

## ORIGINAL RESEARCH

### ***“The first step to changing something”*: Addressing Latinx childhood obesity through photovoice**

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**ABSTRACT:**

Background: Latinx children in immigrant families have disproportionately high obesity rates; effective obesity treatment for this subset of Latinx children is critically needed.

Objectives: To inform the development of weight management interventions we explored: 1) community facilitators and barriers to achieving childhood healthy weight through photovoice; and 2) participant reflections on the photovoice process.

Methods: Photovoice was conducted using established methods in a local church. After photovoice, participants completed semi-structured interviews to reflect on their experience.

Transcripts were analyzed using a general thematic analysis approach to arrive at preliminary themes, which were presented to participants for validation. Participant input was used to finalize the themes.

Results: Six adults and two youth Latinx immigrants identified photograph themes over seven sessions. Four themes emerged regarding community barriers and facilitators to achieving childhood healthy weight: 1) family habits, 2) cultural influences on food, 3) built environment, and 4) food marketing. Participant reflections revealed they were motivated to participate in photovoice to learn more about health, recognized personal growth as a result of group sharing, valued representation as a community, and felt empowered to be role models.

Conclusion: Findings from both photovoice and participant reflections reinforced the need for multi-level approaches to treating childhood obesity. Though participant reflections were gathered to inform continued engagement of Latinx families, they ultimately had a significant impact on our conclusions about priority intervention components.

**KEYWORDS:** Emigrants and Immigrants, Hispanic-Americans, Pediatric Obesity, Social Determinants of Health, Marketing

## 1. Introduction

Childhood obesity is a risk factor for adult cardiovascular disease (CVD), the leading cause of death in the United States (US).<sup>1,2</sup> Latinx youth make up 25% of the nation's K-12 students and experience the highest childhood obesity rates of any racial/ethnic group at 25.8%.<sup>3</sup> <sup>4</sup> The majority of obese children have at least one additional CVD risk factor such as high blood pressure or an unfavorable lipid profile.<sup>5</sup> Though obesity prevention remains an important goal, a specific focus on treatment is urgently needed to address weight disparities and mitigate negative downstream effects for Latinx children.

The United States Preventive Services Taskforce (USPSTF) recommends referral of all obese children to an intensive weight management program.<sup>6</sup> Implementation of this recommendation, however, has the potential to exacerbate existing disparities for Latinx children. Intensive programs are mainly found in clinical settings, are limited in number, and are frequently not accessible or otherwise feasible for Latinx families.<sup>7,8</sup> Intensive community-based programs have also faced challenges sustaining participation of Latinx families due to the time commitment required, lack of sociocultural tailoring, and communication and language barriers.<sup>9</sup> <sup>10</sup> While there is significant published literature on interventions addressing childhood obesity among Latinx communities, the prevalence of obesity remains staggeringly high in this population.<sup>11-13</sup> This lack of improvement indicates that available interventions are not sufficient to curb the existing epidemic and research is still needed.

Addressing the gap between current USPSTF recommendations and effective obesity treatment tailored to the unique needs of Latinx children requires new and creative approaches. To address this gap we engaged a multisector stakeholder network in an emerging Latinx immigrant community to support the development of a community-based obesity treatment

program. As part of the stakeholder network activities, we conducted a photovoice project with a group of Latinx community members, a subset of the stakeholder network, to identify community assets and barriers to childhood healthy weight.

Photovoice is a community-based participatory research (CBPR) method that engages community members in critical reflection in order to identify actions for social change.<sup>14</sup> Use of the method has provided academic-community CBPR partnerships with key insights into solutions across a wide range of health conditions.<sup>15-18</sup> Several published studies have employed photovoice in investigating childhood obesity, but its use remains uncommon.<sup>19, 20</sup> In particular, there is limited prior use of photovoice in emerging Latinx communities to understand community member perspectives on childhood obesity.<sup>21-23</sup> Engagement of immigrant Latinx populations is important in non-traditional immigrant destinations where existing local programs may have limited capacity to meet the health and social welfare needs of immigrant families, further perpetuating disparities.<sup>24</sup>

In this study we present findings from the photovoice project which provide important complementary insights to the existing photovoice literature related to childhood obesity and key learnings related to the development and implementation of an intervention to address childhood obesity. In addition, we explored the participant experience in photovoice through participant reflection interviews. To our knowledge, no study has explored how participation in photovoice impacts community members and their intentions to engage in health promoting or civic-minded activities following photovoice completion. Overall, our study provides an example of the integration of multiple community-engaged research methods to support a longitudinal partnership with an emerging immigrant Latinx community in order to address health disparities.

