When considering potential impediments in the translation of environmental attitudes to behavior for Hispanic Americans, Segev (2015) describes how price, quality, convenience, and confusion over environmental claims all act as potential barriers (p.195)
- ▶ Kovalli 2019: The author notes that the nutrition and food charity program inadequately takes into account participants' needs - participants are penalized if they arrive more than ten minutes late to class (they do not receive groceries, which are an incentive for participation), but do not acknowledge competing needs such as getting to the training from a job. Children are not allowed in the classrooms, but childcare is not available for participants who need it.
- ▶ In an article on the development of an HIV prevention campaign for the Black community in Seattle that included community members in the design of the messaging, the researchers reported community member turnover as a challenge in the process. These challenges included unstable employment, family emergencies, and competing demands such as childcare) persisted (Andrasik 2012).

## Low self-efficacy

A final trend in barriers to multicultural outreach and engagement is one specifically related to environmental behavior. Three studies identified that a sense of environmental problems being *too big* to manage at the individual level prevented environmental behavior. We frame this as low self-efficacy, or a feeling that "nothing I do will help." Notably, this barrier occurred across groups.

- ▶ In a 2016 meta-analysis, Morren & Grinstein studied how environmental behavior change varied in 28 different countries. One hypothesis investigated the role that “perceived behavioral control,” (PBC) or the belief that one can successfully participate or complete a task, has on environmental behavior. To their surprise, the researchers found that this effect was similar across a wide variety of countries and cultures. They theorized that this unexpected consistency was due to the wide-spread tendency for individuals to “view abstract and large-scale phenomena such as climate change and environmental degradation as global problems that require global and societal, not individual, solutions” (p. 102).
- ▶ In a study on environmental behaviors within Hispanic communities, Segev (2015) discussed how a potential barrier was the feeling that taking care of the environment, in ways such as recycling, is not an individuals’ responsibility. Citing previous research (Maibach 2013), the authors explain: “even if environmental concern is high, individuals may feel that protecting the environment is the responsibility of the government and big businesses, or that the costs of complying with environmental restrictions are too high” (Segev 2015, p. 195).
- ▶ Similarly, Moisaner (2007), in a study on green consumerism, argues that “as a private lifestyle project of a single individual, ‘green consumerism’ is much too heavy a responsibility to bear” (p. 404). This is due in large part, the author argues, to the complexity of environmental problems, and the innumerable ways that individuals are asked to participate in environmental behavior.

## MOTIVATORS

### Contact by a Trusted Source

Whereas lack of trust was the most common barrier, utilizing a trusted source was the most common motivator. What makes a source trustworthy? Two themes emerged. Most commonly, a source of the same ethnoracial group or culture was important. Secondly, locality mattered—local religious organizations, family members, neighbors, and local nonprofits were all noted as trustworthy.

### *Someone of the same cultural identity or ethnorace*

- ▶ George et al 2014: Participants reported a preference for research staff that share their racial/ethnic group, identifying research staff that share a cultural identity as staff they can relate to, communicate with in their own language, and share a “rhythm of expression.” In the review, George et al note that African Americans and immigrant Filipino women were more likely to participate in a research study if invited by someone personally known to them.
- ▶ In a series of experiments, García and Michelson (2012) found that the most salient barrier to voting for people of color was not a lack of information (though this mattered too), but “a lack of cognitive identification of themselves with the political process” (p. 54). In other words, the belief that “people like me” don’t vote.
- ▶ In surveys of residents in northwest Indiana, Pardasani and Bandyopadhyay (2014) report limited staff diversity in health care and social work, and that this may contribute results

in perceived service and quality of care. Surveyed Black and Latino residents perceived a lack of effort on the part of agency staff to adequately listen to their concerns or address their needs, a reluctance to incorporate their cultural beliefs and values into the treatment or service delivery plan, and perceived a lack of respect from staff and lower levels of trust when compared to Caucasian survey respondents

- ▶ Curtis and Garcia (2016) noted that "some insider cultural representation is essential for planners to gain access to local Latino communities and reduce bias."
- ▶ Tomioka et al (2012) emphasized recruiting and training local facilitators in a multicultural health program, with a special emphasis on facilitators of the same ethnicity as the participants where possible (p. 123).
- ▶ Barreto (2018) citing previous research on voter turnout, described "the race of the person doing the contact is also very important to consider, finding minorities are much more likely to report contact by co-racial group members and be neglected by Whites" (p.185). To ensure that campaigns are appropriate, relevant, and trustworthy for diverse voters, argues Barreto, is "campaigns must incorporate more Black, Latino, and Asian-American staff." (p. 185)

### **Local religious organizations**

- ▶ Lakhan 2016 and Lakhan 2018: In 2016, Lakhan conducted focus groups with first-generation ethnic minorities in Ontario on recycling education messages and mediums. When asked "who would most likely influence your decision to recycle or participate in recycling programs?", 80 percent said they would recycle more if a religious authority told them to. In 2018, Lakhan partnered with 12 religious organizations in City of Toronto, Region of Peel, and York Region to deliver recycling messages to their congregations. The researchers provided the recycling information (what, when, where, why), but left the delivery of the message up to the religious leaders. Surveys showed an increase among surveyed congregation members in positive attitudes about recycling, perception of recycling as a norm, awareness of recycling outcomes, and "perceived behavioral control" about recycling (knowing what and how to recycle).
  - Researchers found it particularly noteworthy to observe increases in reported recycling awareness (what and where to recycle). Researchers observed an over 65 percentage point increase before and after religious organizations delivered a recycling education message in agreement with the statements, "Most people who are important to me think that I should engage in recycling (24% to 90%) and "my extended cultural community thinks that I should recycle (22% to 91%) (p. 54). The "what, when, and where" of recycling in this campaign was communicated only through signs posted in buildings and did not significantly differ from posters that the municipalities have used in the past to communicate this information. However, the 2016 study by Lakhan found that recycling information from municipalities was not effective in engaging visible minorities. Lakhan suggests that who and where the message is coming from may matter more than the educational message itself.
- ▶ Mifodzyeva et al 2013: Some interviewees mentioned the possibility of encouraging recycling through the religious community or through a religious perspective. One quoted interviewee noted the role of the imam to his parents and neighbors, and the

discussions within the community that often take place after the religious part of gatherings. "Why not also talk about these waste problems?"

### Family members

- ▶ George et al 2014: The authors cite one study on clinical research participation of Pacific Islanders, specifically Native Hawaiians, where study participants emphasized the role of community mediation and using trusted community members as liaisons. For example, the review reports that elders in the community rely on youths to interpret information and increase access to information about health research. George et al 2014 also report in their review that studies on Asian Americans found that having research endorsed by a trusted individual like a family member was a motivator for participation.
- ▶ Segev (2015) suggest utilizing student groups, who "can become opinion leaders and environmental advocates who educate their families and members of their social network. They can lead conservation activities that engage their local communities." (p. 199)

### Neighbors or local nonprofits

- ▶ Michelson et al 2009: Research on low-propensity voter mobilization in California found that "indirect efforts, such as direct mail and door hangers, have relatively weak effects on voter turnout and are not recommended" (Michelson et al 2009, p. 6). Instead, outreach from "trusted sources" works best, particularly:
  - **Utilizing ultra-local canvassers:** "Encouragement to vote that comes from a trusted source, such as a friend or neighbor, is more effective at increasing turnout than encouragement that comes from other sources.... Comparing the treatment group to the control group, the campaign increased turnout by 6.6 percentage points. Neighbors (canvassers who shared a ZIP code with targeted voters) increased turnout by 8.5 percentage points while non-neighbors increased turnout by 5.2 percentage points, suggesting that using local canvassers is an important way to capitalize upon existing social networks within communities." (9)
  - **Trusted local organizations:** researchers worked with nine local nonprofits that were well-known to the local communities.

### Regular, repeated contact

- ▶ García and Michelson (2012) and Michelson et al (2009) found that the biggest change in voter turnout for people of color occurred when voters were personally contacted more than once:
  - "personal contact, either face-to-face or by phone, can be used to effectively mobilize low-propensity racial/ethnic voters. In addition, evaluators found that personal contacts close to Election Day work best, that volunteer phone-banking using *follow-up calls to self-identified likely voters* can produce substantial effects." (Michelson et al 2009, p. 6)
  - Importantly, this was most effective when utilized with potential voters that had already indicated an interest in voting (meaning the *motivation* or attitude was pre-



existing) and with well-trained canvassers who were seen as trustworthy (p.6). Interestingly, two-round phone banks were found to be even more effective than door-to-door outreach in some cases "producing double-digit increases in voter turnout, if follow-up calls are attempted only with individuals who indicate during an initial contact that they intend to vote (self-identified "yes" voters)." This approach increased voting 10.3 percent for both Latinx and AAPI voters in one experiment.

