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## What walking means to moms: Insights from a national sample to frame walking in compelling ways to low-income urban mothers

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## ABSTRACT

Population-wide initiatives aim to educate individuals about the benefits of walking, such as *Step It Up!* (United States), *Walking for Health* (England), and *Canada Walks* (Canada). Low-income women are a strategic group to target for walking communications because lower-income individuals and women have lower rates of physical activity than the general population and men. For messages to motivate mothers to walk, however, they need to frame walking in ways that makes walking sufficiently relevant and compelling. We investigated what walking means to low-income urban mothers as a first step toward identifying more compelling and motivating ways to frame and communicate about walking to them. Focus groups were conducted across seven different urban areas in the United States among low-income urban mothers ( $n=52$ ) and transcribed. Grounded theory was used to code and analyze the data. This study identified salient beliefs, barriers, and life concerns that should be addressed when framing and branding walking to low-income urban mothers. Communications emphasizing dose-based recommendations (e.g., time, intensity) are irrelevant to mothers' lives and also appear to be confusing as well as ineffective motivators. While some participants desired experiential benefits from walking, such as time with family, others sought instrumental benefits, such as losing weight. Regardless of the benefits desired, however, there was a general consensus that walking was a low daily priority. Thus, for messages to successfully promote walking, they need to imbue walking with a compelling meaning that makes walking relevant to mothers in ways that can help them achieve their daily needs and wants. In addition, future communications should address the potentially negative meanings and stress low-income mothers experience when walking is a compulsory form of transportation. These data offer insights into preliminary suggestions for framing walking to boost its daily relevance, desirability, and usefulness to low-income urban mothers.

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## 1. Introduction

Walking is a promising strategy to improve public health (Lee and Buchner, 2008) because it is health promoting, accessible, and convenient for most people regardless of their age or health status (Dunton and Schneider, 2006). Individuals who walk are three times more likely to meet recommended levels of physical activity compared to those who do not walk (Berrigan et al., 2012; U.S. Department of Health and Human Services, 1996). Population-wide initiatives aim to educate individuals about walking's benefits, including *Step It Up!*, the U.S. Surgeon General's Call to Action to Promote Walking and Walkable Communities (Office of the U.S. Surgeon General, 2015), *Walking for Health* in England (Walking for Health, 2016), and *Canada Walks* (Green Communities Canada, 2016).

For such initiatives to have the greatest impact, however, it is important to understand how to increase walking among disadvantaged groups who have unfavorable walking trajectories (Barnett et al., 2008). Low-income urban mothers engage in less physical activity than the general population and men (Schiller et al., 2012; U.S. Department of Health and Human Services, 1996). In addition, mothers are the primary gatekeepers of their children's and family's lifestyle and make 80% of health-related decisions (Kaiser Family Foundation Report, 2011; U.S. Department of Labor, 2013), making them a strategic group to target for increased walking. However, messages promoting walking must effectively motivate action by *gaining the attention* of mothers amongst competing marketing information (Lupia, 2013) and also *persuade* them that walking brings relevant benefits into their daily lives (Segar, 2015).

Traditional strategies and messages to promote walking and physical activity around the world have used dose-response prescriptions based on assumptions that logical outcomes, such as “better health”, “disease prevention”, and “weight control” make walking sufficiently compelling to adopt and sustain. However, after decades utilizing these traditional medically focused messages, progress has been disappointing and physical activity participation remains low across the globe (Carlson et al., 2010; World Health Organization, 2008). In the United States and England, 31% and 34% of individuals, respectively, self-report meeting recommendations (Centers for Disease Control and Prevention, 2010; Department of Health, 2011). However, these rates might be severely inflated because accelerometry data show that only 9.6% of Americans, 15% of Canadians, and 5% of adults in England meet recommended levels (Cardinal, 2009; Colley et al., 2011; Tucker et al., 2011). While inactivity is a result of many complex factors (Brownson et al., 2005), there is a need to identify how to make walking more relevant and compelling to individuals, especially among socially disadvantaged groups.

Branding is a promising and strategic approach to improve the framing and promotion of walking (Evans et al., 2015). It purposefully aims to create positive feelings and perceptions about a product, service, or behavior so people will identify with it and desire it over time (Evans and Hastings, 2008). The CDC's VERB “It's What You Do,” campaign effectively used branding to positively influence physical activity attitudes and behaviors of children aged 9–13 years old directly exposed to the campaign two years after the campaign ended (Huhman et al., 2010).

The power of a brand to influence behavior is determined by consumer experiences with that branded behavior (or product), how they experience it, feel about it, and what it means and symbolizes to them. However, it is crucial to understand the dominant narratives and meanings about a behavior *before* formulating frames and targeted communications that brand it (Evans and Hastings, 2008; Frameworks Institute, 2016). The purpose of this study was to understand what walking means and symbolizes to low-income urban mothers within the context of their current daily lives. Specifically, we aimed to 1) identify their most salient daily concerns, 2) understand their assumptions about walking, and 3) explore the role of walking in their daily lives and how they view walking as linking to, facilitating, and/or interfering with their key daily priorities.

## 2. Materials and methods

### 2.1. Participants and recruitment

Focus groups were held among a convenience sample of low-income urban mothers in seven urban sites across the United States selected by researchers from the Physical Activity Policy Research Network (PARPN); the recruitment process varied by site. The PARPN is national research network funded by the CDC to study the effectiveness of health policies on increasing physical activity in communities (PARPN, 2014). Focus group leaders worked with local organizations that served low-income communities for participant recruitment in addition to placing flyers in Women, Infants, and Children (WIC) offices and newsletters. Inclusion criteria included being a low-income female caregiver (over 18 years old) of elementary school children (K-5<sup>th</sup> grade), and living in an urban area, (population density > 50,000). The focus groups were held between October 2013 and February 2014 in Atlanta, GA; Detroit, MI; Charleston, WV; Manhattan, KS; New Orleans, LA; East St. Louis, IL; and Waco, TX. Researchers at each site secured Institutional Review Board approval prior to recruitment.

