The Impact of Covid-19 on Latino Food Stores in King County: Implications for Access to Food

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Abstract

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The COVID-19 pandemic has disproportionately affected the health and economy of the Latinx population compared to other populations in the US. This is partially due to their marginalized social context and their overrepresentation in essential occupations. This study focuses on one such occupation, the owners and managers of small grocery retailers, known as *tiendas*. *Tiendas* provide the Latinx community with affordable nutritious food, serve as centers for social and cultural interaction, and are potential spaces to promote healthy behaviors. *Tiendas* can be classified as small or micro businesses depending on their number of employees. Because of their nature, *tiendas* endure economic and survival challenges that exceed those of most large retailers. Recognizing that size is an important factor, this study explored the differences between small and micro *tiendas* located in King County regarding (1) the socioeconomic and health impact of the pandemic on workers, and (2) the perceived feasibility of the strategies used to mitigate the spread of the virus. We found that although there were no significant differences between micro and small tiendas regarding the socioeconomic impact, both types of *tiendas* have endured the same challenges: reduction of personnel, disruption in the distribution of Hispanic products due to scarcity, and financial losses due to the reduction of weekly sales. These conditions increased *tienda* workers' and their families' vulnerability amidst the pandemic, and limited the Latinx community's access to affordable food. We also found that contactless pay options, low occupancy, and exclusivity in operation hours for people at high risk were perceived as difficult strategies to implement, underscoring the fact that small ethnic businesses have more difficulties adapting to economic shocks than their larger food retailer counterparts. Finally, this study recommended the joint effort of local, state, and federal organization to support the social, economic, and sustainable establishment and development of these small businesses as they have the potential as social hubs to facilitate the implementation of interventions to help improve the Latinx community's physical and mental health.

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Introduction

The COVID-19 pandemic has impacted negatively and disproportionately the health and the economy of the Latinx population in the U.S. (Krouse, 2020). This is partly due to the marginalized social context in which they live and to their over-representativeness in occupations that were deemed essential during the pandemic (Tai, et al., 2021; Baquero, Ornelas & Chavez, 2020). In general, Latinx live and work in conditions that expose them to the virus and provide them little access to the resources needed to mitigate the effects of this exposure (Baquero et al., 2020). One of the industries where this is most evident is food service, where Latinx employers and workers are on the front line in terms of production and operation (U.S. Census, 2020). In ethnic enclaves where Latinx tend to reside, food is mostly accessed through small grocery retailers, known as *tiendas* (Sanchez-Flack, et al., 2017), which provide a unique microcosm in which to study the socioeconomic and health effects of the pandemic in these communities.

Tiendas are located in neighborhoods where Latinx concentrate. These small ethnic businesses are essential and provide *affordable* nutritious food (Sanchez-Flack et al., 2017); they are social hotspots for information diffusion and social interactions. These features make tiendas potential hubs to promote health and a natural unit of analysis for the study of public health phenomena (Ayala et al., 2014; Baquero et al., 2014). *Tiendas* are characterized by being smaller in size than conventional grocery stores or supermarkets. They can be classified as small or micro businesses depending on the number of employees at the individual location (Hait, 2020). Micro *tiendas* have five or fewer employees, including the owner, and small *tiendas* have more than five employees (Association for Enterprise Opportunity, AOE-2019). Employees often serve multiple roles (Sanchez-Flack, et al., 2016), and they are usually Latinx. *Tiendas* endure challenges that are common to any small Latino-owned business: lower revenues, lower profit margins and liquidity, difficulty accessing and obtaining loans, and lower emergency savings (Metlife & the U.S. Chambers of Commerce, 2020; Albro & Hershberg, 2020; La Monica, 2021). These economic challenges make *tiendas* vulnerable to economic downturns, and in times of crisis, such as the recession ensued from the pandemic closures, the size of the business becomes a highly significant survival factor—

the smaller the *tienda*, the lower its capacity to survive a crisis. Consequently, the COVID-19 pandemic has been excessively burdensome to micro *tienda* owners and their employees.

The economic challenges that tiendas undergo lead them to offer unstable and poor working conditions for their employees. In normal times, this puts workers and owners at a higher risk of poor health outcomes, and during a global health crisis, the risk is even more evident. *Tienda* employees are not usually offered work benefits (Gennetian & Johnson, 2020) that include disability or workers' compensation, family and medical leave, thriving wages, reasonable hours, unemployment benefits, and health coverage. In addition to a lack of benefits, many Latinx workers, especially undocumented immigrants, do not voice their concerns about the poor work conditions they are exposed to because of fear of deportation, dismissal without cause, and/or blacklisting (Moyce and Schenker, 2017; Flynn, et al., 2015). The fear of these consequences keeps them silent and makes them work with a higher risk of fatal and nonfatal injuries and/or physical and mental illnesses. These poor working conditions without the right to speak out for themselves contribute to the physical and mental health disparities experienced by the Latinx workers. A pre-pandemic report stated that employees in small businesses are exposed to a constant burden of occupational fatalities, illnesses, and injuries as well as an elevated number of chronic diseases (Schwatka, et al., 2018) such as coronary disease, diabetes, and emotional disorders. Operating in this context raised the vulnerability of small and micro *tienda* owners and workers to a significant increase in health disparities during the pandemic.