## **2. Methods**

## *2.1 Community Description and Partnership*

### *2.1a. Community Context*

Latinx immigrants to the US have been settling in non-traditional destinations in the southeastern and mid-Atlantic regions in recent years.<sup>24</sup> This project was conducted in Baltimore, Maryland, an emerging immigrant city for Latinx populations, with immigrants primarily arriving from Mexico and Central America. As the fastest growing ethnic group in Baltimore, the Latinx population has nearly tripled since 2000 while Baltimore's overall population has decreased more than eight per cent over that same time period.<sup>24-26</sup>

In response to the growth in the immigrant community in Baltimore, Centro SOL (Center for Salud/Health and Opportunities for Latinos) was established in southeast Baltimore in 2013 to promote equity in health and opportunity for Latinx persons. Centro SOL has worked with community partners to identify priority health areas to address through community programming, advocacy, and research.<sup>27</sup> Centro SOL's programming is heavily informed by two community stakeholder groups—the Latino Family Advisory Board (LFAB) and the Youth Advisory Board (YAB). The LFAB is composed of 16 Spanish-speaking mothers of pediatric patients at the Bayview Medical Center, while the YAB is composed of 10 youth patients of the Bayview Medical Center, the majority of whom are Latinx.<sup>28, 29</sup> Members of these advisory boards are recruited from local schools and health clinics located in southeast Baltimore, where the majority of Baltimore's Latinx community lives. Centro SOL holds monthly meetings throughout the school year with each of these two boards in order to stay informed on issues of importance to the members and to drive future directions of collaborative work. In addition, LFAB and YAB members participate in various projects with Johns Hopkins researchers and other community stakeholders.

### *2.1b. Project Partnership Description*

The Latino Child Healthy Weight stakeholder network initiative arose from established partnerships between Centro SOL, local Latinx-serving organizations, public health and political leaders, and community stakeholders in Baltimore. Partners and community stakeholders emphasized the need for community-based treatment programs to help overweight/obese Latinx children in immigrant families achieve a healthy weight. To address this community priority, Centro SOL and the executive board of a community organization (Comité Latino de Baltimore) were jointly awarded federal grant funding to support the development of a community-based obesity treatment program. Comité Latino is a grassroots volunteer neighborhood association established in 2015 with the mission of empowering its members and helping Latinx persons integrate into the community. The multidisciplinary and multisector network for this project was co-led by Centro SOL and Comité Latino. It was composed of a steering committee and the following four subcommittees: 1) Patient Engagement, which included LFAB and YAB members; 2) Community Engagement, which was comprised of local non-profit organizations, safety-net clinics, and immigrant advocacy organizations; 3) Research, which consisted of the Centro SOL faculty clinician scientists and Centro SOL research staff members; and 4) Healthcare Delivery which included experts in pediatric primary care, pediatric endocrinology, public health department administration, and representatives from a local community health benefit program. The stakeholder network primarily operated through regular meetings of each subcommittee and quarterly steering committee meetings. The Photovoice project included a subset of Patient Engagement subcommittee members and was pursued in addition to the other activities of the stakeholder network.

### *2.2. Study Design*

*"The first step to changing something"*

Study participants first participated in a photovoice project to understand community assets and barriers to childhood healthy weight as part of a larger effort to inform the development of a community-based obesity treatment program for Latinx children. Participants then completed semi-structured interviews (also referred to as “participant reflections”) to explore their individual photovoice experience and the impact of participation. Approval to conduct this project was obtained from the Johns Hopkins University School of Medicine Institutional Review Board.

### *2.3. Participants and Recruitment*

Members of the Patient Engagement subcommittee were invited to participate in this project if they were 16 years or older, identified as Latinx, and were proficient in Spanish. Through including teenagers, we hoped to facilitate intergenerational sharing and learning during the photovoice process. Photovoice project staff were two bilingual, bicultural Latinx staff members at Centro SOL who had been heavily involved in LFAB and YAB meetings as well as other community-based research efforts for several years prior to the start of the current project. After discussion of the logistics of participation in photovoice at subcommittee meetings, members who expressed interest were subsequently contacted by project staff and invited to a photovoice introductory session. Attendees who wished to participate then provided informed consent. Only one participant was under 18 years old and thus provided assent with parental consent.

### *2.4. Procedures*

#### *2.4a. Photovoice Procedures*

Photovoice participants met over seven 90-minute sessions conducted in Spanish between February-April 2019 in a local church well known to the immigrant community. At each session,



participants were provided with a meal, childcare, and \$30 remuneration. Participants were asked to take pictures each week based on two guiding questions: 1) what are the assets in the community regarding childhood healthy weight? and 2) what are the barriers in the community regarding childhood healthy weight? Although cameras were available for use in this project, all participants chose to use their personal smartphones to take photographs.