### 2.2. Measures

#### 2.2.1. Quantitative

Participants completed a self-report demographic survey prior to the group discussion. Physical activity participation was assessed using validated self-report questions about moderate-intensity physical activity participation as well as walking in bouts > 10-minutes (UCLA Center for Health Policy Research, 2007).

#### 2.2.2. Qualitative

In order to understand the meaning and dominant discourse about walking inductive qualitative methods were used. Specifically, we used the journalistic questioning strategy to understand the participants' perceptions and meaning of walking by framing our inquiry with the “W's of walking (Porter, 2010): Why walk? Where is walking among your daily priorities? What counts as valid physical activity and walking? Who walks? When do you walk?” Where do you walk and where does it sit on your daily priority list?

### 2.3. Procedure

Focus groups were led by one or two research team members. Each adult participant was given a gift card with a cash value of \$25 and free childcare and refreshments were provided. The focus groups were audio recorded. Each audio recording was transcribed verbatim and verified by the focus group leaders for accuracy.

## 2.4. Coding and analysis

Text from the seven transcripts was extracted and inserted into a data file, organized by the “W” questions. First, the data was reduced into meaningful chunks using grounded theory and open coding (Patton, 1990; Strauss and Corbin, 1998). In this phase of coding, the first author reviewed the raw data multiple times, identifying emergent codes, and exploring them for similarities and connections. A preliminary coding guide was organized by each set of “W” questions and then reviewed by co-investigators who recommended refinements to the codes resulting in a final coding guide. Categories in the coding guide were not mutually exclusive; participant comments frequently fit into multiple categories. The first author and a second investigator independently coded a designated section of the data using tally marks noting frequency, focus group city, exemplar text, and noted initial ideas about the meaning of the data and codes. After completing their coding, the coders reviewed each other's results and then discussed similarities and differences. New codes arose in the process of coming to consensus. The two separate coders analyzed the data within each question category for higher-order, emergent themes (Strauss and Corbin, 1998). Next stage analyses included multiple iterations of synthesizing the findings across questions and checking back with the raw data until the final key themes were identified (Henderson et al., 1999).

## 3. Results

### 3.1. Demographics

Of the 52 participants in the seven cities, 25 were African American (48%); 11 were white (21%) and 11 were of Hispanic origin (21%). Overall, the vast majority of participants had graduated from high school, with 21 having completed high school (40%) and 28 having attended at least some college (54%). In general, focus group participants were low-income; 29 participants (56%) made less than \$15,000 per year. Average age was  $35 \pm 9$  years. Participants had an average of two children in elementary school with an average age of  $7.5 \pm 4$  years.

Almost all participants (84.6%,  $n=44$ ) reported engaging in moderate physical activities for at least 10 min at a time in a usual week. Total time in moderate physical activity ranged from 3–120 min per day (mean =  $36 \pm 28.6$  min). Most participants also reported walking for at least 10 min at a time (i.e., bout) in a usual week (82.7%,  $n=43$ ). Participants reported 1–30 walking bouts per day (mean =  $3.5 \pm 2.2$ ) and 2–10 walking bouts per week (mean =  $4.6 \pm 1.8$ ).

### 3.2. Themes

The discussion is organized around the five key themes that emerged.

#### 3.2.1. Differences in beliefs about walking as a valid form of exercise

In general, there was little agreement among participants within and across focus groups about whether walking ‘counted’ as exercise. Some believed that walking did not count as exercise because it did not generate sufficient exertion. However, most participants did believe that walking “counted” as exercise, as long as walking met specific criteria such as being performed for a certain length of time, distance or specific intensity level. The criteria mentioned varied greatly among participants, with some needing to feel “winded,” or “sweat,” during their walk for it to “count” as exercise. Others believed that walking for short periods of time (e.g., 5 min) did not count. While some participants considered the walking they did as part of performing their daily roles and responsibilities as valid exercise, others did not believe this type of walking counted. The two statements below illuminate these opposite views:

Participant: “And you do a lot of walking throughout your day, then you don't actually think about it, but you do. So not just ... like ... you're not just exercising.”

Participant: “People walk every day ... going to work ... when you wake up in the morning, you get up and you get dressed and get in your car and drive your kids to school and go to work, you're walking when you're doing all that. You're not walking like at a really fast pace, unless you're in a hurry, but I still think it's exercise.”

#### 3.2.2. Mothers walk for different reasons

There was extreme diversity in the reasons that mothers gave for why they walked. Some were “instrumental” reasons, aiming to achieve a specific outcome from walking, such as losing weight or active transport to work). Others were “experiential,” based on what they experienced when walking (e.g., energy, camaraderie).

**3.2.2.1. Walking as instrumental.** For many participants, walking was *instrumental* – it aimed to achieve a specific goal (e.g., to exercise, for weight loss, to walk the dog) or done out of necessity (e.g., they did not have a car or money for the bus). Many participants spoke about walking for utilitarian reasons such as getting groceries or going to the bus stop to get to work. Others said they walked as part of their paid or unpaid work. Participants who walked during their paid work said that, when they were off work, they wanted to sit down and “put their feet up.” Some participants said that they “constantly” walked as an inherent part of meeting their daily needs, such as going up and down stairs, doing laundry, cooking, cleaning the house, and taking their kids to school.

Some participants said they valued walking for other types of instrumental reasons, too, such as improving health and losing weight. Some comments about walking for health suggested that participants viewed their health as a resource they need to care for their children:

Participant: “I mean for myself, I definitely want to be healthy, because I have young kids and I want to be able to be here for them until they're grown.”

Comments about losing weight through walking were often said “tongue in cheek,” reflecting unrealistic expectations or lack of commitment:

Participant: “Just walked ten minutes and I lost 60 pounds. [Laughter].”

Participant: “you know you’re going to lose weight doing it, if you’re consistent with it ... but I don’t know ... bring it up again tomorrow. [Laughter].”