In addition to the disproportional negative impact on the health and economy that Latinx essential workers in the small food retail industry have faced during the pandemic, the Latinx communities where *tiendas* are located are facing disparities regarding food access and quality compared to other ethnic communities (Clay & Rogus, 2021; Nagata et al., 2021). Since *tiendas* are vulnerable to economic downturns, and the pandemic has caused a serious one, it has lead to many of them permanently closing. This precarious situation has made it difficult for the community to access affordable and nutritious food, which has increased their already alarming food insecurity. To study these effects on the community, it is

necessary to choose places not only where large Latinx groups have settled but also where the economy is vibrant enough to support the establishment and development of many *tiendas*.

King County, the most populous county in Washington State, has an estimated population of 2,252,758 and a substantial and growing Latinx population (U.S. Census 2019). It is also one of the most important economic and financial hubs in the Northwest region. This has attracted businesses of all sizes, including a myriad of small and micro *tiendas* concentrated in small geographies. King County is part of Washington, which is one of the few states that has been characterized for being proactive in promoting health policies to diminish the negative impact of the pandemic in marginalized and vulnerable populations (Gruver, 2020). The disparities in King County are similar to those in the rest of the country. As of March 21, 2021, King County (2021) reported that Latinx have had COVID-19 confirmed cases, hospitalizations, and mortality rates significantly higher than White residents. However, King County has created work teams and programs to fight the spread of the COVID-19 virus (Hellmann, M., 2020). As a result, this setting provides a great opportunity to gather information in the most cost- and time-efficient manner.

This study explored how the pandemic has affected the Latinx community in this county. **The goal of this exploratory study** was *to investigate the socioeconomic impact that King County 'tiendas,' classified as small or micro, have experienced during the pandemic and how these impacts have affected their ability to mitigate the spread of the COVID-19 infection among their workers and, consequently, their customers and the community per se.* This information is extremely valuable to guide local health policies that mitigate the negative impact of the pandemic through economic, social, and health and wellness promotion. *Tiendas* play an essential role beyond their value as businesses and food retailers in reducing socioeconomic and health disparities within the Latinx communities. They indirectly act as centers of social and cultural interaction and, as a result, could be key providers of top down health promotion strategies on behalf of the local, state, and federal governments.

Literature Review

Latinx and the COVID-19 Pandemic

The COVID-19 pandemic has disproportionately impacted communities of color in the United States (U.S.), including the Latinx population (Krouse, 2020). The Latinx population is the largest minority ethnic group in the U.S., comprising 18.5% of the population (U.S. Census, 2020). During the COVID-19 pandemic, this group has accounted for 28.4% of the cumulative U.S. COVID-19 cases (Center for Disease Control and Prevention-CDC, 2020), and in more than half of the states in the country, the percentage of COVID-19 confirmed cases among Latinx exceeds the percentage of Latinx in the state (Macias, et al. 2020). The Latinx population also has rates of hospitalization due to COVID-19 four times higher than those of Non-Hispanic Whites (NHWs) (CDC, 2020). The COVID-19 mortality rate among Latinx is also significantly higher than that of other racial/ethnic groups in various cities and states (Wilder, 2021).

The state of Washington has been recognized as being a leader in developing policies to address the negative impact of the pandemic (Gruver, 2020). However, there are still disparities in COVID-19 health outcomes in historically marginalized communities. According to Shapiro (2021), the COVID-19 age adjusted mortality rate among Latinx in Washington is four times higher than the rate of White non-Latinx. As of February 2021, Latinx in Washington comprise 32% of all confirmed cases in the state, yet they represent only 13% of the population. They have also accounted for 25% of the hospitalizations and 12% of the deaths related to the COVID-19 pandemic (Latino Center for Health, 2021).

In King County, Latinx represent almost 10% of the population—the second largest minority group after Asians (U.S. Census, 2019). Keeping with national and local trends, ethnic disparities of the burden of cases and mortality from the pandemic have also been seen in King County. As of March 21, 2021, King County (2021) reported that Latinx have had almost four times higher rates of COVID-19 confirmed cases (7,242 per 100,000) than White residents. The hospitalization rates (746 per 100,000) were almost five times higher and the mortality rates (164.7 per 100.000) were almost three times higher than those of White residents.

Why Latinx have Been Disproportionately Affected by the Pandemic

Latinx have historically faced many health disparities associated with the social, economic, and political conditions to which this population has been exposed throughout their entire lives. Inequities regarding access to healthcare, adequate home and work conditions, nutritious food, and quality education have contributed to the disproportionately negative impact of the pandemic on ethnic and racial minority groups (Tai, et al., 2021). Regarding healthcare, during this health crisis, Latinx have experienced limited or difficult diagnostic testing and/or fear of seeking medical treatments because of their legal status (Kamb, 2020). This population has also been at greater risk of virus exposure due to their working and housing conditions. According to Baquero et al. (2020), Latinx live in multigenerational households in which many members of the same family provide economic and social support. For instance, while family members work outside of the home mostly as essential workers to put food on the table, others stay home to take care of the children and elderly. As a result, this support translates into different cultural challenges such as social distancing and isolation when there is an outbreak.