- ▶ Baretto (2018) likewise argues that "there needs to be a marked increase in the outreach and contact with Black, Latino, and AAPI voters. If voters are not regularly contacted, they will not vote." (p. 185)

## The behavior as a norm

### *The behavior as a legal norm*

- ▶ Miafodzyeva et al 2013: In interviews, one of the most commonly stated reasons for recycling is that it's a legal norm in Sweden and following the rules. The researchers provided the following quotes from the interviews:
  - We are collecting separately all these wastes because my husband wants to do it. He says it's a rule here in Sweden, we want to follow the rules. (Female, 25-44 years)
  - When I moved to Sweden, many years ago, all the rules here were explained to me. They have their rules. So, I am collecting paper, carton, glass, plastic, metallic cans. (Female, 45–64 years)
- ▶ In Lakhan's study on effectiveness of recycling materials and education among visible minorities in Ontario (Lakhan 2016), he cites one of his prior research studies that finds the motivation for recycling among first-generation ethnic minorities is largely driven by a perceived legal obligation.

### *The behavior as a social norm*

- ▶ In surveyed Latinx population, recycling reported as important to participants but not perceived as a norm in their communities. 90% said recycling is important, but fewer respondents (35%) said recycling is important or somewhat important to others. Researchers note this gap between personal attitude and community norms (Curtis and Garcia, 2016).
- ▶ A literature review of public health research and minority participation identified social context as a key theme among Asian Americans, noting that social support encourages participation and acculturation among elderly Chinese. The review also finds that among Asian Americans, research participation is facilitated by having the support of or being asked to engage in it by family members such as a spouse or sibling (George et al 2014).
- ▶ In focus groups with Latino community members in Metro Oregon, at least one focus group member (a new homeowner) said he recycles because all his neighbors do, and he feels peer pressure to do so. The resident is quoted: "This is going to sound dumb. I admit it freely. All my neighbors put out recycling, and if I don't, I feel like an idiot. I feel like I'm that guy. It's peer pressure." (DHM Research, 2019).

## Altruistic messaging

Motivators in messaging often focused on helping others, helping the environment, and, importantly, how each individual could make a difference. Notably, we did not find any literature that encouraged the use of scare or “shock and awe” tactics.

## Human-oriented messaging

- ▶ George et al 2014: While fear that the research will not benefit their communities was a stated barrier to participation across the cultural communities included in the study, these communities also expressed a desire to help their future generations and/or community through research.
- ▶ Diehl et al 2016: Researchers found in this mixed-methods study that incorporating humane-oriented messaging in advertisements was effective across six different countries (Germany, Switzerland, Austria, France, USA, and Chile). Perhaps surprisingly, they found this messaging to be particularly effective “in those countries where individuals place greatest importance on individual humane orientation.” (p. 746) “Humane” was defined as helpful or beneficial for humans, rather than the environment. This incorporation increased favorability of attitudes about a company, and to a lesser degree, a specific product (wristwatches in this case).

## Environmental care and concern

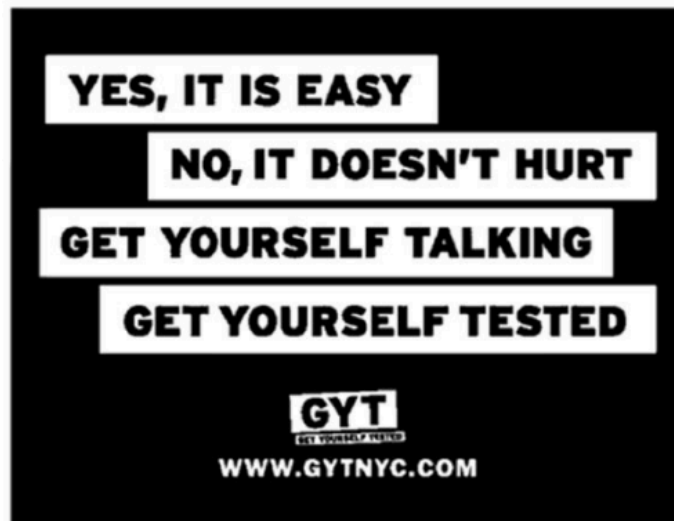
- ▶ Miafodzyeva et al 2013: 86% of survey respondents said it is fairly or very important to recycle. Researchers observed a medium correlation between attitude towards recycling and self-reported recycling behavior. While not shown to be correlated with recycling behavior in this study, both the survey and interview indicated that respondents had interest in environmental issues. 67% in the survey said they were very interested or quite interested in environmental issue (in contrast, 8% said they were uninterested or totally disinterested). In interviews, the researchers reported that interviewees felt environmental concern and identified problems connected to climate change.
- ▶ DHM Research, 2019: In focus groups, the main motivation given by respondents to recycle was to protect the environment. Participants viewed recycling as a step towards an environmental protection, and at least one participant in each focus group mentioned future generations or their children as a motivator for protecting the environment. This is consistent with reasons cited in The Recycling Partnership's study of recycling messaging in Houston, in which 57% of respondents said reasons for recycling were for the environment/the planet and 21% said to reduce pollution/waste/landfill when asked what was the “best reason to recycle.”
- ▶ Segev (2014) likewise found in a study that the strongest motivator for Hispanic Americans was what was called “eco-affect” or “the emotional involvement with environmental issues” (p. 99). The second strongest motivator was related to attitude towards green purchase behavior, by marketing green products as favorable or superior to other products. While related, the author explains that these are not the same, and the first (eco-affect) was found to be more effective. The same author found in a 2015 study that perceived consumer effectiveness (PCE) was a major factor in environmental

household behavior. "Given that these tasks require individuals to be somewhat inconvenienced, they need to be very concerned, aware of and knowledgeable about environmental issues, problems and possible solutions to act upon their deep convictions" (Segev 2015, p.199).

### **Self-efficacy supporting messaging**

In behavior change models, self-efficacy is often cited as a mediator to move from awareness to behavior. It is often referred to as "perceived consumer effectiveness" (PCE), or the belief that one can successfully participate or complete a task. In several studies, researchers found that information specifically designed to increase self-efficacy was especially helpful. This could help overcome low self-efficacy, a barrier identified earlier.

- ▶ In a 2013 meta-analysis on the psychology of environmental behavior, Klöckner found that "creating a feeling of self-efficacy, which is the ability to perform the necessary act, is at least as important as creating a positive attitude. Interventions to increase perceived behavioural control and efficiency are therefore very relevant. People require information about what to do and how to do it" (p. 1036). This information can act as empowerment tool to encourage participation and reduce doubt about whether one is doing the right thing.
- ▶ Similarly, in a study comparing environmental attitudes and behaviors across cultures, Cho et al (2013) recommended that "advertising and promotion can be geared towards educating consumers about positive environmental outcomes that are possible only with consumers' efforts and involvement, in an effort to increase the PCE level" (p. 1057). Researchers found this motivator to be effective across both collectivist and individualist cultures.
- ▶ Segev (2015) discussed a related concept, "perceived consumer effectiveness" (PCE) or the belief that one's actions make a difference. The researcher found that for those in a Hispanic community, PCE was a key moderator that helped people move from good intentions to environmental behavior. Remarkably similar to Klöckner's findings (though the two use slightly different language), Segev also found that information / education was a parallel motivator. In particular, not only information about why one should be environmentally friendly, but information about how one's own specific actions can help. This was particularly important for tasks that require several layers of knowledge, or that require added time, cost, or inconvenience.
- ▶ In the *Adapting the Get Yourself Tested Campaign to Reach Black and Latino Sexual-Minority Youth* study, Garbers et al (2016) found that marketing materials focusing on how easy and painless it was to get STD testing was an effective messaging strategy. See also the "practices to avoid" section for comparative images. (Image: page 13.)



(b)

- ▶ Miafodzyeva et al 2013: Researchers noted that environmental concern was more general, and respondents did not link their individual behavior (e.g., how they clean, collect, and manage their waste) to the environment. Interviewees more quickly linked environmental concern to municipal or government responsibility.
- ▶ In focus groups on recycling in Metro Oregon (DHM Research, 2019) with Latino residents, participants expressed appreciation for the feedback in the focus groups on how to sort materials, and one said that "a service that provides me feedback is a great asset and motivator to keep recycling properly."
- ▶ Pryor (2014): When comparing voter turnout based on receiving different types of postcards, the postcards indicating how easy it was to vote were found to be more effective: "Instrumental rhetoric emphasizing the speed and ease of online voter registration was more effective, most likely because it made the registration process seem less onerous and more achievable. The [Online] postcard treatment improved registration rates across nearly all demographic sub-groups" (p.7)



**Figure 2:** Front of [Online] treatment emphasizing instrumental rhetoric by lowering the reader's perceived personal "cost" (in this case, time and effort) required to register.

Image: Pryor (2014) p. 5

## Accessible messaging

### *Appropriate language*

- ▶ Pryor 2014: "The bilingual postcards, regardless of their rhetorical message, had the added benefit of encouraging a great deal more recipients with Spanish surnames to register to vote" (p.7). Specifically, those with Spanish surnames who received bilingual postcards were *five times* more likely to register to vote than those who received English-only postcards (p.6).
- ▶ Michelson et al (2009) described how appropriate language skills was a critical component for increasing political participation: "For door-to-door campaigns in multilingual neighborhoods, monolingual canvassers should be paired with walkers who speak another language. Similarly, phone bank effectiveness may be affected by canvassers who are much more fluent in one language than another." (p. 9)
- ▶ DHM Research (2019): Avoid colloquialisms and slang. In focus groups for Metro Oregon, Latinx participants noted the potential for confusion with phrases like, "when in doubt, find out," especially for Spanish speakers with limited English proficiency.