In addition, walking with their children and family was often done for instrumental reasons, such as being role models for their children and getting children active to improve their health. Other participants noted that getting their kids outside to walk and be physically active was mutually beneficial because it helped their kids “burn off” energy which made night time tasks, like bathing and getting them to sleep, easier for mothers.

**3.2.2.2. Walking as experiential.** Participants also identified *experiential* reasons to walk, benefits they immediately experienced such as feeling better, feeling more energetic, and helping with “clear(ing) out their heads.” Many participants mentioned how much they enjoyed walking in fresh air, especially in parks that were safe. When they walked outside in nature, some often walked longer than intended, without realizing it.

Many also passionately discussed walking as a specific time to be social, bond, and connect with important others. They enjoyed walking with friends because of the common life experiences they shared, such as being overweight and having similar life challenges:

Participant: “Sometimes it’s nice to go with friends, because then you can talk, and also de-stress some stuff.”

Some spoke about walking with their families and children as “us time,” a good way to be together and catch up. For some, walking with their families was relaxing and helped provide a greater perspective on their real life stressors: One participant commented:

“Because like they said it’s family time. It’s time to like to talk about things...Even, like, if you’re in a bad mood, it starts making you think about things. Okay, you know what, yeah, I owe this bill, but guess what? It’s going to be okay.”

In contrast, however, some explicitly noted that they could *not* get experiential benefits, like reduced stress, from walking if they walked with their kids because their kids often complained or walked at a slower pace:

Participant: “... Like, we shouldn’t have brung her. She should’ve stayed at the house, because this 30-minute walk has turned into an hour kind of thing.”

Also, some mothers discussed walking as “me time;” a way to get away from responsibilities such as childcare, and renew themselves:

Participant: “Get out and go take a 30-minute walk, just to get away and me ... like, nothing selfish, but me time.”

Participant: “I mean I walk to just ... keep my mind clear...and there’s nothing, there’s no noise, there’s no kids, there’s nobody wanting anything from me...I’m relaxing.”

### 3.2.3. Walking is a low daily priority

In contrast to the low agreement within and across focus groups about most questions, there was strong agreement about the idea that walking was a low priority compared to mothers’ other daily roles and responsibilities. In general, many participants viewed daily walking as competing with and being trumped by other more important priorities, such as meeting their family’s basic needs. One participant stated:

“...it is kind of last on my list being that I’m working and going to school and doing everything in between, so at the end of my day I kind of put it there.”

A few participants, however, did report that walking was a high priority for them. They said it helped them lose weight (e.g., instrumental benefit) or helped them relax (e.g., experiential benefit). Yet, even among the participants ranking walking as a high priority, fitting walking in was frequently noted as being contingent upon other things happening.

Participant: “So, it’s after taking care of everybody else, and then when I have my time, I do it.”

Participant: “...as long as the house is clean, and as long as there’s someone to watch the kids, I will get it in.”

In addition, when discussing walking as a high priority, it was often described as an ideal; something they valued and wished they did, but didn’t necessarily do consistently. When discussed as a priority, walking was described in the past tense, as something they used to do and wished they still did. Conditional language, such as I “wish” or I “would,” was also commonly used by the mothers describing walking as a high priority. Other participants said that they would make walking more of a priority if it delivered faster, more dramatic, and guaranteed weight loss. One participant stated:

“...If I could go walking for ten minutes and lose a pound a day...”

The challenges of being active once becoming a parent were also mentioned. Some spoke about the difference between what they prioritized before they had kids and afterwards:

Participant: “...Before kids, it was a priority to exercise. Now you’ve got the kids and house and yard and life ... it just kind of like falls further down the totem pole.”

Yet, even though those participants reported that they *would* make walking more of a daily priority if they had camaraderie, lost more weight from walking, or it helped them feel better, they also mentioned that they consistently put their own needs *after taking care of everyone and everything else*:

Participant: “Because I’ve got more important things to do than to be able to go walking. Walking is like a pleasure thing... And to put your pleasures above your housecleaning and your laundry ... yeah, walking would come last.”

**Table 1**  
Strategies for walking.

Strategy	Example
<b>Make walking a “we” thing</b>	“I’m walking with my family...We’re walking around for like an hour, and we’re like talking and thinking what we’re going to do next week, and something, and so that’s relaxing to me.”
<b>Use walking to soothe baby</b>	“Because she does not want to go to sleep...and I think even just walking, because I live here, close by...CVS... and I think just walking quite a few times... up and down the block and that, I think that’s going to help her to sleep, so I can get other chores done, and then I did my walking too.”
<b>Building in extra steps</b>	“I just make an extra effort to take the long direction wherever I’m going to go... We park at the end of the ... when we go to the grocery store, we park at the very end, not just because I don’t want my car dinged, but we park at the very end. It was one of my yearly resolutions, like three years ago to always park at the end every time we went to a parking lot, and so I just kept it.”
<b>Do different activities w/kids</b>	“[Child’s Name] and I used to go on what I call bike-walks. She’d ride her bike and I would walk.”
<b>Walk in stores or malls</b>	“And I don’t even have to buy anything. It’s just nice to walk around. It’s like I have to come back and buy this. You pray that you didn’t bring money with you, because you’re going to leave out pretty broke.”
<b>Walk in the neighborhood or going to a park</b>	“You don’t want to take the kids with you for exercise at Walmart, because then you’ll probably end up buying something really. So, the park is probably like the best place if you’re like with the family, doing all that”

### 3.2.4. Walking contexts and strategies differ

There was no agreement about the best day(s) of the week or time(s) of day to walk, which depended entirely on participants’ unique schedules and needs. Most said that they did not like walking in their neighborhood. While a few mentioned lack of walkable sidewalks as a barrier to walking in their neighborhoods, most reported that feeling unsafe was the greatest barrier (e.g. roaming dogs, shootings, and drug sales):

Participant: “...you don’t want to walk because you’re afraid you’re gonna be mugged.”