Besides healthcare access and housing challenges, Latinx have suffered economic disparities during the COVID-19 pandemic. Latinx have been experiencing job losses at almost twice the rate of their non-Latinx White counterparts (Albro & Hershberg, 2020). Also, when the pandemic started, Latinx made up a significant portion of the workforce considered *essential* workers in occupations such as cleaning, agriculture, services, construction, and food services. This kind of work increased the risk of exposure to the virus because of the difficulty of physical distancing and the lack of protection that contrarily is provided typically to other traditional essential workers (Sanchez, 2020) such as white-collar workers, health providers, and so on.

Effects of the Pandemic in Latinx Small Businesses

The economic disparities that Latinx have been experiencing during the pandemic are also associated with the negative impact that the global health crisis has brought to the small ethnic businesses in the country. As reported by La Monica (2021), one in five Latinx businesses is expected to permanently close because of the pandemic. These closures are due to their lower levels of capital compared to non-

Latinx-owned businesses, lower emergency savings, and their location, which is commonly in neighborhoods that serve communities disproportionately affected by the pandemic. According to a report released in August 2020 and led by Metlife & the U.S. Chamber of Commerce (2020), 66% of the ethnic small businesses have been disproportionately impacted by the pandemic, even though they represent around 24% of the U.S. firms and contribute over $709 billion to annual revenues (Brulay, 2017). Ethnic business owners have reported that there have been difficulties accessing and obtaining loans that translate into concerns about permanently closing and predicting losses in revenues for the year 2021.

The retail industry, one of the industries largely represented by small Latinx-owned businesses and essential workers, has endured substantial losses of customers and revenues, pressures on liquidity, and effects on their operations that are harder to overcome due to their limited financial capabilities (Albro & Hershberg, 2020). These negative effects of the pandemic have also meant that employees have faced many risks in their workplaces like losing their jobs, being furloughed, and exposing themselves to constant COVID-19 risks of contamination that have affected their physical and emotional wellness.

The Latinx Food Retail Industry: 'Tiendas' and COVID-19

Latinx food retailers such as restaurants and small grocery stores have been disproportionately impacted by the pandemic (U.S. Census, 2020) aggravating the food insecurity problem that many Latinx, especially undocumented immigrants, have endured. According to Leone et al. (2020), small Latino food retailers, such as *tiendas,* do not have the same capacity to apply strategies used by large food retailers such as bulk purchasing, online delivery, and/or food delivery, increasing their risk of financial hardship. This can lead to permanent closures, thereby further limiting the access to food in communities that were already facing challenges with food security. It has been well documented (Nord, et al., 2010; Carney, 2012; Rabbitt, et al., 2016; Lauren, et al., 2021) that Latinx have historically endured significant disparities in food security compared to other groups because of their limited economic resources to obtain food. However, these food disparities have worsened during the pandemic not only due to economic hardship but also because Latinx, especially undocumented immigrants, do not feel comfortable leaving their homes to buy food or ask for food (Morales, Morales & Beltran, 2020). Food security for

undocumented families has worsened in large part since immigration restrictions have been enforced more during the pandemic; as a result, there have been growing fears of deportation, police harassment, and family separation.

Tiendas not only provide food security and sell Latino goods to the community but also play a role in the settlement process for Latinx immigrants because they serve as centers for social and cultural interaction. Some are even used to promote healthy practices in the communities and neighborhoods where they are located (Ayala et al., 2015; Baquero et al., 2014). Particular changes in the environment of these *tiendas* (e.g., signage, placement of goods, marketing, etc.) can influence employees' and customers' health behaviors (Bowen, et al., 2015) such as increasing their consumption of more fruits and vegetables, choice of healthy food, and so on. These healthy behaviors can consequently be replicated throughout the whole community. Studies (Jetter & Cassady, 2010; Ayala, et al., 2013; Ayala, et al., 2015; Sanchez-Flack, et al., 2019) have shown that health promotion interventions conducted in *tiendas* have been effective in changing food-related behaviors. These interventions have also shown that food retailer actors such as owners/managers, employees, and customers are willing to collaborate and participate in the promotion of the Latinx community's wellness.

Despite their potential in promoting wellness for the Latinx communities, *tiendas* as small ethnic businesses have lower revenues, profit margins, and liquidity, making them vulnerable to economic downturns (Butthe, 2020; Daley, 2021). These characteristics affect both store owners and workers. Latinx workers are likely to receive low wages and no labor benefits or health coverage. In addition, many are less willing to report hazardous working conditions due to their tentative work status; as a result, they are exposed to higher health and safety risks (Harris, et al., 2014; Gennetian & Johnson, 2020) than the general work force.

During the pandemic, *tienda* employees have been at a higher risk of virus exposure, poor working conditions, and loss of jobs, which has aggravated the long-standing economic hardship that the community has had to navigate (Olsen, 2020) and has increased the risk of poor physical and emotional health outcomes. Workers have also been exposed to constant COVID-19 risks because maintaining social

distance with peers and customers as well as following specific sanitization protocols has been challenging in their small work spaces (Gennetian & Johnson, 2020). In fact, a study conducted by Lan et al. (2020) in a small Latino grocery store in Massachusetts demonstrated that employees with direct customer exposure were five times more likely to get infected with the virus.