## Accessible recycling terminology

- ▶ **Familiarity with the term “to recycle”:** In Curtis and Garcia 2016, in surveys of Latinx multifamily residents in the Metro Portland area, interviewers reported frequently that the Spanish term *reciclar* was not regularly recognized. To explain, interviewers used *separar la basura* (“to separate the garbage”). In some cases, respondents explained they separated garbage always or often but did not necessarily understand this as “recycling.” Researchers did not anticipate the lack of familiarity with the term and did not collect quantitative data on this topic.
  - This finding is not consistent with information reported in Latinx focus groups by DHM Research for Metro Oregon in 2019, where participants used terms like *reciclaje*, *recicla*, *reciclar*, *reciclados* when asked to generally describe recycling in Spanish. This may reflect changes over time, potential regional differences within Metro’s tri-county area, or differences between single family and multifamily recycling and varied access to recycling. In Curtis and Garcia’s work, the researchers caution biased expectations entering a study, in their case the expectations that their study population would have (or would not have) familiarity with the term recycling.
- ▶ **More specificity on what is and is not recyclable in messaging materials,** whether through representative photos or use of more detailed descriptors.
  - In focus groups (DHM Research, 2019) of Latinx residents in Metro Oregon, participants expressed a preference for pictures over icons in educational material on what to recycle. One explanation given for this preference by participants was that pictures more accurately represented items they had in their kitchen than icons. Focus groups with politically conservative white residents, renters under the age of 40, African-American residents, and Latino/Latina residents in Houston completed in 2019 on behalf of The Recycling Partnership found a similar finding. The focus group participants preferred the educational material with pictures over icons. Reasons given include that pictures are “more specific,” clear and direct, and there is no way to misinterpret them.
  - Latinx participants in focus groups for Metro Oregon also expressed a preference for specific information on what can be recycled over generalizations. For example, the participants found “yogurt cups and sour cream containers” more helpful as descriptors than “dairy containers” (DHM Research, 2019). Some participants also expressed frustration about things like “some,” “many,” and “most” when describing recyclables (“most paper”), which created confusion without providing answers.
- ▶ **The concept of “clean” for recyclables.** In the 2019 Metro Oregon focus groups with Latinx residents, the researchers reported that participants placed an emphasis on whether materials were soiled or clean when making decisions about what to recycle. However, the emphasis on cleanliness led to confusion for unused, clean packaging material that was not a recyclable material (e.g., plastic-lined coffee cups and clamshells, which are not accepted for recycling by Metro). One participant also reported confusion about words like “rinse” and “clean” when describing recyclable material because rinsing an item doesn’t remove oil or grease to make it “clean.” The resident is quoted asking, “The truth is I don’t understand ‘clean.’ If it is washed and it is still dirty, no? And if it’s dirty and I rinse it and it’s still dirty, no? It’s easier to say, ‘it’s clean, recycle. It’s dirty, trash.’”

## Narrative components

- ▶ Huang & Shen 2016: Building on previous research, this meta-analysis found that including stories was a key way to both center culture and increase effectiveness in multicultural outreach: "cultural tailoring is more effective when it includes narrative components, which place culture at the center of a health promotion practice" (p. 709).

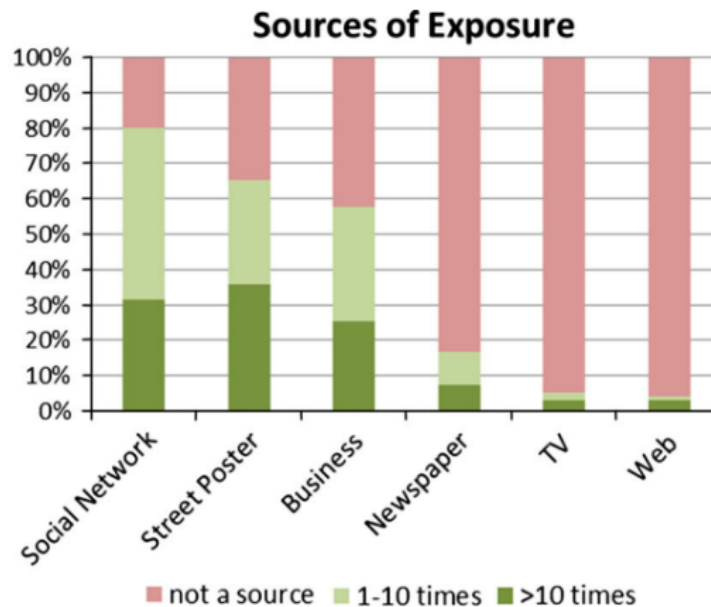
## Variety of outreach and communication methods

While preferred outreach and communication methods varied, one trend was clear—a "one size fits all" approach is not sufficient. *These are not intended to be broad recommendations for how to communicate with the indicated communities, but this section documents the work the research team identified that included data on how study participants said they preferred to receive information.*

- ▶ Segev 2015: when learning complex environmental household behaviors such as recycling, "personal instruction and oral demonstration" was particularly effective (p. 199).
- ▶ Michelson et al 2009 and García et al 2012 found that two-round phone banks and door-to-door canvassing was highly effective to increase low-propensity voter turnout, whereas print materials used alone were not. As the researchers stated succinctly: "an interactive component is what is necessary to elicit the cognitive shifts necessary to alter an individual's voting behavior." (García et al 2012, p. 54)
- ▶ Huang & Shen (2016): When analyzing the effectiveness of culturally tailored health outreach materials, audio and video was found to be significantly more effective than print alone (p. 709)
- ▶ As part of the development of Metro Oregon's 2030 Regional Waste Plan, Metro Oregon worked with community-based organizations in the region to conduct focus groups with a variety of groups (Metro Oregon 2018). In a focus group with 10 participants, all identifying as Latino, ages 21-60, Centro Cultural reported the following as ways participants receive information, with endorsements from the participants:
  - Events, such as community center workshops, churches, fairs, and parks. The focus group documentation also notes that the participants said that "people tend to ignore print materials."
  - Social media like Facebook
  - Radio, preferably Latino radio stations
  - Pop-up ads on popular smart phone apps, or "things like bottle ads"
  - TV stations, such as Univision, Telemundo, Fox 12, maybe on popular showings like soccer games and novelas.
  - Posters on trafficked places like stores like Winco, Walmart, Home Depot, Fred Meyer, Costco, as well as beaches and gas stations.
- ▶ In another focus group for the Metro Oregon 2030 Regional Waste Plan, which included 11 members that identified as multiethnic, African or African-American, Native American, Hispanic, or other, Constructing Hope reported that most participants stated that social media is their main source of news. More than half of the participants identified the following other sources for how they obtain their news: musical media, Facebook, Google, printed ads/signs/billboards, word of mouth, and TV. Constructing

Hope notes that while the discussion began with how participants got their news, it evolved into a brainstorming discussion on how to get news and information to community members (Metro Oregon 2018).

- ▶ Metro Oregon focus groups with Latinx residents in its service area (37 participants) asked participants about their preferences for digital vs. print media (DHM Research, 2019). Focus group participants were split in their preferences. Some said they preferred digital materials with links directly to information, while some wanted a print copy for their home.
- ▶ After developing an HIV prevention campaign with community input for the Black community in Seattle (Andrasik 2012), the researchers conducted a preliminary evaluation of the reach and effectiveness of the educational campaign. The research team conducted a street intercept survey (reaching 116 respondents) one month after the campaign launched in the neighborhoods where the campaign was implemented (through flyers at local businesses, ethnic media ads, a few local radio and community channel spots, and “palm cards”). 82% of survey respondents said they remembered the campaign content. The figure below shows the distribution of reported sources of exposure to the campaign by communication method. In this case, the researchers found local community exposure (e.g., flyers in business windows) to be more effective than mass media, and researchers also noted that among those who reported social network exposure to the campaign reported discussing it with friends (Andrasik 2015).





## PROCESS/METHODS OF ENGAGEMENT

### Community participation in the process

Several case studies demonstrated how involving community members was a helpful motivator. Notably, this involvement went beyond communication or marketing design, and often included in-person gatherings, utilized an iterative process where community feedback was implemented to the overall program design, and built trust by engaging community members as leaders and liaisons. It is notable that this trend did not emerge in many of the quantitative studies. This potentially speaks to the limited generalization of multicultural outreach, as these findings trend towards a localized, nuanced approach.