Across the board, whether a park or another outdoor place was considered a good location for walking varied according to local climate and specific features of local neighborhoods and communities. Seasonality and geographic region also strongly influenced the desire or dread of walking outside. Throughout the conversations, some participants described strategies that helped them walk (see Table 1). Half of the strategies they mentioned reflected combining walking with time spent with children and families. Other strategies reflected walking in designated places such as a park or mall.

### 3.2.5. People who walk are different from and similar to me

Most focus group participants perceived older individuals as those who *regularly* walked, while some also mentioned “women” and “rich people who live in the suburbs.” When we asked whether people who walked were similar or different to them, participants’ comments primarily focused on income-status. Some participants said that walkers were different than them because they were “white” or “rich” and had the luxury of time to walk. One participant stated, “They’ve got all the time in the world.” Others said that walkers were similar to them because they cannot afford an alternative to walking. One participant stated people walk, “Because they ain’t got no car.”

## 4. Discussion

The purpose of this study was to investigate what walking means and symbolizes to low-income urban mothers. This study identified salient beliefs, barriers, and life priorities and concerns that should be addressed during the process identifying the walking benefits that will be most compelling to low-income urban mothers, as part of developing an optimal brand, frames and/or messages for them. Messages promoting walking are more likely to be successful and beneficial if they imbue walking with a compelling meaning that makes it relevant to helping them achieve *their* daily needs and wants (Lupia, 2013; Segar and Richardson, 2014).

Among the most important findings from this multi-city study is that when it comes to walking *one size does not fit all*. Both within and across focus groups, there was a lack of consensus on most questions and topics. Participants reported distinct reasons for walking, both instrumental (e.g., walking for transportation, better health) and experiential (e.g., connecting with family and clearing one’s head). While in general, walking with family and friends generated passionate discussions, others walked as a way to be alone, clear their minds, and escape their responsibilities. Whether a neighborhood or park was viewed as a good or bad place to walk was determined by its features, especially safety aspects. Similarly, whether walking outside was positive or negative differed by region and season. In contrast, the single issue that most participants agreed on was that they considered *walking to be a low daily priority*. The rest of this discussion addresses three major issues raised by this research and their implications for framing and branding walking to low-income urban mothers.

### 4.1. Rethink how we communicate physical activity recommendations

One of the goals of this study was to identify whether low-income mothers perceive walking as “counting” as valid exercise. Study participants reported a variety of criteria for walking to “count” and be worth doing, and many perceived themselves as walking constantly through activities of daily living, such as chasing after their children and doing laundry. Walking already appears to be a regular dimension of these mothers’ daily lives. Furthermore, for some mothers, the needs of their daily lives supported walking, while for others, their needs inhibited walking. Some participants considered the walking they did as part of their daily roles and responsibilities as valid exercise, but others did not, similar to other research (McGannon, 2002). This varied understanding about what counts as valid exercise is not limited to this sample of low-income mothers. In fact, there appears to be widespread confusion across demographics and regions about what is needed to meet the federal recommendations (Kay et al., 2014). While one study in Hawaii showed that 46% of participants reported that health experts recommend 30 daily minutes of physical activity (Heinrich et al., 2011), other research suggests a vast

majority do not understand the current recommendations of 30 min of moderate-intensity physical activity on most days per week for a total of 150 weekly minutes (US Department of Health and Human Services, 2008). A recent nationally representative survey in the United States found that less than 1% of American adults understood these moderate-intensity level physical activity recommendations (Kay et al., 2014). In addition, people who walk all day long for their paid work, such as hotel cleaning staff, do not understand that their activity “counts” as valid exercise (Crum and Langer, 2007). Communications focused on dose-based recommendations lack *relevance* to low-income mothers daily needs and roles (Bentley et al., 2015) and because of that are likely ineffective motivators for walking.

As many of the participants did not appear to understand that walking “counts” as exercise, it is important to consider whether framing walking explicitly “as exercise” in future promotional campaigns would be beneficial. In a related study, scholars asked female participants to take the same one-mile walk, but they were randomized to receive two different messages about its purpose (Werle, 2014). One group was told that the walk was for ‘exercise’ while the other one was told it was for ‘fun’. Participants who walked thinking it was for exercise ended the walk in a worse mood and chose to eat more unhealthy foods compared to the group informed that the walk was for fun, suggesting that framing walking as “exercise” is not ideal. Yet another study among hotel cleaning staff challenges the idea that framing ‘walking as exercise’ would be non-optimal (Crum and Langer, 2007). This study randomized one group to receive messages that their work-related physical activity “counted” as valid exercise while the other group was not given this information. Participants in the experimental condition changed their perceptions and reported beliefs that their work “counted” as valid exercise; they also had improved health outcomes compared to the control group.

The effectiveness of framing walking as “exercise” may differ depending on context and population. Perhaps framing walking as valid exercise for mothers who have no choice about whether they walk (due to financial necessity) might help them view walking in a more beneficial way. Yet, among individuals who have choice about their mode of transportation and leisure time, framing walking as “exercise” may turn it into “work,” making it less attractive, and increasing perceptions of effort and physical exhaustion, compared to framing it as fun or another type of valued outcome or experience (Laran and Janiszewski, 2011; Werle, 2014).

Instead of promoting walking with specific time- and intensity-based criteria, as currently used in traditional physical activity messaging, it might be beneficial for messaging to highlight the spaces and times that exist in a mother's daily life to walk (Vrazel et al., 2008), regardless of how much time is available, along with suggested strategies for fitting it into a mother's and family's daily lives. This new “life-space” communication strategy encourages mothers to seek out walking opportunities as being valid and useful, and fostering a habit of and value for walking within their mothering roles and work responsibilities. This promotion strategy is supported by a previous national, branding campaign targeting children that showed increased, sustained physical activity from encouraging being active “anywhere, anytime” and “by your own rules” (Huhman et al., 2007; Huhman et al., 2010). Furthermore, this proposed strategy is not only respectful of the many constraints to walking that mothers report, but it helps embed walking within the gender-specific roles and spaces that naturally exist in their day (Vrazel et al., 2008), making walking relevant to *them*, as past research on physical activity among women advocates (Tudor-Locke et al., 2003). This may help mothers feel more autonomous about walking as well as more easily fit it into their schedules, potentially further enhancing their self-efficacy for walking. Given that self-efficacy has been identified as an important predictor of physical activity among women (Eyler et al., 2002) and single mothers (Dlugonski and Motl, 2014), framing walking as “easy to fit in” via this suggested strategy might be especially important for low-income mothers.