In addition to the physiological threat, Latinx workers in small food retail stores undergo greater mental health risks. For example, employees have reported that they have been exposed to hostile behaviors from customers for enforcing local or state health recommendations, such as the use of face masks (Lucas, 2020) and maintaining socially distanced. Moreover, the workers' inability to practice social distancing themselves in their workplace due to the size of the store in turn becomes a stress factor; consequently, being stressed every day puts these employees at a high risk of developing anxiety (Lan, et al. 2020).

Why the Size of the 'Tiendas' Matters

According to the U.S. Small Business Administration (2020), the majority of small businesses in the country have an average number of ten employees, but they can range between 1 and 499 employees. However, it is important to note that in 2018, 54% of all employer businesses had fewer than five employees making a differentiation even within small businesses. For this reason, the AOE (2019) established that small businesses with fewer than five employees including the owner are considered micro businesses. Therefore, some *tiendas* can be classified as micro businesses.

Tiendas have a key role in the economy and the financial growth of the entire country. Although micro and small businesses face similar challenges, micro businesses have more difficulties regarding economic sustainability. The reason is that micro businesses tend to start with little capital, making it harder to get loans for purposes such as expansion (Murray, 2020). Without being able to grow, micro and small businesses encounter difficulties in creating adequate and healthy working conditions for their employees and withstanding economic shocks due to political or social changes, including the changes caused by situations like the current global health crisis. In addition, small and micro Latino businesses do not have an economic cushion or backing like small non-ethnic owned start-ups (La Monica 2021),

chain stores, and large corporations do. Therefore, a serious economic change in conditions can destroy them and negatively affect the surrounding community. In the case of *tiendas,* the community is already disproportionately affected by the pandemic, and the loss of its neighborhood *tienda* aggravates its economic, social, and health disparities.

Conceptual Model

This study was guided by the Retail Food Environment and Customer Interaction Model (RFE) proposed by The Healthy Food Retail Working Group (Winkler et al., 2020), which was used to build the parent study of this project. The RFE model (Figure 1, See Appendix 1) depicts the relationship and influence between the retail food environment and the customers over sales/purchasing in a multilevel context, which operates and expands in population outcomes (Winkler, et al., 2020). The RFE is composed of four components: Sources, Actors, Business Models, and the Customers' Retail Experience. When adapted to this study, these components represent how independent *tiendas*, operated by their owners or managers, influence their customers' decisions on what to purchase. This influence is modified mainly by the availability and price of the products on the market. In the case of this pandemic, the influence has been greatly affected by the scarcity of supplies and the inconvenience of the COVID-19-related behaviors required inside of the *tiendas* in order to follow local and state regulations. The second component of the model represents the customers' individual characteristics that are also affecting the final transaction or purchase. In our study, although we did not measure the customers' characteristics, we noticed that the perception that retail actors had of their customers' attitudes and behaviors toward the COVID-19 pandemic and regulations affected how they provided service. The employees' service in turn affected the customers' experience and, therefore, the final transaction.

As this model operates in a multilevel context, we included the macro factors that influence the RFE and customer. In our project, the model allowed us to examine how the current global health crisis is affecting the Latinx community through the *tiendas* as well as what local institutions (in King County) are doing to modify the impact. Finally, the results of the interactions within the components of this model produced population outcomes. For this study, we were interested specifically in investigating health and

business sustainability. We explored the owners'/managers' physical and emotional health conditions due to the fact that Latinx immigrants are at high risk of poor underlying health conditions such as high blood pressure, high cholesterol, obesity, and diabetes (CDC, 2015). We also determined business sustainability by noting strategies implemented to continue serving their communities in the midst of the global health crisis.

Specific Research Questions

1. Are there differences between small and micro *tiendas* in the socioeconomic and health impact of the pandemic on workers?
2. Are there differences in the perceived feasibility of the strategies used by managers/owners to mitigate the spread of the virus and avoid the closure of their *tiendas* as a result of their business size classification?

Methods

Design

In this exploratory study, we used a cross-sectional study design in Latino food stores or *tiendas* located in Seattle and South King County. This study was part of the larger study called Compre Saludable/Shop Healthy and funded by the COVID-19 economic recovery research grant by The Population Health Initiative by the University of Washington.

Study Setting

This exploratory study was conducted in King County during the months of August and September 2020 in the midst of the COVID-19 pandemic. In this county, the second largest minority group identifies as Latinx/Hispanics and represents almost 10% of the estimated population (U.S. Census, 2019). Cities located in South King County such as Kent, Renton, Federal Way, Auburn, Tukwila, and southern Seattle have had a significant growth of Latinx population (King County, 2017). Therefore, these cities have been culturally recognized as the home base of many Latinx families and their businesses.