- ▶ Garbers et al 2016: In an effort to increase the numbers of Black and Latinx LGBT youth being tested for STDs, researchers intentionally included the youth in each step of their campaign. Starting with focus groups, they gathered feedback on social marketing ads and logistical details for STD testing (such as where to park a mobile health van). They then implemented the recommendations garnered from the focus groups and measured the impact of the changes. This not only prevented them from making potentially costly mistakes (such as printing an ad that was unintentionally offensive), but also helped the researchers learn about hidden barriers (such as confidentiality concerns) in order to mitigate them.
  - For example, youth were concerned about the stigma of utilizing the mobile health van when it was within view of a popular hangout spot. So, the solution was to simply park it around the corner, where the van was out of sight but still within easy access. This small and cost-effective change had a large impact on utilization.
  - Results: "STD testing at a mobile van and youth clinic increased by 83% and 10%, respectively, compared to a comparable baseline period. The observed changes in testing uptake reflect the impact of promoting such testing services and adjusting the delivery of testing services, rather than the impact of introducing new testing services" (p. 9-10).
- ▶ Tomioka et al 2012: In order to expand the reach of a chronic health management program developed at Stanford, researchers utilized several tools to adapt the program to "Hawaii's multicultural population" while maintaining program effectiveness. To do so, they utilized two tools: "the "track changes" tool to deconstruct [the program] into its various components (e.g., recruitment and staffing) and the "adaptation traffic light" to identify allowable modifications to the original program" (p. 121). Present throughout the process of adaptation was the involvement of local facilitators, who were trained to be effective at delivering the health program, but who could also relate to the local participants, and incorporate aspects of the local cultures.
- ▶ Michelson et al 2009: researchers found that when utilizing canvassers from the same zip code as the potential voters, campaigns were even more successful when an iterative process was used. In particular, they recommended **high-quality training, with continual feedback from canvassers** to incorporate lessons learned along the way. In other words, utilizing an iterative and flexible process, rather than designing the process beforehand and utilizing strict implementation: "Groups that undertook training that was more interactive (including role playing) and that fostered a high level of energy among

canvassers tended to be more effective in their mobilization efforts overall. Results were further enhanced by groups that brought canvassers together at the end of each canvassing day to debrief on their efforts, tally the number of contacts, and work to develop a sense of collective effort and mutual accountability" (p. 8) In fact, this was so effective that one experiment found that highly trained canvassers with ongoing dialogue and continually evolving techniques increased turnout by 43%! (p. 8)

- ▶ The Environmental Protection Agency (2019) also recommends community involvement, on their Environmental Justice web page. As the page states "Meaningful involvement means:
  - People have an opportunity to participate in decisions about activities that may affect their environment and/or health;
  - The public's contribution can influence the regulatory agency's decision;
  - Community concerns will be considered in the decision-making process; and
  - Decision makers will seek out and facilitate the involvement of those potentially affected."

## Incorporate cultural context

Much of the literature advocates for an approach including deep cultural context that engages with cultural history, values, beliefs and norms, rather than only surface-level indicators such as language and food.

- ▶ Huang and Shen (2016) conducted a meta-analysis on "cultural tailoring" of cancer messaging. In particular, they compared "surface" and "deep" cultural tailoring for African American, Asian American, Hispanic, and Pacific Islander communities. They found that "deep tailoring, which integrates the cultural values, norms, and religious beliefs of the target ethnic group, had a significantly stronger effect compared to surface tailoring, which only incorporates surface cultural features such as language, diet, and risk statistics" (p. 694).
  - For example, the researchers cite a 2010 study on breast cancer communication as using deep tailoring "by addressing the fatalistic view of cancer and the norm of bearing misfortune among Korean females as common barriers to cancer prevention" (p. 701)
  - When describing the potential psychological mechanisms behind these outcomes, the researchers explain: "while surface tailoring may serve as peripheral cues to promote information accessibility, perceived relevance, and heuristic message processing, deep tailoring seems more central to the persuasion process by activating the related cultural mindsets through the presentation of cultural beliefs, values, and norms" (p. 698).
  - Further, they found that cultural tailoring was most effective "for Asian Americans and Pacific Islanders, followed by messages for Hispanics and those for African Americans. This is probably due to the fact that Asian Americans, Pacific Islanders, and Hispanic Americans have distinct cultures and values as common among recent immigrants. African Americans as a whole group are relatively more diverse in terms of their cultural characteristics" (p. 709)
- ▶ Similarly, Sun (2013) in the book *Cross-Cultural Technology Design: Creating Culture-Sensitive Technology for Local Users*, describes the three most common ways to study,

and design products for, multicultural markets. The first way is surface level, and only incorporates items such as language, color, and images after the product has been designed. This is often presented as a simple list of “dos and don'ts” or “best practices” (p.8). The author cautions that this often results in products that simply don't work for the various markets, as only the “tip of the iceberg” of culture is being considered. A second approach takes into account somewhat deeper knowledge about a culture, but one that relies heavily on broad generalizations, such as Hofstede's models of cultural dimensions (such as individualism and collectivism). The author explains: “while these cultural models help designers see more of the submerged iceberg, they also introduce methodological inaccuracies to design practices: They promote a positivist view of culture, which strips rich contextual data away during the formation of the formal structure” (p. 12). A third approach tends to use qualitative data such as interviews and observations, with researchers learning directly from individuals within the different markets. This is often documented in the form of a case study and does not generalize well to larger groups. Sun argues that all three approaches are insufficient, and proposes a new framework called CLUE, or Culturally Localized User Experience. While it is beyond the scope of this literature review to conduct a deep dive into this approach, to summarize, it engages communities in a cyclical dialogue and co-creation, rather than thinking in terms of “end users.”

- ▶ George et al (2014): This health research review calls out the importance of “cultural congruence” as a motivator for participation and reported more willingness to participate when research was provided in the context of community priorities.
  - When summarizing implications of the review and future implementation of community-based participatory research, the authors note that not only is tailoring efforts to specific community groups needed to address a potential mistrust, it may be necessary to acknowledge historical context of mistrust and providing a venue to discuss them openly.
- ▶ As cited in Kagawa Singer (2016), two studies in 1994 and 2015 that worked with Tribal communities on health interventions for obesity and chronic disease that promoted traditional diets and lifestyles. They found that this approach not only improved physiological outcomes, but also improved mental health, and attributed outcomes to increasing ethnic pride through traditional practices.
- ▶ Kolavalli (2019) highlights challenges observed in food charity programming (a nutrition education program that gave participants a free weekly meal and groceries) in Kansas City, documenting ways that the curriculum (delivered by white women) fails to consider and acknowledge the experience and existing knowledge of the program participants, predominantly Black women. Interviews highlight ways in which the curriculum is perceived by participants as paternalistic and/or patronizing and assume they lack knowledge:
  - Language about food deserts and instructions on how to plant seeds was countered by participants highlighting their histories of growing their own food in the city for generations.
  - The curricula covered material like how to clean hands and how to prepare food, and participants - many of whom who had extensive cooking experience - expressed frustration at having to cover this material in order to receive groceries.

- The curriculum highlights ways for people to get food where they do not have access to full-service grocery stores, such as how to order the “healthiest” item off fast-food restaurant menu or how to make a meal from gas-station canned goods. However, in interviews with the participants, the author finds that in practice, most program participants use their social networks and carpooling to access full-service groceries. The curriculum does not acknowledge the existence of the mechanisms that already exist and are in use.
- Despite food insecurity, participants often refused food aid not suitable for their family diets, and the author observed a practice of donating unwanted food items (anecdotally, canned green beans are the most unwanted item) given to participants back to the charity boxes where they held their trainings.
- In workshoping potential ideas to improve the food charity programming, participants suggested ways the curriculum could make use of their existing knowledge and strategies. For example, build on and support the informal, social networks for transportation to preferred grocery stores. Food charity providers could instead consider offering shopping trips to preferred stores or providing transportation, rather than “asking family and neighbors for rides, riding the bus for several hours, or paying a taxi.”

## Incorporate community values

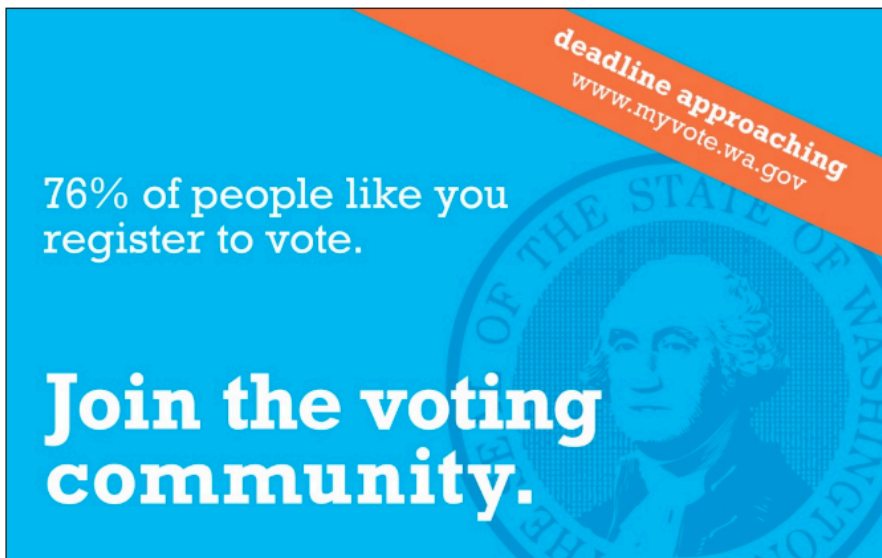
Understanding what issues matter—and what issues *don't matter*—to different communities, and framing outreach in that context.

- ▶ Curtis and Garcia, 2016: Researchers also looked at perception of environmental issues at both a personal and regional level. Researchers asked survey respondents what environmental problems impact them or their families. The researchers found that many (37%) respondents mentioned pollution, 23% said “I don't know,” and 12% said no problems impacted them. Frame environmental issues in the region in relation to personal and family issues. For example, frame recycling messages according to the population's environmental concerns and local context, such as pollution, family, health, and cleanliness. Researchers also note opportunity to connect recycling to culturally familiar knowledge about reuse and sorting garbage.
- ▶ Anderson et al 2013: Researchers hypothesized that differences observed in rate of recycling between African and white households in urban South Africa may be related to not seeing a connection between recycling and littering as a community problem. The authors cite a different study where African households identify water pollution as a community problem at higher rates than white households, and that the African households are more likely to treat their water to address this.
- ▶ When considering the Hispanic community, which Segev (2015) identifies as a “collectivist” culture, the author describes that “promoting household conservation behaviour should focus on engagement programs and social communication directed at the family and the Hispanic community” (p. 199).