#### 4.2. Connect walking to mothers' daily priorities and values

An individual's primary reason, or goal, for choosing a behavior such as walking influences whether they stay motivated to prioritize that behavior against the other goals with which it constantly competes (Segar, 2015; Gaudreau et al., 2012; Segar et al., 2008). Because of this, it is very important to study the reasons why mothers report walking. However no one single reason for walking stood out within and across focus groups.

Some participants desired experiential benefits from walking, such as time with friends or family, while others sought instrumental benefits, such as losing weight and/or improving health. Yet, despite their mostly positive feelings about walking, it was generally discussed as *a low priority when compared to their daily roles and responsibilities*. In general, walking was perceived as irrelevant in helping them meet their family's most salient daily needs. In addition, among the few who said walking was a high priority, their use of past, future, and conditional language (e.g., I would walk if...) suggests that walking was a priority in theory, but not in reality.

Despite unrealistic weight loss expectations from walking, some participants said they would walk to benefit their health and lose weight. Individuals often endorse health and weight reasons because they reflect the dominant socialization people have had about the purpose of being physically active (Segar et al., 2011). Despite being frequently cited, however, logical cognitive reasons to walk (e.g., lose weight, improve health) are not likely to motivate the consistent daily decisions that underlie sustained walking (Alvarado et al., 2015) because affect is considered to be a stronger motivator of choices related to walking and other health behaviors (Conner et al., 2015; Lawton et al., 2009).

In contrast, walking for *experiential* benefits, such as walking for stress release or social connection, delivers immediate, positive feedback. In fact, when walking was done with important others or in a pleasant outdoor setting, participants said they often walked more than they had intended due to these positive experiences. Many participants specifically reported enjoying walking as a way to connect and have fun with others, and half of the strategies mentioned by participants included doing it with their children and families. This aligns with other research showing that being physically active is often valued more for social connection than it is for health (Ivory et al., 2015). Motivational benefits from connecting-through-physical activity are not surprising given that children, family, and friends were discussed by participants as both priorities and sources of joy. In fact, family context and relationships are among the best predictors of meaning and life satisfaction among adults (Fave et al., 2013).

In addition, mental restoration from physical movement is commonly valued over and above health reasons (Ivory et al., 2015) and has also predicted higher physical activity participation among women (Segar et al., 2008). For our participants, other immediately experienced benefits from walking included vitality, to clear their minds, and feel better. In fact, promoting walking as a way to enhance aspects of immediate well-being might be an especially salient motivator for women (Segar et al., 2012). In a safe context, walking offers a no-cost way to boost well-being.

However, while decision making and motivation science would suggest that walking for immediate “feel better” reasons and well-being will optimally motivate walking (Segar and Richardson, 2014), this strategy alone might not be successful among low-income mothers: *more pressing* daily priorities take precedence over a mother achieving something for *herself*, whether fun, stress reduction, or even health and weight loss from walking. Many participants explicitly mentioned that their own self-care needs came last, after everyone and everything else. Even participants who said that they *wanted* to walk reported that their pleasures came last. This suggests that even if walking were to deliver their desired experiences and outcomes, because mothers put their own wants and needs last, walking would still remain a low priority.

Therefore, it may be important to frame walking as a daily leisure activity that can deliver immediate positive outcomes that mothers want (“me time,” “clearing my mind,” etc.) but in a way that models how feeling better actually *facilitates their goals related to the people and things that they care most about* (e.g., children, work). This suggestion is supported by the long-term use of the pharmaceutical industry’s direct-to-consumer’ marketing that frames a behavior (or drug) as the means to optimally feel and function (playing with grandchildren, sexual performance, etc.) (Ridberg et al., 2006), as well as by consumer research showing that people pursue goals and experiences in their daily lives that reinforce their sense of identity (Beverland and Farrelly, 2010).

These findings suggest that framing and branding walking as a key way mothers can connect with and also help important others be active could be powerful motivators. In fact, one recent study found that among women, relational motivation predicts effort and progress related to being active (Gore et al., 2016). As suggested by participants, making walking a “family-wise” activity might be especially compelling because mothers tend to not see their own activity level as related to their children’s activity level (Pesch et al., 2015). Furthermore, framing walking *as a way to connect* with important others aligns with new evidence-based recommendations from leading walking organizations (America Walks, 2015).

However, while walking with other people (e.g., a “we” thing) delivered immediate positivity from connection for some, others reported the need to “disconnect” from others, especially their children, to achieve their desired restorative benefits (e.g., a “me” thing). Thus, there appear to be important individual differences about whether mothers will most benefit from walking when they are alone or with others.

In addition, although connection, camaraderie, and family time may motivate a *desire* to walk for leisure among mothers, these relational benefits are unlikely to override other contextual issues related to safety, climate, priorities, and schedules. Women in low-resource communities may not have access to safe places for walking (Bostock, 2001) or be aware of strategies to help fit walking into their complex lives. Therefore, as participants themselves suggested in the focus groups, it is important for next-stage walking promotion to also model and teach tangible strategies regarding *how* mothers can overcome barriers and fit walking into their day, in addition to emphasizing personally relevant motivators (French et al., 2012). This might include, for example, designing advertisements discussing walking as a strategy to soothe a baby while a mother clears her head, showing mothers talking while enjoying a neighborhood walking group, and/or modeling how close others can provide tangible support (e.g., watching their kids) to enable mothers to walk (Siceloff et al., 2014).