The same two staff members who introduced the project at LFAB and YAB meetings facilitated all photovoice sessions. One member was an experienced field researcher with significant qualitative research training, while the second had previous experience with data collection and community-based projects. During the sessions, staff members alternated serving as the lead facilitator for sessions and taking field notes. Sessions were audio-recorded, but were not transcribed.

Session 1 consisted of an introduction to photovoice, as well as a short workshop by a photography student from a local art institution. Sessions 2 through 6 consisted of participants exploring the two guiding questions by sharing pictures that they captured in between sessions. These sessions were composed of group discussion regarding participants' photographs, group ideation, and group brainstorms. Sessions were broken into two 45-minute halves for discussion among all participants—the first half generally focused on the first question (assets), while the second half focused on the second question (barriers). All group discussions were guided by the SHOWeD method, which allows participants to describe their photographs and stories through a series of questions outlined by an English-language acronym: What do you **S**ee here? What's really **H**appening here? How does this relate to **O**ur lives? **W**hy does this problem or strength exist? And what can we **D**o about this?<sup>30</sup> This method aids in moving discussions from descriptions of problems towards identifying solutions for positive community change.

For the 7<sup>th</sup> session, participants met at a local library to prepare for the photovoice exhibition to be held there, which was the culmination of the photovoice project. The exhibition was co-organized by Centro SOL, Comite Latino, and photovoice participants. Photovoice participants curated photos into a photobook and for the exhibition via consensus. All members of the stakeholder network along with general community members were invited to attend the exhibition.

#### *2.4b. Participant Reflection Procedures*

After photovoice sessions were complete, participants were asked to participate in semi-structured interviews to reflect on their experience. Interviews took place between April-May 2019 and were conducted by the same two session facilitators. Interviews were completed at a local library and lasted between 20-30 minutes. The interview guide focused on three main topics: 1) participants' motivation to join the project, 2) core lessons participants learned about themselves and their neighborhood, and 3) what was meaningful to them about participating in the photovoice project (Appendix A). All interviews were audio-recorded and transcribed verbatim by a commercial transcription company. Participants were provided \$30 remuneration for participation in interviews.

#### *2.5. Data Analysis*

##### *2.5a Photovoice Analysis*

The data generated through the photovoice project were analyzed during participant group sessions using established methods such as group ideation, brainstorming, and thematic mapping.<sup>14</sup> For example, a participant's photograph was first placed onto a large flipchart in front of the group and a discussion took place guided by the SHOWeD method to understand the meaning of the photograph. Then, group ideation and brainstorming were used to generate

themes that participants found salient in the photograph. Themes were then broken down further using thematic mapping.

### *2.5b Participant Reflection Analysis*

Interview transcripts were analyzed by a team of four using a general thematic analysis approach. Analysis followed five steps: 1) data familiarization, 2) initial coding generation and reduction of codes, 3) searching for themes, 4) reviewing and refining themes, and 5) theme definition and labeling.<sup>31</sup> No literature review was performed prior to coding in order to facilitate an inductive approach to coding and thematic analysis. Dedoose<sup>32</sup> software was used to assist in the data analysis process.

The four coders first read through all eight transcripts and took notes about salient ideas. Then, the coders developed a preliminary codebook using discussion-based consensus.<sup>33</sup> The process followed an iterative approach as preliminary codes were established but re-examined through group discussion after each coder had independently applied codes to one transcript. In phase one, each of the first four transcripts were independently coded by two team members who then discussed code application together and established consensus about any discrepancies.<sup>33</sup> In phase two, each of the four team members coded one of the remaining four transcripts, and coding was verified by another separate team member. The primary and verification coders resolved issues through discussion.

After coding was complete, the team individually searched for themes;<sup>31</sup> these candidate themes were then discussed by the team and reduced to eight preliminary themes. Preliminary themes were presented to six of the photovoice participants after an LFAB meeting. Notably, the two YAB participants were not present for this meeting. Participants confirmed that the themes presented by research staff represented their experience of participation in the photovoice