## Practices to avoid

Outreach practices that have found to be *ineffective* are those that reduce the agency of the participant with messaging that tells them who they are, and using stereotypical, negative, or scare-tactic messaging.

- ▶ **Reducing agency of the consumer or participant.** In a series of five studies by Bhattacharjee et al (2014), researchers found that “compared to messages that merely reference consumer identity, messages that explicitly define identity expression reduce purchase likelihood, despite more clearly conveying identity relevance.” In other words, a “this is who you are” message (ex: “If you call yourself a sports fan, you gotta have DirecTV!” (p. 301) reduces purchase likelihood, due to a decline in customer agency.
- ▶ This finding mirrored Pryor’s (2014) study, which found that postcards with a “people like you” message sent to voters was less effective than a postcard that emphasized the ease of voter registration, though still did increase voting participation to an extent. (Image: page 5.)



**Figure 1:** Front of [Community] treatment emphasizing persuasive rhetoric by describing social norms – that the majority of people are registered to vote, implying that to retain social status, the reader should also register.

- ▶ **Using stereotypical or negative framing of demographic groups.** During focus groups, researchers found that most participants felt that “messages emphasizing high rates of infection among Black and Latino sexual minorities were “scare tactics” that can stigmatize and offend those they are trying to reach by implying that someone may be infected by virtue of their demographic characteristics or sexual orientation” (Garbers et al (2016), p. 5). However, some individuals in the focus groups did feel like those messages were useful as a type of wake-up call.
  - As displayed in the image below, image (a) utilized a scare tactic approach stating “1 in 2 sexually active young people will get an STD by 25—most won’t know it.” In response to focus group feedback, the campaign organizers created an updated flyer (b) that focused on how easy and painless STD testing is. They also included

image (c) as a positive and non-stereotypical portrayal of youth similar to the ones targeted in the campaign.



- Similarly, in the development of an HIV prevention campaign for the Black community in partnership with community members, the research team reported that the campaign—which featured images of Black men and a message about multiple sexual partners—received feedback from individuals that they felt targeted by the campaign ads which depicted only Black men and women rather than a range of races and ethnicities. Some perceived this messaging as perpetuating stigma and negative stereotypes of and within the community (Andrasik 2012).

# Conclusions

## SUMMARY OF FINDINGS

Themes that emerged throughout the research across all study areas (recycling behavior, political engagement, and participation in health research) for effective multicultural engagement included:

- ▶ the value of audience segmentation,
- ▶ a need for deep understanding of one's audience, and
- ▶ a need for baseline cultural competency of the staff implementing the work.

These steps are critical to developing programs and strategies that reflect an understanding of the social and cultural context of their audiences to make them more meaningful, relevant, and ultimately, effective. Social and cultural context can affect language, communication preferences, decision making, beliefs, and values to take into account.

## Segmenting the audience

Identify who the program and/or educational message is for and understand that there can be significant in-group variance if only considering race or ethnicity that contribute to different cultural beliefs, values, and practices. In addition, cultural groups are dynamic and continually shaped by experience (e.g., cultural group differences between first and second-generation immigrants in the United States or multiracial individuals). Kagawa Singer (2010) highlights an example of how “Chinese” as a cultural group definition alone can be inadequate (p.15).

“What information does “Chinese” convey? This man could have been born in Hong Kong, be a college professor who speaks five languages including English and lives six months of the year in the United States and six months in Hong Kong. This man could also be a monolingual Chinese gentleman, born in the United States, unmarried, and living alone in Chinatown in New York, with little education and very poor. Lack of accountability for these differences perpetuates stereotypical evaluations and diverts the clinician from accurately assessing the strengths of and potential conflicts with individual patients and their families.”

When considering distinct audiences, audience characteristics may include, but are not limited to, race and ethnicity, country of origin, length of time in the region, educational background, socioeconomic status, and language proficiency.

## Understanding the audience

Once a focus audience has been identified, the next step is to develop an understanding of the audience's distinct values, traditions, customs, and beliefs that may influence their behavior. One model of culture calls out seven particular elements around which researchers and service providers can shape questions to better understand the audiences they work with. One example from the healthcare context is reproduced below (Kagawa Singer 2010, p.34).

TABLE 3. Seven Levels of Assessment for Culture

	LEVELS OF CULTURAL ASSESSMENT	INFORMATION NEEDED TO ASSESS EACH LEVEL	TYPES OF QUESTIONS
1	Environment	Place of residence; characteristics of neighborhood and community, ie, knowledge of the historical and political context of the community	What kind of assistance is available to you in your community that might be helpful during this time? Do you know others in your community who have faced similar difficulties?
2	Economy	Income, wealth, and types of jobs	What kind of work do you do? What kind of work did you or your family do before immigrating to the United States?
3	Technology	Degree of technology involved in type of employment and job qualities, eg, safety, exercise, environmental exposure	What kind of work safety issues are you concerned with? What kind of work or safety issues is your employer concerned with?
4	Religion/World View and beliefs about healing systems	What is the patient/family's religious affiliation and degree of spirituality and religious community involvement? What are the patient's beliefs about Western biomedicine and cultural healing systems?	Where do you go for religious or spiritual strength or solace? Do you use the services or advice of your traditional healers? Which healers do you see? What natural herbs/tonics/medicines are you using to help you with your present illness?
5	Language and Health Literacy	What language(s) does the patient speak? What is the patient's level of fluency in English and literacy in health matters and materials?	What languages do you speak, and in which are you most comfortable speaking? Would a trained medical interpreter help you to communicate with me and ask the questions you would like to ask me? Do you know how to obtain the services of a trained medical interpreter?
6	Social Structure	Who is in the patient's social network? What is each person's position in the social network? What are the communication and decision-making patterns of the group? Do gender, age, and other attributes affect status in this social circle?	Who are the people in your support system who are helpful or harmful? Who is there to help you with physician care, emotional support, transportation, and care of loved ones? Who do you do you see or talk with for support?
7	Beliefs and Values	What particular constellation of cultural beliefs and values may impact behavior change envisioned wherever the patient/family is on the cancer care continuum?	How do you see this disease affecting you and your family? If patients know their diagnosis, then ask, "What most concerns you about your condition?" What does cancer mean to you?

When applying this to the context of recycling programs and education, similar types of questions can be used to understand how the audience gets information, what they value, what resources they have, and what their language and literacy needs are. Social structure, religious/worldview, and beliefs and values questions could be adapted to obtain more information about environmental concerns, beliefs, and understanding of how the recycling system works and how and why they participate.

## Demonstrating cultural competence

Motivators identified in the findings, such as community participation and consideration of cultural context and values are supported through demonstrated cultural competence of the service provider and/or program staff. While definitions of cultural competence and what it means in practice in the context of resource conservation and recycling are more limited, putting cultural competence into practice in the context of patient care is an area of study included in several publications. Definitions of cultural competence vary from source to source but include "a set of congruent behaviors, attitudes, and policies that come together in a system, agency, or among professionals that enables effective work in cross-cultural situations" (U.S. Department of Health and Human Services, Office of Minority Health) and "the ability to respond effectively to people from different cultures and backgrounds" (Papadopoulos et al. 2016)



Key elements of cultural competency identified among healthcare service providers include the following (Kodjo, 2009; Kagawa Singer 2010):

- ▶ Awareness of one's own cultural beliefs and values, including biases.
- ▶ A recognition that difference can exist and acceptance of differences between one's own cultural beliefs and values and those of another.
- ▶ Consideration of the dynamics of difference—especially if there are differences in power (e.g., perceived authority)—and how they may affect interactions between oneself and members of the audience of focus.
- ▶ Cultural knowledge coupled with self-awareness of what one doesn't know about another culture in order to ask for help as needed.
- ▶ Adaptability, incorporating cultural knowledge to adapt to the needs and preferences of the audience, including openness to different approaches to the same end goal.

One barrier called out in the literature review (and addressing it is framed as a motivator) is the lack of acknowledgement in past programs and campaigns of cultural beliefs and knowledge of the cultural group (George et al 2014; Kolavalli 2019). The literature on a food charity program also highlights a gap in the existing curriculum that fails to consider and incorporate the ways the participants have leveraged their networks, existing knowledge, and resources to gain access to preferred grocery stores and instead makes assumptions about their shopping habits and preferences where choice and access are limited (Kolavalli, 2019).

It may also be important to acknowledge as a service provider or staff person that there are, in fact, socioeconomic and racial inequalities that affect things like health conditions, access to care, and quality of available care. While this has not been substantively discussed in the literature specific to recycling, there are opportunities to consider how things like the cost of service, who has access to decision-making (e.g., single-family homeowner vs. multifamily resident), and neighborhood-level differences in the types of and availability of collection service may vary for different cultural communities and acknowledge, when communicating with focus communities, that these factors can and do affect how they participate in recycling.