#### 4.3. Think critically about walking identities

Participants considered whether walkers were similar or different from them primarily based upon perceptions of financial resources, suggesting subtle underlying meanings and issues related to privilege and class that walking marketers and advocates must acknowledge and address. For example, what might walking as active transport mean or symbolize to low-income women within a cultural context? Having a car reflects access to assets, while lack of car ownership is used as a standard marker of low socio-economic status (Bostock, 2001). Some participants said they walked out of necessity, to avoid paying for the bus or to save on gas money. While promoting walking as active transport seems like a good idea to benefit mothers’ health, research among low-income mothers has found that walking as obligatory transport actually undermined their well-being (Bostock, 2001). Bostock (2001) notes “[low-income] mothers use their bodies as a means to bridge the gap between responsibilities and resources,” in a situation where they have little control over their physical environments. When walking is a compulsory form of transportation it may reinforce disadvantage and lack of choice, and as a result, cause physical fatigue and psycho-social stress (Bostock, 2001; Green, 2008).

Because identifying with the type of people who do a behavior is important for consumer decisions, walking messaging and images should model and convey that walking is an activity *for mothers* as well as everyone else they love and want to spend time with (Vrazel et al., 2008). To foster a walking identity, promotional materials might show images of mothers of all sizes and colors walking in parks and neighborhoods, enjoying spending time with their children, family, and/or friends.

#### 4.4. Strengths and limitations

A key study strength is investigating the underlying meaning of walking among a strategic demographic group when global walking initiatives are seeking more effective ways to motivate increased walking (Green Communities Canada, 2016; Office of the U.S. Surgeon General, 2015). Our data came from seven focus groups conducted in different United States geographic locations and were collected among low-income ethnically diverse urban mothers; a disadvantaged group at high risk of developing illnesses like cardiovascular disease and diabetes. Our findings offer new translational insights about what walking means to this population, especially in relation to their top daily roles and responsibilities, and makes preliminary suggestions for new branding and communications strategies that can be tried in communities and evaluated in future walking interventions.

These findings cannot be generalized outside of populations similar to our study participants. In addition, our sample has some possible biases. Even though we aimed to recruit low-active participants, and the flyers advertising the focus groups asked for mothers who both liked and disliked walking, this topic might have preferentially attracted individuals who liked walking. However, some participants did report that they did not like to walk. Most participants reported meeting the daily recommendation of 30 min of activity despite their comments suggesting that they did not prioritize walking. Thus, we can’t know if participants’ physical activity was over-reported as is commonly found or reflected their actual walking.

If low-income mothers are already meeting recommended levels of participation, a question arises as to whether promoting additional leisure-time walking to them should be a public health priority? However, an alternative perspective on this question is that mothers who already meet guidelines, in addition to those that do not, would still benefit from learning new frames and reasons for walking: By reframing walking (in safe places) as beneficial, regardless of whether it is obligatory (e.g., walking for active transport or work actually “counts” as exercise) or is self-determined leisure time (e.g., walking can generate immediate positive experiences such connection and/or stress reduction and revitalize mothers for their daily priorities), mothers’ perceptions of and experiences and benefits from walking can be enhanced (Werle, Wansink & Payne, 2014; Crum & Langer, 2007). Furthermore, reframing walking in the ways we suggest are in alignment with the World Health Organization’s more holistic definition of health as a state of complete physical, mental and social well-being, and not merely the absence of disease or infirmity as has tended to be emphasized in the United States.

## 5. Conclusion

To date, the global framing and promotion of walking, and more generally physical activity, has featured public health goals and assumed that instrumental benefits such as “better health” and “weight loss” are sufficiently compelling to motivate behavior (Segar et al., 2011). Yet, emphasizing *our* public health goals in communications and promotions to the public is in stark contrast to the effective marketing practice of featuring *consumers’* needs and values (Evans and Hastings, 2008). These data reflect what walking currently means to low-income ethnically diverse mothers who live in urban settings, and offer insight into preliminary suggestions to boost walking’s salience and usefulness to them. Communications emphasizing dose-based recommendations (e.g., time, intensity) appear to be irrelevant to mothers’ lives as well as ineffective motivators (Bentley et al., 2015). Tentative suggestions to create more impactful communications include framing and branding walking as a specific activity that can facilitate mothers’ top daily priorities, especially as a pleasurable and meaningful way to spend time with and connect with friends and loved ones (America Walks, 2015; Gore et al., 2016; van Tilburg and Igou, 2013). Next-stage communications should also aim to address potentially negative meanings and psycho-social stress low-income mothers may have when walking is a compulsory form of transportation due to disadvantage (Bostock, 2001) or professional work (Werle, 2014).

This research suggests that there is an extreme diversity of walking preferences and barriers across individuals and communities. Thus, it appears important to identify systematic interventions that can help low-income urban mothers and their greater communities strategically decide which meanings and benefits of walking affirm who they are and what they value (Ivory et al., 2015) concurrent to creating safer and more walkable spaces for women and their families (Vrazel et al., 2008).

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MLS would like to disclose that she has an organizational consulting, speaking and behavioral training company and coaches individuals in how to sustain self-care behaviors.

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## References

- Alvarado, M., Murphy, M.M., Guell, C., 2015. Barriers and facilitators to physical activity amongst overweight and obese women in an Afro-Caribbean population: a qualitative study. *Int. J. Behav. Nutr. Phys. Act.* 12, 97.
- America Walks, 2015. Every Body Walk! Message Toolkit (<http://americawalks.org/every-body-walk-message-toolkit/>).
- Barnett, T.A., Gauvin, L., Craig, C.L., Katzmarzyk, P.T., 2008. Distinct trajectories of leisure time physical activity and predictors of trajectory class membership: a 22 year cohort study. *Int. J. Behav. Nutr. Phys. Act.* 5, 57.
- Bentley, G.F., Jago, R., Turner, K.M., 2015. Mothers’ perceptions of the UK physical activity and sedentary behaviour guidelines for the early years (Start Active, Stay Active): a qualitative study. *BMJ Open* 5, e008383.
- Berrigan, D., Carroll, D.D., Fulton, J.E., Galuska, D.A., Brown, D.R., Dorn, J.M., Armour, B., Paul, P., 2012. Vital Signs: Walking Among Adults – United States, 2005 and 2010, 61 ; , pp. 595–601.
- Beverland, M.B., Farrelly, F.J., 2010. The quest for authenticity in consumption: consumers’ purposive choice of authentic cues to shape experienced outcomes. *J. Consum. Res.* 36, 838–856.
- Bostock, L., 2001. Pathways of disadvantage? Walking as a mode of transport among low-income mothers. *Health Soc. Care Commun.* 9, 11–18.