Selection of 'Tiendas' and Respondents

King County *tiendas* were purposely sampled following two criteria: (1) being a food store (including bakeries and butcher shops), and (2) having a majority Latinx customer base (at least 50% of the population served must be Spanish speakers). To identify *tiendas*, the research team approached the Seattle & King County Public Health Department, Food and Facilities Protection Program and asked for public records of the Latinx food stores registered. The department provided us with a list that included the contact information of 323 Latinx operators in the county. We went through the list and excluded all the retailers that did not satisfy our inclusion criteria. We ended up with a total of 84 potential *tiendas*.

The team called all 84 tiendas to verify that (1) they were operating and (2) they met the second criterion of having a majority Latinx customer base. Out of those 84 *tiendas*, 24 (28.6%) did not answer our calls and were dropped after being called up to nine times during different hours and week days with no response. 60 (71.4%) *tiendas* answered the phone, and we had the opportunity to talk with the managers or owners about the study as shown in Figure 2 (See Appendix 2).

Of the 60 *tiendas* that answered, 30 (51.6%) decided against participating after learning about the study. Among the reasons given for not participating, some managers/owners stated that they did not trust phone call interviews, they had already received support from other public/private agencies, they were too busy, or they wanted us to call/email them later but then never responded to our calls/emails again.

Two *tiendas* were excluded after the first call because they did not meet both of the inclusion criteria; one was a restaurant-bar, and the other one served a mainly non-Latinx population. The remaining 28 (46.7%) *tienda* owners/managers were interested in participating although later one manager/owner decided not to continue participating in the study during the interview and asked us to discard all their information. As a result, the final *tienda* sample was 27. Figure 3 illustrates where the *tiendas* in our sample were located. We classified the *tiendas* in our final sample as micro businesses (n=15) and small businesses (n=12).

Data Collection

We conducted an open-ended interview with store owners/managers, using questions that had been used in previous studies (Ayala, et al., 2015; Baquero et al., 2015). We also added some of our own questions related to the pandemic. We collected information about (1) business operation characteristics, (2) the impact of COVID-19 on business revenue and operations, (3) their sources for COVID-19 information, (4) the managers'/owners' health self-report, and (5) the strategies used to stay open for business during the Stay Home Stay Healthy order. The research team, who were bilingual in both Spanish and English, conducted all the interviews in Spanish by phone; the interviews took approximately 45 minutes to complete.

We classified *tiendas* as micro and small businesses, following the definition by the Association for Enterprise Opportunity (AEO) and the U.S. Census' Survey of Business Owners and County Business Patterns. The Institutional Review Board and the Ethics Committee of the University of Washington approved this exploratory study (IRB # 10877).

Analysis Plan

Primary Outcome

The store owner/manager baseline interview was designed to identify our primary outcome, the socioeconomic impact in *tiendas* due to the COVID-19 pandemic. We measured the socioeconomic impact using self-reporting in changes in the number of employees, weekly sales, and receipt of merchandise by suppliers before vs. during the pandemic.

To measure the number of employees we asked: "Did any of your employees stop working due to COVID-19?" Response options were "yes" or "no." After responding to that item, if participants responded "yes," we asked them to share some of the reasons why their employees had stopped working.

To measure changes in the weekly sales, we asked: "Approximately what were this store's total weekly sales before the pandemic and what have they been during the pandemic?" Participants responded in numeric values or reported if the sales had increased or decreased. We created a new variable called

"change in sales" and coded the variable yes/no based on whether the numeric values reported were the same before and during the pandemic, or the participants reported changes in sales due to the pandemic.

To measure the supply, we asked: "Has your food distribution been disrupted due to the pandemic?" Response options were "yes" or "no." After responding to that item, if participants responded "yes," we asked them to share some of the reasons why the distribution had been disrupted.

Secondary Outcome

Our secondary outcome was the strategies and healthy practices used and needed during the pandemic to be safe. We measured this outcome using the In-Store Retail Operations COVID-19 Requirements pursuant to Washington State Governor Inslee's Proclamation 20-25.8, Stay-Safe-Stay Healthy. We created an index to identify if owners/managers felt that the strategies could be feasibly implemented or if they had actually implemented these strategies in their businesses. All items were ranked Possible/Implemented with a value of (2), Not Sure (1), Not Possible (0). The higher the score, the higher the possibility that owners had implemented/were implementing the strategies. It is important to note that when managers/owners reported as *Possible/Implemented*, they had already done so or perceived it as feasible to implement. The maximum possible score per participant was 22, indicating that owners/managers were able to implement all the strategies.

We asked participants how feasible it was to: (1) set up contactless pay, pick-up, and/or delivery options, (2) maintain a guest occupancy of 30% maximum, (3) place distance markers outside of the facility, (4) place distance markers in check-out lines in order to maintain six-foot physical distancing requirements, (5) ensure minimum six-foot physical distancing requirements be maintained between customers, cashiers, baggers, and other staff, (6) establish hours of operation that permit access solely to high-risk individuals, (7) sanitize high-touch areas frequently, (8) provide personal protective equipment (PPE) to employees, (9) ensure frequent and adequate hand washing with an adequate maintenance of supplies, and (10) screen employees for signs/symptoms of COVID-19 at the start of every shift. We also asked the following short, open-ended question about the barriers owners/managers have faced to cover

their needs and to continue operating safely: What are the top three things that would make it difficult to provide safety and protocol services related to COVID-19 in order to keep your store open?