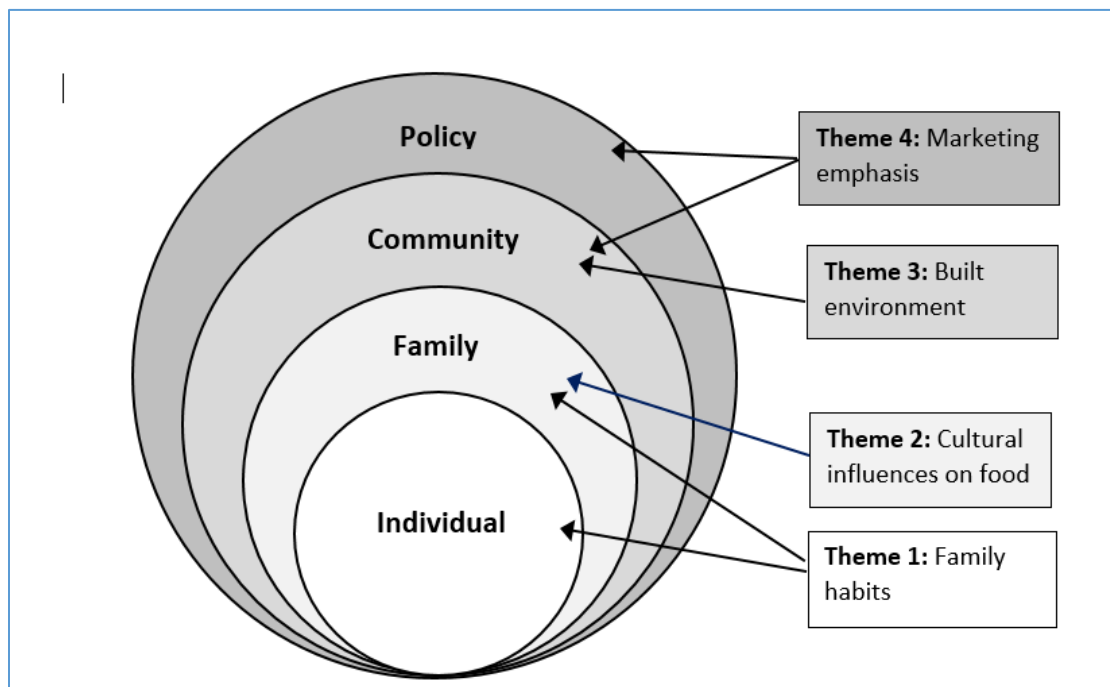
project. Through discussions by the analysis team and photovoice participants, the themes were reduced and/or merged, ultimately resulting in four key themes.

### 3. Results

Eight unrelated Latinx immigrants (6 female LFAB members, 1 female YAB member, and 1 male YAB member) participated in the photovoice project and completed participant reflection interviews (Table 1).

#### 3.1. Photovoice Results

Through group discussions about their photographs, participants identified two individual/family level themes and two community/policy level themes for a total of four main themes. These themes fit within an adapted social ecologic model for health promotion without a focus on organizational factors (Figure 1). This original model targets interpersonal, organizational, community, and public policy factors to influence individual behavior change.<sup>34</sup>



**Figure 1.** Photovoice themes in the context of a social ecological model.

The individual/family level themes were 1) effects of family habits on childhood weight and 2) cultural influences on food. Participants described how new habits that formed since arriving in the U.S and cultural influences from their home countries had impacted their food choices (Table 2, Quotes 1-4).

Community/policy level themes were 3) built environment in the community and 4) marketing emphasis on unhealthy foods. Participants highlighted positive (i.e. local parks) and negative (i.e. numerous corner stores) aspects of their communities' built environment and recognized the unequal marketing of unhealthy foods in grocery stores (Table 2, Quotes 5-7). These themes encompassed community and structural determinants impacting food choices and physical activity.

### *3.2. Participant Reflection Results*

Participant reflections analysis yielded four themes about the photovoice experience. Initially, participants were motivated to join the photovoice project by a desire to learn more about health in order to improve their personal and family health. During the photovoice project, participants recognized personal growth as a result of sharing their points of view and felt represented as a community and valued working collaboratively with a large academic institution to improve their health. By the end, participants reported gaining knowledge and tools that empowered them to be role models for family members to strive for improved health. These themes are described in greater detail below:

#### *Photovoice Participation was Motivated by Health*

Participants desired new health knowledge to improve their personal and family health, which was the primary motivator to join the project. Participants connected their family members' obesity and overweight status with their chronic diseases such as diabetes and heart

disease. They desired knowledge about healthy living to form a healthier future for their children, their partners, and themselves (Table 3, Quote 8). For example, one participant explained that their, “Dad [being] rushed to the hospital because he wasn’t eating healthy” motivated them to join the project because they knew that eating habits and nutrition would be topics of discussion that they could share with their families.