Cultural competence—specifically, acknowledgement and awareness of difference can lay the groundwork for the members of the focus audience group to share their perspectives, beliefs, values, and practices and work to build trust (Kodjo, 2009; Kagawa Singer, 2010). The literature review also highlights that open communication—which builds on a baseline of cultural competence—may reduce the chance of either stereotyping one's audience or failing to identify key cultural elements that influence behavior.

One potential tool to help understand the impact of new or updated programs on different communities is the Racial Equity Toolkit, developed by the Race and Social Justice Initiative in Seattle (RSJI 2012).

## Collaborating with community members

One key theme of the literature review reinforces the benefit of community involvement in the design and implementation of programs across all sectors. With the complexities associated with

defining and developing an understanding of a cultural group, direct input from members of the cultural community - from the start through the implementation of programs - is key. Community member participation is a source of key information on not only beliefs and values for the group, but also social and historical context that can shape the design of one's program and/or educational campaign. Even in 2000, a newsletter for the evaluation community from Georgetown University called out a need to engage community, writing: "As the deputy director of the Native American Healthy Nations Initiative indicated *"the solutions aren't in the universities and think tanks... they're in the local community."* Community leaders may be more informed about effective methods for data dissemination and use than outside evaluators" (Huang, L.N., 2000) As noted in the literature review, engaging community members can also help service providers and program staff make tweaks to enhance program success, such as by moving a mobile youth clinic for STD testing out of the line of sight of peers, and to avoid pitfalls, such as messaging that uses stereotypical or negative framing of demographic groups.

In addition, community collaboration can promote buy-in and enhance word-of-mouth communication about one's program objectives and collaborating members can serve as facilitators or community liaisons. In Lakhani's 2018 study of recycling education delivered to multicultural communities through religious organizations (considered trusted leaders among members of the congregation), the researchers expected to observe an increase in the extent to which recycling is perceived as a social norm, but the magnitude of difference observed in the study was much higher than expected (p. 54). The researchers did not anticipate the degree to which multicultural community members may have been more receptive to recycling education through their religious or faith-based organizations.

Finally, compensate participating community members for their time, knowledge, and input. Compensation can mitigate resource barriers like time and money (e.g., offsetting childcare needs or transportation time to participate in focus groups or surveys). Andrasik reported "a significant amount of community member turnover" in their work to engage Seattle and King County's Black community on an HIV prevention campaign and identified both providing leadership roles as well as monetary incentives as a way to better support consistent participation (Andrasik 2012, p. 544). The researchers also note "true CBPR [community-based participatory research] requires more time and funding than is conventionally allotted to achieve the specific aims of non-CBPR research projects. We found that to ensure true community participation where community input and guidance are incorporated at each step of the project, we were required to engage in activities that often translated into several months of information and feedback gathering before next steps could be taken (p. 545). George et al.'s 2014 literature review also identified "adequate remuneration" as a key shared motivator for participation in public health research by minority groups, and also noted that compensation might take not only the form of direct payment, but also as payment in direct services such as health screenings or other services (p. 25).

## LIMITATIONS

### North America and Europe-centric research

As discussed in the background section, theories around environmental behavior change point to a variety of intrapersonal (within oneself) and interpersonal (between two or more people) factors. **When considering the three categories of findings—barriers, motivators, and processes, it**

**is noteworthy that interpersonal factors were present in all three areas. In fact, the majority of findings in the barriers and processes categories were interpersonal. Motivators included a range of both types of factors. With this in mind, our findings initially point to the need for an approach that is focused less at the individual level, and more at the group level.**

To date, most behavior change research is focused on internal mechanisms, rather than social ones. In other words, the research most often asks, “What factors drive an *individual's* environmental behavior?” Far less research has been conducted to study the interpersonal factors— “How does family, community, or society drive behavior?”

This may be due to the fact that the majority of research originates from North America and Western Europe. Similarly, much of the research on marketing, environmentalism, health studies, and other areas originate in the same regions. Many of the countries in these regions have highly individualistic, rather than collective, cultures. This has shaped the way theories have developed, and how research is conducted. For example, a majority of studies are conducted using online surveys. Surveys are a useful tool for quantitative research, but tend to over-simplify cultural differences, often lumping many types of people into broad categories such as nationality. This means that nuance and less quantifiable data may be missed. This data is then often processed through theories designed in North America and Western Europe, such as the aforementioned Theory of Planned Behavior. The result is a body of work and theory that is centered on an individualistic point of view that may not be relevant in more collectivist cultures. It also, relatedly, emphasizes solutions at the individual level, rather than the systemic level. Some researchers have identified this as problematic (Burton 2005, Sun 2013, Moisander 2007).

“Because research has historically been conducted by White researchers and has targeted mostly White research participants, the “gold standards” with regard to research processes have tended to include incorrect assumptions about effectiveness when unquestioningly transferred to ethnic minority populations.” (George et al 2014, p. 16)

## Skewed demographic samples

Another limitation identified by many researchers cited in this review is the skewed demographic samples of studies. Many studies include participants from a narrow age range—most commonly college students (ex: Segev 2014, Cho 2013), and also include far more women than men (George et al 2014). This means that the application of the findings to the wider population may not “translate” well.

## Generalized demographic categories

A third limitation is the variety of definitions and lack of complexity and intersectional analysis of ethnoracial categories. Most research to date uses surface-level indicators to place individuals in one ethnoracial group or another. As discussed elsewhere in this literature review, this approach ignores the wide variety *within* each group—for example, “Hispanic” and “Latino/a/x” are often used interchangeably and have various definitions. These groups can include both individuals who have lived in the U.S. for generations and those who are recent immigrants; those who speak Spanish and those who do not; those who are white and those who are people of color.

This approach can also mask the complexities of the lived realities of individuals, who may fit into more than one ethnoracial group. In the U.S., our national understanding and vocabulary around race and ethnicity is rapidly evolving. Most research and data collection simply ignore those who identify with multiple ethnoracial categories. As a rather pertinent example, consider that it wasn't until the year 2000 that individuals could choose more than one ethnoracial category on the United States census (Jones & Bullock 2012). So, the forthcoming 2020 census will only be the third time that multi-ethnoracial data has been collected at a national level.

## Theoretical complexity

A final complicator is the fact that this literature review included not only a variety of behavior change theories, but also included theories related to health research, marketing, and political participation due to the broad scope of the project. While this does achieve the goal of a broad overview of multicultural engagement techniques, we encourage readers to take caution in applying broad generalizations.

## RECOMMENDATIONS FOR FUTURE RESEARCH

Based on the literature review findings and conclusions of the study, the following represent some potential areas for future research when considering strategies to effectively engage multicultural communities in recycling behaviors.

### Identifying barriers to recycling participation

One theme that runs through the literature review is that access, whether to supporting services or infrastructure, is a fundamental first step to participation. While not a focus of the literature review, factors which intersect and overlap with culture such as type of housing, whether the resident rents or owns their place, neighborhood, and socioeconomic status affect the types of recycling services available and affordable to residents. In-depth interviews with different cultural groups can reveal reasons recycling participation may be challenging, even for those who express care for the environment and know how to recycle. For example, Bonatti interviewed 16 migrant women in Italy who worked as domestic laborers and asked them about recycling practices (2018). Women in the interviews expressed concerns about being exposed to xenophobia or street harassment while taking out garbage and recycling. Another interviewee described feeling like she had to make a choice between taking out the recyclables or catching her bus after her shift, which were in opposite directions, due to the schedule and expectations set out by her employer. She is quoted as saying, "it is exploitative of the families – we are done with our hours, yet they still expect us to walk in the opposite direction and then go back to wait for the bus. This can take up an additional two hours, unpaid, since the time we finish working and we get home. So, we ... we say we take it, but we just leave it in the grey bin, all together with the landfill waste. It is exploitative of the families, but it's the administration's fault too, if the bins are so hard to find" (p. 50). Bonatti also notes that while interviewees described scenarios where they disposed of recyclables as garbage due to convenience-related barriers, these interviewees expressed care for keeping neighborhoods clean and a clear understanding of how to sort recyclables.

## Evaluating the design of collection infrastructure

Other potential barriers not explored in this literature review include design factors beyond adequate space and collection convenience, such as accessibility in the design of collection infrastructure (e.g., ability to reach and move carts) and perception of safety. Areas for study might include:

- ▶ Factors that impact perceptions of safety of waste collection areas, such as:
  - Lighting in collection areas. For example, some residents might not feel safe taking out materials for disposal or recycling to their alleys at night.
  - Accumulation of bulky waste
- ▶ Who is primarily responsible for taking out collection bins to the curb and whether there are barriers in transporting the containers due to weight, bulky design, or other factors.

## Continuing to explore partnerships with community leaders on recycling education

The literature review highlights the importance of involving multicultural community members and building on existing community knowledge and community leadership. Continue to explore opportunities to partner with community members, whether through social services, local businesses, community-based organizations, faith-based organizations, educational institutions, or other groups. While there is no one-size-fits-all approach, monitor and share best practices and lessons learned from grant-funded community-led projects on building trust, making space for community voice and knowledge, supporting collaboration, and promoting longevity of the project.

## Development of localized case studies

In applying critical multiculturalism as a lens, we discussed the limitation of both theoretical models and data collection and analysis techniques (such as surveys). To overcome these limitations, a potential area of research could explore qualitative case studies—with a focus on specific, localized communities and clearly identified goals. This could include interviews, observations, focus groups, or other interactive methods. Ethical considerations would be necessary, such as compensating participants for their time and gaining ongoing informed consent.