Data Analysis

We collected our data using REDCap, an electronic data capturing tool hosted by the University of Washington (Harris, et al., 2009) and managed by SPSS version 22 (IBM Corporation, Armonk, New York). Frequencies were computed to describe owners'/managers' demographics, *tiendas*' characteristics, and owners'/managers' health behaviors. For our primary outcome, we used a 2x2 contingency table and Fisher's Exact Test (2 faces) to address our first research question about the relationship between businesses' classification (small and micro *tiendas*) and the socioeconomic impact due to the COVID-19 pandemic. We used this test due to our small sample size and because there were expected values per cell that were less than five.

To answer our second question—Are there differences between small and micro *tiendas* regarding the strategies implemented to mitigate the effects of the pandemic? –, we first used a Mann-Witney U Test to identify differences between the median scores of the small and micro *tiendas* with regards to the number of implemented strategies. Later, we used a 2x3 contingency table and a Fisher-Freeman-Halton Test (2 faces) to identify differences between small and micro *tiendas* regarding each strategy implemented. Statistical analyses with a ***P*** value less than 0.05 were considered significant.

Results

Demographics

The majority of the participants in this study self-identified as Mexican males. As shown in Table 1, although most of the owners/managers were males, small *tiendas* were owned/managed mainly by women whereas micro *tiendas* were owned/managed by a larger margin of men. Most of our participants felt comfortable speaking only in Spanish for their social interactions. Only one participant from a small *tienda* reported feeling more comfortable speaking only in English; however, that person chose to be interviewed in Spanish for this study. Although the majority of participants in both types of *tiendas* reported to have been born in Mexico, there were a few participants from countries in Central and South

America. Almost half of the participants in both small and micro *tiendas* had moved to the U.S. for the first time before turning 21. Furthermore, more than half of the participants from small *tiendas* reported to have lived in the U.S. for 10 to 20 years compared to almost a half of micro *tienda* owners/managers claimed to have lived in the U.S. between 21 to 30 years. Over three quarters of each group of participants reported having up to a middle- or high-school education, and the majority of participants in both types of *tiendas* received more than 50% of their education in a Latin American country.

We also found that approximately half of the managers/owners reported being married and living with their spouse, with a similar proportion between those from small and micro *tiendas*. Additionally, a much larger percentage of small *tienda* participants owned a house or apartment compared to those of micro *tiendas*, who were mostly renters. Finally, a little over half of the participants from both small and micro *tiendas* lived in a different neighborhood than where their store was located.

Report on 'Tiendas'

We also asked participants for information about their *tiendas*. As shown in Table 2, on average, the small *tiendas* had been in operation in their current location for almost four more years than the micro *tiendas*. We also found that the small *tiendas* had been owned/managed by the same person for close to double the length of time as the micro *tiendas*. Regarding labor needs, all managers/owners reported the number of full-time and part-time employees on their payroll. The average number of full-time employees for small *tiendas* was almost six times higher than for micro *tiendas'* owners/managers. Likewise, we found that on average the store size, the number of stock keeping units (SKUs), and the number of suppliers were markedly higher for small *tiendas* than for micro *tiendas*.

Participants' Report on Health Status

Since health is an important socioeconomic indicator, we asked participants about their health status. As shown in Table 3, close to 85% of the total participants reported not to have health insurance, and the proportion was similar in both groups. Also, when asked about their own perception of their health status, over 60% of the total participants reported having excellent or very good health, while almost 40% perceived that their health was fair. None of the participants claimed to have poor health. It is important to

note that none of the micro *tienda* owners/managers perceived their own health to be excellent, and only two participants from small *tiendas* considered it to be excellent.

In addition to the perception of their own health status, we asked participants if they had been diagnosed with any underlying medical conditions. Almost half of the participants from both groups reported having been diagnosed with high cholesterol and approximately one third had been diagnosed with hypertension. We also found that twice the number of micro *tienda* owners/managers had been diagnosed with diabetes than those of small *tiendas*. Finally, very few of the participants from either group reported cases of asthma or mood disorders such as depression, and none had been diagnosed with any type of cancer.

Primary Outcome

Although over half of the participants reported that there was a reduction of personnel due to the pandemic and the proportions differed by the size of the store (75% micro *tiendas* vs. 40% small *tiendas*), as shown in Table 4, this difference was not statistically significant ($p>0.05$). When asked about the reasons for this reduction in personnel, the participants reported that the main reasons their employees had left were due to fear of getting sick, financial hardship, and actually having contracted the COVID-19 virus were the main reasons.

Regarding the disruption of food distribution due to the pandemic, we found that the proportion of participants who reported that there was a disruption did not differ significantly by the size of the store, (86.7% micro *tiendas* vs. 91.7% small *tiendas*, $p > 0.05$). In any case, the majority (88.9%, n=24) reported having experience food distribution disruption. Owners/managers shared that the main reasons for the disruption were: (1) the scarcity of Hispanic products, which constitute the majority of the products they sell, and (2) the delays in the delivery of products.