#### *Participants Grew through Group Sharing*

Participants found that sharing photographs and perspectives helped them learn from one another and subsequently grow personally (Table 3, Quotes 9-10). Multiple participants reflected that, although they identify as being part of the “Latinx community,” they learned specific traditions that were distinct between cultures within their larger Latinx community. In addition, they learned about their health and healthy lifestyles through understanding the points of view of participants of different ages or in various stages of life. For example, through group sharing, one participant newly realized that walking the family dog at the park could be used as a motivation for family members to get more exercise.

#### *Participants Found Value in Representation*

Participants recognized that, while they may be from different countries of origin, they felt a cultural connection by being Latinx. Representation of the Latinx community in photovoice made participants feel valued and heard (Table 3, Quote 11-12). For example, one participant explained that it can be difficult for her friends and family to know what resources to trust when they read books and newspapers, but since the contents in their constructed photobook came from community members, it felt trustworthy and real. Multiple participants pointed out that it was meaningful that a large academic medical center was not only paying attention to their community, but also working collaboratively to address issues that are important to them.

### *Participants Felt Empowered to Lead by Example*

Participants reported that they gained knowledge and tools through their participation in the photovoice project, and as a result felt empowered to become wellness role models for their family. Role modeling behavior included changes in diet and interest in new physical activities outside of the house (Table 3, Quote 13-14). For example, in two instances, children of participants made comments at home about their dietary changes and desire to eat their mother's nutritious meal. One participant stated, "It starts with me" referencing the fact that her habits must change first to drive change among family members. Another participant expressed that the photovoice project inspired her to utilize community assets such as libraries, museums, and parks more often with her kids.

## **4. Discussion**

Effective obesity treatment interventions for Latinx children are critical to decrease lifetime CVD risk. Photovoice participant reflection proved to be useful in identifying priority intervention components and engaging community members in efforts to develop and implement an obesity treatment intervention for Latinx families. Our findings demonstrate two key components of an obesity treatment intervention for Latinx children in an emerging Latinx immigrant community. First, the photovoice process revealed the importance of a multi-level intervention in order to make progress in addressing child obesity. Though multi-level determinants of childhood obesity were discussed in other stakeholder network meetings, the photovoice subproject provided key learnings that influenced subsequent network discussions and final prioritization for intervention components. Second, participants' reflections revealed the potential for increased intervention effectiveness if parents in future interventions were empowered to become change agents to harness facilitators and tackle barriers at the multiple

levels that influence child weight. Empowering parents to become change agents could build community capacity to address some of the limitations of current obesity management programs as well as upstream, structural factors contributing to child obesity.

The participant-generated photovoice themes demonstrate that a social ecological model of health reflects their lived reality.<sup>35</sup> Through photographs and group discussions of their daily life experiences, participants expressed how structures on multiple levels (e.g. individual, family, community, policy) impact childhood obesity within their community. Participants felt without broader community and policy level change, a focus on changing individual behaviors would be insufficient to address their concerns. These findings align with those of a recent systematic review that multi-level interventions can be efficacious in reducing Latinx childhood obesity.<sup>36</sup> Photovoice participants identified the most salient drivers at each level thus determining priorities for multi-level intervention components. Prioritization of obesity-related drivers may differ between Latinx community members and academic researchers, suggesting that it is vital to incorporate community member input in agenda setting.<sup>37</sup>

Ensuring participation in an obesity treatment intervention by families faced with many competing demands is a key concern for investment in an intervention, particularly a multi-level intervention owing to their increased expense and complexity of implementation. Through participant reflections, we found they were motivated to join the project to improve their personal and family health. This finding is similar to a recent study with low-income Latinx adolescents who were overweight or obese showing that a majority were highly motivated to become healthier through weight reduction. Of note, this motivation waned when faced with life obstacles, demonstrating the complexity of navigating personal health-related concerns.<sup>38</sup> The reflection theme that “participants grew through group sharing” suggests that influencing social



norms can help sustain behavior change. A recent large, randomized controlled trial demonstrated that people who gave advice to a peer about how to make behavior changes were more likely to make positive behavior changes (i.e. save money, lose weight) than people who received advice from an authority figure.<sup>39</sup> Additionally, the act of giving advice enhances the adviser's feelings of power.<sup>40</sup> Group discussions may make healthy behaviors more normative and encourage participants to share their perspective and make changes. Overall, our findings and those of prior studies underscore the key role of peer interactions in a future intervention in this population.

Further, photovoice participants gained a sense of empowerment, which translated into role modeling healthy behavior. Limited prior research has shown photovoice to empower vulnerable populations.<sup>41,42</sup> Participants reported that they altered their home food environment, impacting the health behaviors of their family members as well. The home environment and parental habits have a significant impact on childhood obesity rates among Latinx populations and, in one joint parent-child obesity treatment study, parental adherence to numerous health behavior strategies (role modeling) was shown to be highly associated with child weight reduction.<sup>43,44</sup> Therefore, the photovoice group process—in and of itself—was an empowering experience and impacted positive role modeling behavior.