## Researching the impact of interpersonal factors (specifically, family, community, or society) on recycling behavior

García and Michelson offer a new model of testing the effectiveness of get-out-the-vote (GOTV) campaigns in their book *Mobilizing Inclusion: Transforming the Electorate Through Get-Out-the-Vote Campaigns*. The model, which they call the Sociocultural Cognition Model, considers how *individual-level* cognition is situated within a *sociocultural* context. They argue that by understanding and tapping into the sociocultural context, a successful GOTV campaign “taps into sets of categorizations that the targeted voter already has, resulting in the development of new meanings and therefore the voter’s development of a new cognitive schema” (p. 6). In other words, they “were moved to identify themselves differently” (p. 189).

This model could potentially be adapted for a recycling context, and explore interpersonal factors, rather than individual factors alone. This would require research into family, community, and cultural norms around waste management and recycling. It could also bring a historical context (e.g., have different communities had access to recycling in the past? For how long?) and geographic context to the work.

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Anderson, B.A., Romani, J.H., Wentzel, M., & Philips, H.E. (2013). Recycling Behavior among Urban South Africans: The role of race and social status. *Population Studies Center*. 13-790.

Andrasik, M.P., Chapman, C.H., Clad, R., Murray, K., Foster, J., Morris, M., Parks, M.R., Kurth, A.E. (2015) Developing concurrency messages for the Black community in Seattle, Washington. *AIDS Education and Prevention*, 24(6), 527-548. <https://doi.org/10.1521/aeap.2012.24.6.527>.

This paper describes the development of HIV prevention messaging for the Black community in Seattle, Washington, working in partnership with members from the African American and African-Born communities.

Andrasik M.P., Clad, R., Bove, J., Tsegaselassie, J., Morris, M. (2015). A Preliminary Evaluation of a Community-Based Campaign to Increase Awareness of Concurrency and HIV Transmission in African American and African-Born Communities. *AIDS and Behavior*, 19, 1782-1791. <https://doi.org/10.1007/s10461-015-1017-y>

The researchers highlight preliminary findings on messaging awareness and impact one month after the distribution of a campaign designed in partnership with community members. The researchers also highlight some challenges they encountered in the process.

APA (2019) Socioeconomic Status. *American Psychological Association*. Retrieved from: <https://www.apa.org/topics/socioeconomic-status/>

Banzhaf, S., Ma, L., & Timmins, C. (2019). Environmental justice: The economics of race, place, and pollution. *Journal of Economic Perspectives*, 33(1), 185–208. <https://doi.org/10.1257/jep.33.1.185>

Barreto, M. A. (2018). The Cycle of Undermobilization of Minority Voters. *Journal of Race, Ethnicity and Politics*, 3(1), 185–188. <https://doi.org/10.1017/rep.2018.9>

Bhattacharjee, A., Berger, J., & Menon, G. (2014). When Identity Marketing Backfires: Consumer Agency in Identity Expression. *Journal of Consumer Research*, 41(2), 294–309. <https://doi.org/10.1086/676125>

In a series of five studies, researchers find that “compared to messages that merely reference consumer identity, messages that explicitly define identity expression reduce purchase likelihood, despite more clearly conveying identity relevance.” They argue that causing consumers to feel a *lack of agency* in particular causes a reduction in purchase likelihood.

Bonatti, V. (2018). Taking out the garbage: Migrant women’s unseen environmental work *European Journal of Women’s Studies* 25(1). 41-55. <https://doi.org/10.1177/1350506817729857>

Burton, D. (2002). Towards a critical multicultural marketing theory. *Marketing Theory*, 207–236.

Burton, D. (2005). New course development in multicultural marketing. *Journal of Marketing Education*, 27(2), 151–162. <https://doi.org/10.1177/0273475305276689>

Cho, Y. N., Thyroff, A., Rapert, M. I., Park, S. Y., & Lee, H. J. (2013). To be or not to be green: Exploring individualism and collectivism as antecedents of environmental behavior. *Journal of Business Research*, 66(8), 1052–1059. <https://doi.org/10.1016/j.jbusres.2012.08.020>

Curtis, R.B & Garcia N.E.R. (2013). Building cultural bridges: Inclusive environmental planning and outreach through university–community partnerships.

<https://www.taylorfrancis.com/books/e/9781351283564/chapters/10.4324/9781351283564-12>

Researchers describe findings on environmental concerns, awareness, and beliefs among Latinx multifamily residents in Metro Oregon. They obtained data through door-to-door surveys at multifamily properties with a significant Latinx population.

DHM Research (2019). Metro Recycling Focus Groups. Retrieved from

<https://www.oregonmetro.gov/sites/default/files/2019/03/28/Recycling-Focus-Groups-Report-2019.pdf>

DHM Research conducted four focus groups with Spanish-speaking, Hispanic/Latinx residents in the greater Portland area. The purpose of the research was to gauge awareness of regional recycling rules and determine the types of information that would be most helpful in improving residents' recycling behaviors. The focus groups are a follow-up to a [survey of the general population on residential recycling in Metro in 2018](#).

Diehl, S., Terlutter, R., & Mueller, B. (2016). Doing good matters to consumers: The effectiveness of humane-oriented CSR appeals in cross-cultural standardized advertising campaigns. *International Journal of Advertising*, 35(4), 730–757. <https://doi.org/10.1080/02650487.2015.1077606>

Garbers, S., Friedman, A., Martinez, O., Scheinmann, R., Bermudez, D., Silva, M., ... Chiasson, M. A. (2016). Adapting the Get Yourself Tested Campaign to Reach Black and Latino Sexual-Minority Youth. *Health Promotion Practice*, 17(5), 139–148. <https://doi.org/10.1016/j.physbeh.2017.03.040>

Serving as a potential case study for co-creation of social marketing and outreach campaigns for STD testing, researchers first conducted focus groups with the demographic group they wished to reach (Black and Latinx LGBT youth in New York City), then utilized their findings in creating outreach materials and outreach strategies. This resulted in higher rates of STD testing.

García, B. L., & Michelson, M. R. (2012). *Mobilizing inclusion: Transforming the electorate through get-out-the-vote campaigns*. New Haven: Yale University Press.

This book offers an in-depth review of the design, findings, and theory behind the studies conducted in the “New Experiments in Minority Voter Mobilization” report. In particular, it explores the mechanisms behind *cognitive identification* or seeing oneself as a certain type of person (such as a voter) and how that can impact behavior.

Geiger, J., Steg, L., Van der Werff, E., & Ünal, A. B. (2019). A meta-analysis of factors related to recycling. *Journal of Environmental Psychology*, 64, 78-97. <https://doi.org/10.1016/j.jenvp.2019.05.004>

George S, Duran N, & Norris K. (2014). A systematic review of barriers and facilitators to minority research participation among African Americans, Latinos, Asian Americans, and Pacific Islanders. *American Journal of Public Health*, 104(2), 16-31. <https://doi.org/10.2105/AJPH.2013.301706>

This paper reviewed 44 articles published from 2000 through 2011 and identified shared barriers and “facilitators” (motivators) among the study communities, as well as barriers and motivators potentially distinct to individual groups.

Hurst, M., Dittmar, H., Bond, R., & Kasser, T. (2013). The relationship between materialistic values and environmental attitudes and behaviors: A meta-analysis. *Journal of Environmental Psychology*, 36, 257–269. <https://doi.org/10.1016/j.jenvp.2013.09.003>



Marques, C. P., & Almeida, D. (2013). A path model of attitudinal antecedents of green purchase behaviour. *Economics and Sociology*, 6(2), 135–144. <https://doi.org/10.14254/2071-789X.2013/6-2/12>

Huang, L.N. (Summer/Fall 2000). Data Through a Cultural Lens: Practices to support culturally competent use of evaluation data. *Data Matters*. Retrieved from <https://gucchd.georgetown.edu/products/DataMatters3.pdf>

Huang, Y., & Shen, F. (2016). Effects of Cultural Tailoring on Persuasion in Cancer Communication: A Meta-Analysis. *Journal of Communication*, 66(4), 694–715. <https://doi.org/10.1111/jcom.12243>

In this meta-analysis of 36 articles (58 studies), Huang & Shen tested whether cultural tailoring of cancer communication impacted the communication effectiveness. They found that deep tailoring, “which integrates the cultural values, norms, and religious beliefs of the target ethnic group, had a significantly stronger effect compared to surface tailoring, which only incorporates surface cultural features such as language, diet, and risk statistics.” They also found that messaging including narratives (or stories), and messaging in an audio or video format (rather than print) was more effective.