We also found that there was no significant difference between the size of the stores when reporting reduction of weekly sales due to the pandemic (100% micro tiendas vs. 92.9% small tiendas, $p=0.636$). In fact, all but one participant reported a reduction in their weekly sales.

Secondary Outcome

Following the CDC and Washington State Governor Inslee's Proclamation 20-25.8, Stay-Safe-Stay Healthy recommendations, we asked all the participants of this exploratory study how they perceived the possibility of implementing strategies that would allow them to continue serving safely during the pandemic. It is important to note that when owners/managers reported that it was *possible* to implement a strategy, they had actually already done it or they perceived that it was feasible to implement it. The maximum score possible per participant was 22, indicating that owners/managers were able to implement all strategies. A Mann-Whitney test for independent samples showed that there were no statistical differences between small and micro *tiendas* regarding the implementation of strategies, $U(N= 12, N= 15)= 0.581$, $p<0.05$. The scores of small *tiendas* (M= 17.08; Range=7) were similar to the scores of micro *tiendas* (M=16.73; Range=7).

As shown in Table 5, there were no statistically significant differences (p-values>0.05) between *tiendas* classified by size when we asked about the feasibility of implementing each of the strategies. However, we noticed differences in the proportions of the total *tiendas* when analyzing the possibility of implementing the strategies. For instance, in terms of setting up contactless pay, pick-up, and/or delivery options, almost 50% of the participants mentioned that they had implemented or considered it was possible to implement this strategy, while the rest of the participants mentioned either being unsure (25.9%) of whether they could implement it or not or considered that it was impossible (25.9%) for them to implement it.

When considering the provision of safety measures, most of the participants had already implemented or perceived that it was feasible to implement many strategies such as ensuring low occupancy, placing distancing markers inside and outside of the *tiendas*, sanitizing areas of high contact frequently, ensuring frequent and adequate employee hand washing, and providing PPE to employees. However, two strategies (establishing exclusively operation hours for high-risk individuals and screening employees for COVID-19 symptoms before starting their shifts) were perceived difficult to implement.

Top Barriers to Providing Safety Services

At the end of this part of the interview, we asked participants about the top barriers they had encountered to provide safety services. Participants in micro (60%, n=9) and small *tiendas* (40%, n=6) reported that the top barrier was the difficulties they had experienced with customers' attitudes with regards to following requirements for shopping safely, for example by wearing facemasks. Additionally, we found that 66.7% of the participants in micro *tiendas* reported a lack of information in Spanish that they could trust regarding how to be safe during the pandemic while 33.3% of the small businesses reported the same concern.

Discussion

The COVID-19 pandemic has had deep and lasting negative effects on the health and socioeconomic stability of many people around the world. In the U.S., communities of color have endured these detrimental effects disproportionately. This situation is especially evident in the Latinx population. This exploratory study presented a detailed description of how *tiendas*, small Latino food retailers in King County have been affected by the pandemic and how their owners/managers (who have been essential workers during the pandemic) have coped with these outcomes. In this study, we found that *tiendas* tended to be owned/managed mainly by Latinx of Mexican origin who (1) mostly spoke *only* Spanish, (2) for the most part had a middle- or high-school education, (3) were uninsured, (4) suffered from one or more underlying medical conditions, (5) rented their homes, and (6) have had to commute every day to their workplaces in the midst of the pandemic. Although our participants represent a small sample, these findings reflect the broader conditions in which the Latinx community lives and works (Tai, et al., 2021) and how these conditions have put them at greater health and mortality risk during the pandemic compared to other racial/ethnic groups (Wilder, 2021).

In analyzing our primary outcome, *the socioeconomic impact of COVID-19 in 'tiendas' depending on their size*, we found no significant differences between micro and small *tiendas.* Both types of *tiendas* have endured the same challenges: (1) reduction of personnel, (2) disruption in the distribution of

Hispanic products due to scarcity, and (3) financial losses due to the reduction of weekly sales. These results stem from the fact that *tiendas*, as small food retailers, do not have the same capacity to overcome financial hardship as large food retailers (Leone et al., 2020). This affects not only managers and owners but their employees as well. Most *tienda* employees are Latinx, receive low wages, and lack employee benefits such as health insurance coverage (Gennetian & Johnson, 2020). These conditions increase *tienda* workers' and their families' vulnerability amidst the pandemic. Also, the disruption of food distribution and scarcity of food products limits the Latinx community's access to affordable food which has caused another social disparity endured by this community (Tai, et al., 2021). The results are spillover effects that erode the economy and the health of the community as a whole as described by the conceptual model used as the foundation of this exploratory study.

With regards to *the strategies implemented to mitigate the effects of the pandemic*, our secondary outcome, we did not find any significant statistical differences between micro and small *tiendas*. We found that three main strategies were difficult to implement: contactless pay options, low occupancy, and exclusivity in operation hours for people at high risk. These findings are aligned with the fact that small businesses have more difficulties adapting to economic shocks due to their limited financial capability, which includes difficulties in obtaining loans for expansions and other expenses (Murray, 2020) as well as the implementation of new technologies such as online delivery (Leone et al., 2020).