In addition to influencing behaviors at the family level, our findings also demonstrate that the photovoice process fostered change agents to build community capacity to impact community and policy level factors that contribute to child obesity disparities. Community capacity-building has been shown to be an effective method of promoting healthy eating and physical activity.<sup>35</sup> The participant reflection themes suggest that foundational elements necessary to become a change agent include fostering a participant's intrinsic motivation,

influencing social norms, and instilling within participants a sense of perceived power over their behaviors. The theme that “participants found value in representation,” is also critical.

Photovoice helped participants feel like valued stakeholders in community decision-making.

Their group “photobook” and the community exhibition were manifestations of this community empowerment and strengthening of existing community ties. Although participants did not take steps to directly address policies that could impact childhood obesity, their representation in an official community event is an important first step in policy advocacy. Future research should examine if encouraging actions resulting from the use of methods such as photovoice is associated with durable positive community and/or policy level changes within emerging Latinx communities.

Our study was not free from limitations. First, the sample size was small. While a larger number of participants, particularly youth participants, would have been preferred, it was not possible as photovoice was an embedded subproject within an established stakeholder network. Although the sample was also diverse in terms of countries of origin and age, we believe this was a project strength as the consensus obtained from their divergent views and cultures will strengthen the potential of an intervention to be implemented in a Latinx community with varying countries of origin. The US Latinx population is heterogeneous and very specifically tailored intervention may not be practical for community-based implementation. Second, our selection of participants from community advisory boards may have enhanced the likelihood that they would demonstrate qualities of change agents. The sample selection was intentional given that members of community advisory boards can influence key stakeholders and decision making within these communities. Photovoice or similar methods can be used to effectively engage already-active community members. Third, our findings may be most transferrable to emerging

Latinx populations. It is unclear how applicable the results are for well-established Latinx communities such as in parts of New York, California, or Florida. Further, the same two project staff who facilitated the photovoice group sessions also conducted the interviews with participants. It is plausible that some participant responses were overly positive due to an existing facilitator-participant relationship. On the other hand, the existing rapport may have allowed more honest and personal sharing about the photovoice process and their lives. Finally, only one male participated in this photovoice project and he was a teenager. This imbalance represents a common finding of extremely low involvement among fathers in obesity-related intervention and prevention.<sup>45</sup> When fathers were asked in a survey about why they did not participate in childhood research the most cited reason (80%) was, “They were not asked.”<sup>45</sup> Our study followed this trend as all LFAB and half of YAB members are female. As we seek to inform interventions, improved engagement of male participants and, specifically, fathers will be vital to maximizing youth health and wellbeing.

If we do not address the obesity epidemic among Latinx youth, dramatic negative effects will be felt for generations. This study adds to the body of literature by using photovoice in an emerging Latinx community to uncover the most salient intervention components to reduce pediatric obesity from the perspective of immigrant community members. Our work also demonstrates that multisector stakeholder network member in an emerging immigrant community can effectively work together, integrating various methods to address a priority health problem. Our findings reinforce the need for multi-level approaches and the opportunity to engage community members as change agents to promote health equity. While our findings are focused on treatment programs, lessons learned from this community engagement project may also be applicable to prevention programs. Our stakeholder network successfully completed

adaptation of an evidence and community based Latinx pediatric obesity program that is culturally tailored, family centered, and reflects the needs and priorities of the community.<sup>46</sup> The next step is to implement such a program in partnership with Centro SOL and our stakeholder network (who will continue to provide oversight) to ensure suitable implementation and to build a more robust intervention that develops linkages to address community and policy level issues.

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**Table 1.** Demographic characteristics of participants in the photovoice project.