- Brownson, R.C., Boehmer, T.K., Luke, D.A., 2005. Declining rates of physical activity in the United States: what are the contributors? *Annu. Rev. Public Health* 26, 421–443.
- Cardinal, B.J., 2009. Health Survey for England 2008: Physical activity and fitness. NHS Information Centre for Health and Social Care.
- Carlson, S.A., Fulton, J.E., Schoenborn, C.A., Loustalot, F., 2010. Trend and prevalence estimates based on the 2008 Physical Activity Guidelines for Americans. *Am. J. Prev. Med.* 39, 305–313.
- Centers for Disease Control and Prevention, 2010. Health Behaviors of Adults: United States, 2005–2007, Monitoring the Nation's Health, 10, 245, pp. 1–143.
- Colley, R.C., Garriguet, D., Janssen, I., Craig, C.L., Clarke, J., Tremblay, M.S., 2011. Physical activity of Canadian adults: accelerometer results from the 2007 to 2009 Canadian Health Measures Survey. *Health Rep.* 22, 7–14.
- Conner, M., Lawton, M.R., Gardner P, R., 2015. Basis of intentions as a moderator of the intention-health behavior relationship. *Health Psychol.* 35, 219–227.
- Crum, A.J., Langer, E.J., 2007. Mind-set matters: exercise and the placebo effect. *Psychol. Sci.* 18, 165–171.
- Department of Health, 2011. Start Active, Stay Active: A Report on Physical Activity for Health From the Four Home Countries' Chief Medical Officers. Department of Health Social Services and Public Safety.
- Dlugonski, D., Motl, R.W., 2014. Social cognitive correlates of physical activity among single mothers with young children. *Psychol. Sport Exerc.* 15, 637–641.
- Dunton, G.F., Schneider, M., 2006. Perceived barriers to walking for physical activity. *Prev. Chronic Dis.* 3, A116.
- Evans, D.W., Hastings, G., 2008. Public Health Branding: Applying Marketing for Social Change. Oxford, New York: NY.
- Evans, W.D., Blitstein, J., Vallone, D., Post, S., Nielsen, W., 2015. Systematic review of health branding: growth of a promising practice. *Transl. Behav. Med.* 5, 24–36.
- Eyler, A.E., Wilcox, S., Matson-Koffman, D., Evenson, K.R., Sanderson, B., Thompson, J., Wilbur, J., Rohm-young, D., 2002. Correlates of physical activity among women from diverse racial/ethnic groups. *J. Womens Health Gen. Based Med.* 11, 239–236.
- Fave, D., Brdar, I., Wissing, M., Vella-Brodrick, D.A., 2013. Sources and motives for personal meaning in adulthood. *J. Posit. Psychol.* 8, 517–529.
- Frameworks Institute, 2016. Strategic Frame Analysis. Retrieved from: February 22, 2016 (<http://www.frameworksinstitute.org/sfa-overview.html>).
- French, D.P., Stevenson, A., Michie, S., 2012. An intervention to increase walking requires both motivational and volitional components: a replication and extension. *Psychol. Health Med.* 17, 127–135.
- Gaudreau, P., Carraro, N., Miranda, D., 2012. From goal motivation to goal progress: the mediating role of coping in the self-concordance model. *Anxiety Stress Coping* 25, 507–528.
- Gore, J.S., Bowman, K., Grosse, C., Justice, L., 2016. Let's be healthy together: relational motivation for physical health is more effective for women. *Motiv. Emot.* 40, 36–55.
- Green Communities Canada, 2016. Canada Walks. Retrieved from: February 23, 2016 (<http://canadawalks.ca/>).
- Green, J., 2008. 'Walk this way': Public health and the social organization of walking. *Social Theory Health* 7, 20–38.
- Heinrich, K.M., Maddock, J., Bauman, A., 2011. Exploring the relationship between physical activity knowledge, health outcomes expectancies, and behavior. *J. Phys. Act. Health* 8, 404–409.
- Henderson, K.A., Ainsworth, B.E., Stolarczyk, L.M., Hootman, J.M., Levin, S., 1999. Notes on linking qualitative and quantitative data: the cross cultural physical activity participation study. *Leis. Sci* 21, 247–255.
- Huhman, M.E., Potter, L.D., Duke, J.C., Judkins, D.R., Heitzler, C.D., Wong, F.L., 2007. Evaluation of a national physical activity intervention for children. *Am. J. Prev. Med.* 32, 38–43.
- Huhman, M.E., Potter, L.D., Nolin, M.J., Piesse, A., Judkins, D.R., Banspach, S.W., Wong, F.L., 2010. The influence of the VERB campaign on children's physical activity in 2002 to 2006. *Am. J. Public Health* 100, 638–645.
- Ivory, V.C., Russell, M., Witten, K., Hooper, C.M., Pearce, J., Blakely, T., 2015. What shape is your neighbourhood? Investigating the micro geographies of physical activity. *Soc. Sci. Med.* 133, 313–321.
- Kaiser Family Foundation Report, 2011. Women's Health Care Chartbook: Key Findings From the Kaiser Women's Health Survey, Retrieved from: February 26, 2016 (<http://kff.org/womens-health-policy/report/womens-health-care-chartbook-key-findings-from/>).
- Kay, M., Carroll, D., Carlson, S., Fulton, J., 2014. Awareness and knowledge of the 2008 Physical Activity Guidelines for Americans. *J. Phys. Act. Health* 11, 693–698.
- Laran, J., Janiszewski, C., 2011. Work or fun? how task construal and completion influence regulatory behavior. *J. Consum. Res.* 37, 967–983.