Jones, N., Bullock, J., (2012) The Two or More Races Population: 2010 [PDF file]. *United States Census Bureau*. Retrieved from: <https://www.census.gov/prod/cen2010/briefs/c2010br-13.pdf>

Kagawa Singer, M., Dressler, W., George, S., The NIH Expert Panel. (2016). Culture: the missing link in health research. *Social Science and Medicine*, 1-10. <https://dx.doi.org/10.1016/j.socscimed.2016.07.015>

Kagawa Singer, M., Dadia, A.V., Yu, M.C., Surbone, A. Cancer, Culture, and Health Disparities: Time to Chart a New Course? (2010). *CA: A Cancer Journal for Clinicians*. 60(1), 12-39. <https://doi.org/10.3322/caac.20051>

Klößner, C. A. (2013). A comprehensive model of the psychology of environmental behaviour-A meta-analysis. *Global Environmental Change*, 23(5), 1028–1038. <https://doi.org/10.1016/j.gloenvcha.2013.05.014>

Kodjo, C. Cultural Competence in clinician communication (2009). *Pediatric Review*. 30(2), 1-12. <https://doi.org/10.1542/pir.30-2-57>

Kolavalli, C. (2019). Whiteness and Food Charity; Experiences of Food Insecure African-American Kansas City Residents Navigating Nutrition Education Programs. *Human Organization*, 78(2), 99-109. <https://doi.org/10.17730/0018-7259.78.2.99>

The author conducted semi-structured interviews from 2015 and 2018 in the Kansas City metropolitan area with 30 individuals involved in food charity and nutrition programming and policy, as well as 58 interviews with food-aid seekers. The work is also informed by observations at the food charity training program (Feast!) over four different class cycles. The author highlights the challenges that arise when a colorblind approach is used for these programs, noting ways they are ineffective at addressing urban hunger.

Lakhan, C. (2016). Effectiveness of Recycling Promotion and Education Initiatives among First-Generation Ethnic Minorities in Ontario, Canada. *Social Sciences*, 5(23). <https://doi:10.3390/socsci5020023>

Study of 77 residents over 8 focus groups in southern Ontario, focused on “visible minorities” and their feedback on recycling promotion and education material.

Lakhan, C. (2018). The garbage gospel: Using the theory of planned behavior to explain the role of religious institutions in affecting pro-environmental behavior among ethnic minorities. *Journal of Environmental Education*, 49(1), 43-58. <https://doi.org/10.1080/00958964.2017.1337701>

In this study, Lakhan partnered with 12 religious organizations in City of Toronto, Region of Peel, and York Region to deliver recycling messages to their congregations. The researchers provided the recycling information (what, when, where, why), but left the delivery of the message up to the religious leaders. Surveys showed an increase among surveyed congregation members in positive attitudes about recycling, perception of recycling as a norm, awareness of recycling outcomes, and “perceived behavioral control” about recycling (knowing what and how to recycle).

Metro Oregon (2018). 2030 Regional Waste Plan, Engagement Summary Phases 1-4, Appendix A. [https://www.oregonmetro.gov/sites/default/files/2018/11/20/RWP\\_Engagement\\_Report\\_20181120.pdf](https://www.oregonmetro.gov/sites/default/files/2018/11/20/RWP_Engagement_Report_20181120.pdf)

The appendix documents participant feedback in focus groups on recycling and garbage knowledge, challenges, Metro’s values, communication strategies, and potential future actions for Metro. Metro worked with community-based organizations to conduct these focus groups and reach communities of color, low-income populations, immigrant/refugee communities, limited English proficiency populations, youth and communities historically impacted by the placement of solid waste facilities.

Miafodzyeva, S., Brandt, N., & Andersson, M. (2013). Recycling behaviour of householders living in multicultural urban area: a case study of Järva, Stockholm, Sweden. *Waste Management & Research*, 31(5), 447-457. <https://doi.org/10.1177/0734242X13476746>

Researchers survey and interview residents in a region in Sweden with a significant portion of “householders of foreign origin.” They use the survey to score and identify correlations between environmental concern, attitudes about recycling facilities, attitudes about recycling, confidence in recycling, and community identity to self-reported recycling behavior.

Michelson, M. R., García Bedolla, L., & Green, D. P. (2009). New Experiments in Minority Voter Mobilization. *Report for The James Irvine Foundation*.

This report shares findings of a multi-year, multi-study research project that took place in California between 2006 and 2008. The goal was to increase the voting levels of “infrequent voters, particularly those in low-income and ethnic communities” in Southern California. Results include a list of helpful best practices.

Moisander, J. (2007). Motivational complexity of green consumerism. *International Journal of Consumer Studies*, 31(4), 404–409. <https://doi.org/10.1111/j.1470-6431.2007.00586.x>

Morren, M., & Grinstein, A. (2016). Explaining environmental behavior across borders: A meta-analysis. *Journal of Environmental Psychology*, 47, 91–106. <https://doi.org/10.1016/j.jenvp.2016.05.003>

Noar, S. M., Benac, C. N., & Harris, M. S. (2007). Does Tailoring Matter? Meta-Analytic Review of Tailored Print Health Behavior Change Interventions. *Psychological Bulletin*, 133(4), 673–693. <https://doi.org/10.1037/0033-2909.133.4.673>

Papadopoulos, I., Shea, S., Taylor, G., Alfonso, P., & Foley, L. (2016). Developing tools to promote culturally competent compassion, courage, and intercultural communication in healthcare. *Journal of Compassionate Health Care*, 3(2), 1-10. <https://doi.org/10.1186/s40639-016-0019-6>

Pardasani, M. & Bandyopadhyay, S. (2014). Ethnicity Matters: The Experiences of Minority Groups in Public Health Programs. *Journal of Cultural Diversity*, 21(3), 90-98.

Pryor, L. (2014). How Communication Design Motivates Voter Participation : Comparing Instrumental vs . Social Rhetoric. MAIS Projects and Theses. 21. Retrieved from [https://digitalcommons.tacoma.uw.edu/ias\\_masters/21%0AThis](https://digitalcommons.tacoma.uw.edu/ias_masters/21%0AThis)

Race and Social Justice Initiative (2012). Racial Equity Toolkit. Seattle Race and Social Justice Initiative. Retrieved from: <https://www.seattle.gov/rsji/resources>

Randle, M., & Dolnicar, S. (2012). Attracting Volunteers in Highly Multicultural Societies: A Marketing Challenge. *Journal of Nonprofit and Public Sector Marketing*, 24(4), 351–369. <https://doi.org/10.1080/10495142.2012.733668>

Segev, S., Villar, M. E., & Liu, Y. (2014). Hispanics and Green Consumption: Exploring the Green “Attitude-Behavior Gap.” In K. K (Ed.), *Ideas in Marketing: Finding the New and Polishing the Old*. Springer. [https://doi.org/10.1007/978-3-319-10951-0\\_37](https://doi.org/10.1007/978-3-319-10951-0_37)

Segev, S. (2015). Modelling household conservation behaviour among ethnic consumers: The path from values to behaviours. *International Journal of Consumer Studies*, 39(3), 193–202. <https://doi.org/10.1111/ijcs.12167>

This study, which focused on first and second generation Hispanic college students, identified several motivators to household environmental behavior, including recycling. In particular, perceived community effectiveness, family / community framing, and concrete knowledge about recycling was found to be helpful.

Sun, H. (2013). Approaching Culture in Cross-Cultural Technology Design. In *Cross-Cultural Technology Design: Creating Culture-Sensitive Technology for Local Users* (Vol. 15, pp. 583–605). <https://doi.org/10.1093/acprof>

Tomioka, M., Braun, K. L., Compton, M., & Tanoue, L. (2012). Adapting Stanford’s chronic disease self-management program to Hawaii’s multicultural population. *Gerontologist*, 52(1), 121–132. <https://doi.org/10.1093/geront/gnr054>

This article described the tools and processes used to successfully adapt a health management program developed at Stanford for White, Asian, and Pacific Island individuals in Hawaii.

U.S. Census Bureau (2018) Older People Projected to Outnumber Children for First Time in U.S. History. *United States Census Bureau*. Retrieved from: <https://www.census.gov/newsroom/press-releases/2018/cb18-41-population-projections.html>

U.S. EPA (2019) Learn About Environmental Justice. *United States Environmental Protection Agency*. Retrieved from: <https://www.epa.gov/environmentaljustice/learn-about-environmental-justice>

U.S. Health and Human Services Office of Minority Health. *What is Cultural Competency?* Retrieved from <https://minorityhealth.hhs.gov/omh/content.aspx?ID=2804>.

UyBico, S. J., Pavel, S., & Gross, C. P. (2007). Recruiting vulnerable populations into research: A systematic review of recruitment interventions. *Journal of General Internal Medicine*, 22(6), 852–863. <https://doi.org/10.1007/s11606-007-0126-3>

In this review of 46 articles (56 studies), researchers identified barriers at the institutional and individual levels for the participation of “vulnerable” populations in health research, such as people of color, elderly individuals, and low-income individuals, among others. Researchers evaluated the validity of the studies, and tested the effectiveness of various interventions, such as social marketing.

Varela-Candamio, L., Novo-Corti, I., & García-Álvarez, M. T. (2018). The importance of environmental education in the determinants of green behavior: A meta-analysis approach. *Journal of Cleaner Production*, 170, 1565–1578. <https://doi.org/10.1016/j.jclepro.2017.09.214>

Wang, Y. (2014). Individualism/collectivism, charitable giving, and cause-related marketing: A comparison of Chinese and Americans. *International Journal of Nonprofit and Voluntary Sector Marketing*, 19(1), 40–51. <https://doi.org/10.1002/nvsm.1486>

Zúñiga, M. A. (2016). African American Consumers' evaluations of ethnically primed advertisements. *Journal of Advertising*, 45(1), 94–101. <https://doi.org/10.1080/00913367.2015.1083919>