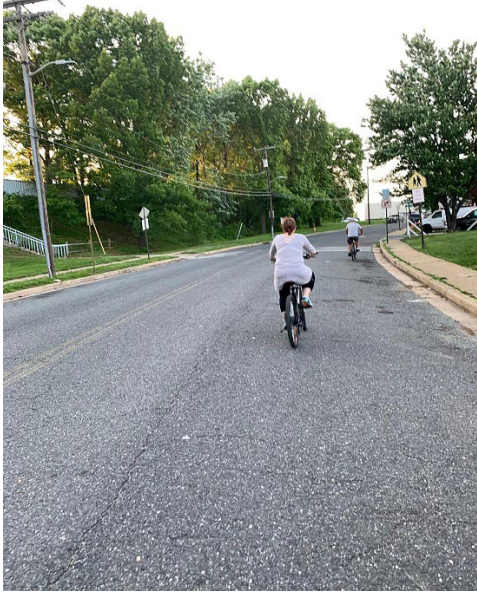



<b>Participant name*</b>	<b>Birth Year</b>	<b>Gender</b>	<b>Country of Origin</b>	<b>Number of Children</b>	<b>Annual Individual Income</b>
Paola	1985	Female	Mexico	2	\$20,000-\$30,000
Sonia <sup>†</sup>	1970	Female	Mexico	4	< \$20,000
Dilian	1983	Female	Guatemala	2	Prefer not to say
N/A <sup>#</sup>	N/A	Female	El Salvador	4	N/A
Claudia	1971	Female	Honduras	5	\$30,000-\$40,000
Marlene	1969	Female	Peru	2	< \$20,000
Karen	2001	Female	Mexico	0	Unsure
Tomas	2000	Male	Mexico	0	Unsure

\*Names are real with permission from participants with exception of name marked with † because this participant preferred for a pseudonym to be used.

# This participant's information is partially missing.



**Table 2.** Themes identified by Latinx immigrant photovoice participants (n=8) exploring community assets and barriers to childhood healthy weight in Baltimore, Maryland.

<p><b>Theme 1: Family habits</b> Assets</p>  <p><b>Quote 1</b> “Las actividades diarias que hago con mis hijos.” “Daily activities that I do with my kids.”</p>	<p><b>Theme 1: Family habits</b> Barriers</p>  <p><b>Quote 2</b> “Mis hijos quieren llegar a la casa y encontrar comida, es raro que les guste a cocinar. Yo no me paso en la casa así que ellos se pasan comprando pizza o comprando en McDonald’s.” “My kids like to come home and find prepared food –it’s rare that they like to cook. I’m not always at home so they end up buying pizza or eating McDonald’s.”</p>
<p><b>Theme 2: Cultural influences on food</b> Assets:</p>  <p><b>Quote 3</b> “No hay nada mejor que sentir los olores y sabores de mi tierra.”</p>	<p><b>Theme 2: Cultural influences on food</b> Barriers:</p>  <p><b>Quote 4</b> “En las celebraciones latinas siempre hay mucha comida. No podemos limitarnos cuando hay variedad de comida.”</p>

“There is nothing better than feeling and smelling the flavors from my country.”

**Theme 3: Built environment**

*Assets*



**Quote 5**

“Es una ventaja que podemos ir a un parque cerca.”

“It’s an advantage that we can go to a park close by.”

“During Latinx celebrations there is always a lot of food. We can’t limit ourselves when there is a variety of food.”

**Theme 3: Built environment**

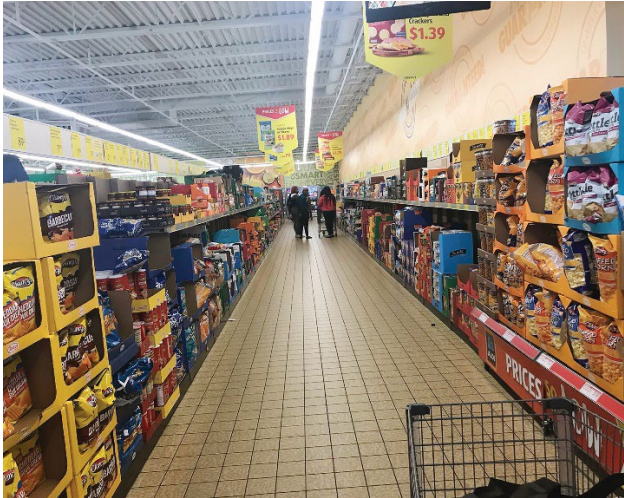
*Barriers*



**Quote 6**

“Esta imagen es de una tienda de la esquina que está cerca de donde vivo. Es una desventaja porque venden comida chatarra que contribuye a la obesidad.”

“This image is of a corner store that is close to where I live. It is a disadvantage in our community because they sell a lot of junk food that contributes to obesity.”