- Lawton, R., Conner, M., McEachan, R., 2009. Desire or reason: predicting health behaviors from affective and cognitive attitudes. *Health Psychol.* 28, 56–65.
- Lee, I.-M., Buchner, D.M., 2008. The importance of walking to public health. *Med. Sci. Sports Exerc.* 40, S512–S518.
- Lupia, A., 2013. Communicating Science in Politicized Environments. *Proc. Natl. Acad. Sci. USA.* 110, 14048–14054.
- McGannon, K.R., 2002. Although I Chase After Kids, I'm not Really Active: Exploring Everyday Talk In Discourse & the Implications for Physical Activity Participation, 9. Research Update Alberta Centre for Active Living, pp. 1–3.
- Office of the U.S. Surgeon General, 2015. Step it Up! The Surgeon General's Call to Action to Promote Walking and Walkable Communities. Retrieved from: December 4, 2015 (<http://www.surgeongeneral.gov/library/calls/walking-and-walkable-communities/>).
- PAPRN, 2014. Physical Activity Policy Research Network. Retrieved from: December 6, 2015 (<http://paprn.wustl.edu/Pages/Homepage.aspx>).
- Patton, M., 1990. Qualitative Evaluation and Research Methods. Sage, Newbury Park, CA.
- Pesch, H., Wentz, E.E., Rosenblum, K.L., Appugliese, D.P., Miller, A.L., Lumeng, J.C., 2015. "You've got to settle down!": mothers' perceptions of physical activity in their young children. *BMC Pediatr.* 15, 149.
- Porter, J., 2010. Five Ws and One H: The Secret to Complete News Stories, December 6, 2015. Retrieved from: (<http://blog.journalistics.com/2010/five-ws-one-h/>).
- Ridberg, R., Alper, L., Earp, J., Jhally, S., 2006. Big Bucks, Big Pharma: Marketing Disease & Pushing Drugs. Media Education Foundation.
- Schiller, J.S., Lucas, J.W., Peregoy, J.A., 2012. Summary Health Statistics for U.S. Adults: National Health Interview Survey, 10. *Vital Health Stat.*, pp. 1–218.
- Segar, M., Eccles, J., Richardson, C., 2011. Rebranding exercise: closing the gap between values and behavior. *Int. J. Behav. Nutr. Phys. Act.* 8, 94.
- Segar, M.L., Eccles, J.S., Richardson, C.R., 2008. Type of physical activity goal influences participation in healthy midlife women. *Womens Health Issues* 18, 281–291.
- Segar, M.L., 2015. No Sweat: How the Simple Science of Motivation Can Bring You a Lifetime of Fitness. Amacom, New York:NY.
- Segar, M.L., Richardson, C.R., 2014. Prescribing pleasure and meaning: cultivating walking motivation and maintenance. *Am. J. Prev. Med.* 47, 838–841.
- Segar, M.L., Updegraff, J., Zikmund-Fisher, B., Richardson, C., 2012. Physical activity advertisements that feature daily well-being improve autonomy and body image in overweight women but not men. *J. Obes.* 2012, 354721.
- Siceloff, E.R., Coulon, S.M., Wilson, D.K., 2014. Physical activity as a mediator linking neighborhood environmental supports and obesity in African Americans in the path trial. *Health Psychol.* 33, 481–489.
- Strauss, A., Corbin, J., 1998. Basics of Qualitative Research: Techniques and Procedures for Developing Grounded Theory. Sage, Newbury Park, CA.
- Tucker, J.M., Welk, G.J., Beyler, N.K., 2011. physical activity in U.S.: adults compliance with the physical activity guidelines for Americans. *Am. J. Prev. Med.* 40, 454–461.
- Tudor-Locke, C., Henderson, K.A., Wilcox, S., Cooper, R.S., Durstine, J.L., Ainsworth, B.E., 2003. In their own voices: definitions and interpretations of physical activity. *Womens Health Issues* 13, 194–199.
- U.S. Department of Health and Human Services, 1996. Physical Activity and Health: A Report of the Surgeon General. U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, Atlanta, GA.
- U.S. Department of Labor, 2013. General Facts on Women and Job Based Health. Retrieved from: July 10, 2015 (<http://www.dol.gov/ebsa/newsroom/fshlh5.html>).
- UCLA Center for Health Policy Research, 2007. California Health Interview Survey. Retrieved from: (<http://healthpolicy.ucla.edu/chis/Pages/default.aspx>).
- US Department of Health and Human Services, 2008. 2008 Physical Activity Guidelines for Americans. Retrieved from: January 2, 2016 (<http://www.health.gov/paguidelines>).
- van Tilburg, W.A.P., Igou, E.R., 2013. On the meaningfulness of behavior: an expectancy x value approach. *Motiv. Emot.* 37, 373–388.
- Vrazel, J., Saunders, R.P., Wilcox, S., 2008. An overview and proposed framework of social-environmental influences on the physical-activity behavior of women. *Am. J. Health Promot.* 23, 2–12.
- Walking for Health, 2016. Walking for Health: Supporting You to Get Active and Stay Active. Retrieved from: (<https://http://www.walkingforhealth.org.uk/>).
- Werle, C., Wansink, B., Payne, C., 2014. Is it fun or exercise? The framing of physical activity biases subsequent snacking. *Mark. Lett.* 26, 691–702.
- World Health Organization, 2008. Physical Inactivity: A Global Public Health Problem. Retrieved from: February 22, 2016 ([http://www.who.int/dietphysicalactivity/factsheet\\_inactivity/en/](http://www.who.int/dietphysicalactivity/factsheet_inactivity/en/)).