	<p><b>Theme 4: Marketing emphasis</b> <i>Barriers</i></p>  <p><b>Quote 7</b> “En el supermercado cuando tu recorres por varios pasillos vas a encontrar la golosina. Y todo es muy barato, una naranja cuesta \$1 mientras que las papitas están 3 por \$1.”</p> <p>“When you are walking through the various aisles at the grocery store, you are going to find junk food. The junk food is very cheap – one orange costs \$1 while chips are 3 for \$1.”</p>



**Table 3.** Themes identified through qualitative data analysis of photovoice participant reflections.

<p><b>Motivated by Health</b></p> <p><b>Quote 8</b> “Más que yo, quizás conmigo cueste, pero por lo menos tratar de que a los niños, ellos si vayan viviendo mas saludables que lo que yo viví [...] Creo que yo llegué a este grupo por mis hijos porque yo siempre quiero saber, como, más sobre la salud para mis hijos; lo que yo puedo hacer mejor para mis hijos.”</p> <p>“[I participated to] at least try to make my children live more healthily than I have lived [...] I think I came to this group for my children because I always want to know, like, more about health for them; what I can do better for them.”</p>
<p><b>Growth through Group Sharing</b></p> <p><b>Quote 9</b> “Y las ideas que aportamos cada una de las compañeras, de compartir nuestras fotos, compartir lo que pensaban, fue que de esa forma uno definitivamente se fue educando, informando [...] [sobre] una vida saludable.”</p> <p>“And the ideas that each one of the members contributed, through sharing our photos, sharing what they thought, that was how you learned and became informed [...] [about] a healthy lifestyle.”</p> <p><b>Quote 10</b> “...aunque somos de una misma, digamos, cultura, se puede decir, somos hispanos y todo pero tenemos diferente, no sé, forma de hacer cosas. O sea, conocer otras cosas que ni siquiera se nos cruzaban por la mente.”</p> <p>“...even though we are from the same, let’s say, culture, you could say, we are Hispanic and everything but we have different, I don’t know, ways of doing things. In other words, getting to know other things that hadn’t even crossed your mind.”</p>
<p><b>Value in Representation</b></p> <p><b>Quote 11</b> “Lo que fue significativo [...] fue a la comunidad [...] latina. Latina que nos enfocamos, que si ha habido un realce de obesidad. Entonces, estamos viendo que está pasando algo, aquí es donde vamos a poner algo, la primera piedrita para cambiar algo. Entonces es bonito porque estás en un país donde no es el tuyo y están pensando en ti.”</p> <p>“What was significant [...] was the community [...] Latina. We focused on the Latina community, and obesity has been highlighted. So we are seeing that something is happening, here is where we are going to put something, the first step to changing something. Then it’s beautiful because you are in a country that isn’t your own, and they are thinking about you.”</p> <p><b>Quote 12</b></p>

“Me encantó que prácticamente lo hicimos entre todas! Porque desde el tema hasta el contenido, todas que participamos, no solo fue solo una o dos, no fueron solo ustedes, entonces, me gusta eso porque normalmente no pasa eso de que se nos escuche. Y me gustó eso de que nos escucharon, nosotras las que estamos pasando ese problema...”

“I loved that practically we all did it! Because from the themes to the content, we all participated, it wasn't only one or two, it wasn't only you all, so, I like that because normally that doesn't happen from what you hear. And I liked that you listened to us, the ones who are dealing with the problem...”

### **Empowered to Lead by Example**

#### **Quote 13**

“Hace poco fuimos a un lugar a comer hamburguesas. Mis hijos comieron hamburguesas y yo me comí ensalada. O sea, me ayudó bastante a mí porque ellos se me quedaron viendo. Les gustó también y estaban picando de mi ensalada. Ven que es bueno comer rico y se come y se queda como que el estómago ligero, pero queda sustento.”

“A little while ago we went to a place to eat hamburgers. My children ate hamburgers, and I ate a salad. It helped me a lot because they kept looking at me. They liked it too and were picking from my salad. They see that it's good to eat tasty food, and they can get sustenance with a light stomach.”

#### **Quote 14**

“¡Ya me puse más en confianza!”

“Now I'm more confident!”

## Appendix A: Photovoice Participant Reflection Questions

*Thank you for participating in our photovoice project. For the next 20 minutes, we would like to better understand your motivation for taking part in the project, what you liked, and what you didn't like about the project. We would love to hear your honest opinions whether they are good or bad. We hope that your feedback will help us improve future photovoice and community projects conducted at Centro SOL. We will be audio recording this interview so we can transcribe and report your feedback as accurately as possible. Your name will be completely de-identified. This data may be used in future publications or presentations.*

*Do you have any questions before we begin?*

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1. Why did you take part in the photovoice project?
2. Did you participate in other groups in your community before the Photovoice project?
3. Did you learn anything new?
  - a. About yourself?
  - b. About your neighborhood?
  - c. Were there topics that came up, and that were new to you?
4. Describe the experience of other people viewing and giving feedback based on your photos
5. What could have been better about the Photovoice project?
  - a. If you could change anything about the photovoice project and process, what would it be?
6. What was meaningful to you about this project?