We also discovered that participants in both types of businesses experienced challenges when searching for reliable information in Spanish about how to be safe during the pandemic. This is related to the fact that Spanish speakers find it difficult to access culturally appropriate health information in their own language (Richardson et al., 2012) and that, in some cases, Latinx' level of health literacy is low, making it unlikely for them to critically assess and disregard false information (Soto Mas et al., 2013). An example of the mistrust of information of the broader Spanish-speaking community is that participants also reported that it had been challenging to interact with some customers who reacted negatively when they had to follow local and state COVID-19 regulations. As other researchers have suggested, it is urgent

for local and state efforts to make reliable information accessible to the communities that have been disproportionately affected by the pandemic (Baquero et al., 2020).

The Public Health-Seattle & King County department has acknowledged that many of the county's health services are not culturally responsive, increasing social and health disparities in ethnic communities (Hellmann, 2020). Therefore, they have created workforce groups to improve in two areas: (1) strengthen education to foster community mitigation and (2) voice and acknowledge the Latinx community needs. For instance, since May 2020, Public Health-Seattle & King County along with many members of the Latinx community's – including doctors, *promotores* (community health workers), lawyers, parents, and community leaders among others – have created a safe and trustworthy space for the all Latinx audiences called *Con Confianza Y en Comunidad* (With Trust And in Community). They meet weekly to discuss different relevant topics for the community related to the COVID-19 pandemic, including healthcare access, education, parenting, mental health, and access to financial resources, among others; all the sessions are conducted in Spanish (Jimenez-Magdaleno, 2021). These kinds of local programs and spaces allow communities, especially those that are non-English speaking, not only to increase their awareness of healthy practices to mitigate the exposure to the virus but also to decrease the emotional burden that the community has suffered. Increasing the community's participation in social and political dynamics and giving them a space to voice their needs is a powerful way to fight against the racism and discrimination that the Latinx have historically experienced and that have been fundamental causes of the health disparities in the Latinx community.

Besides promoting the use of these spaces to foster the wellness of the Latinx community, with this study we also highlight the importance of conceptualizing *tiendas* as centers of health promotion for the Latinx community as previously proposed by Bowen, et al. (2015). For *tiendas* to take on this role, however, the joint effort of local, state, and federal institutions is required to support the social, economic, and sustainable establishment and development of these small ethnic businesses. Providing owners access to low interest loans, for example, would allow them to remain operational, improve their service capacity, improve the working conditions of their employees, and implement health-related promotional programs

which would gradually be translated into an improvement in the quality of life and wellness of the community.

Even though we started with a sufficient base sample (60 *tiendas*), for reasons beyond our control, it was reduced to 27 *tiendas.* This smaller sample made it impossible to generalize the results and illustrated the lack of trust, interest, and time of the King County Latinx small business owners/managers to participate in research studies. As a result, this study had some limitations. For instance, the size of the sample may not be representative of all Latino ethnic food retailers in Washington State. Another reason may be that our sample was taken exclusively in urban settings, and there may be significant differences between small ethnic food stores in urban vs. rural areas. Also, the sample was too small to identify statistical differences between micro and macro *tiendas; as a result,* it may or may not reflect the reality of the entire population of *tiendas*. In this study, the maximum number of employees for small tiendas was twenty, with a mean of ten full-time employees and two part-time employees. This could mean that although the AEO (2019) classifies these *tiendas* as small businesses, they share basically the same characteristics as the micro *tiendas*. Consequently, there is a need for further studies in this regard. Finally, this was a cross-sectional study conducted from August to September 2020, at the end of the first peak of the pandemic in Washington. Therefore, it would be important to follow up with all participants to see how they survived the subsequent peaks and how the economic rescue plan as well as support from King County and some local organizations have since impacted those *tiendas*.

Besides following up with the participants of this study, further studies could also be designed to address the aforementioned limitations. One area that could be explored in future studies is *tiendas* in rural settings to see if the results differ from those of this study, whose participants were solely from cities. In Washington, most of the Latinx population lives in rural areas (Office of Financial Management, 2019), and it is well documented that rural immigrants' living and working conditions increase their health disparities in obesity, diabetes, cancer, and hypertension (Rural Health Information Hub, 2019). Another important area that should be researched further is how to best engage *tiendas* joining efforts between potential partners such as research centers and local public health departments. Since *tiendas* are

considered potential social hubs, these partnerships could be effective in promoting healthy behaviors among employees and the community through the implementation of interventions to help improve the community's physical and mental health and wellness. The findings of this study also demonstrated the need to tailor public health interventions specifically designed for micro ethnic businesses. Although micro *tiendas* do not differ much from small *tiendas* with regards to their social function and provision of affordable food to the community, they are often lumped in with small businesses. However, they are more vulnerable to succumb to factors outside of their control that endanger their sustainability. Therefore, more research should be carried out to design creative economic support options for the micro *tiendas.* The pandemic has exasperated the divide between the haves and the have nots and has created an opportunity to research and carry out potential innovative strategies to improve the quality of life of the Latinx and other ethnic communities.

To close, the COVID-19 pandemic has brought us to an inflexion point. As a society, we have to decide whether we want to continue with the status quo of an individualistic self-serving paradigm, with societal disparities that are unfit for a first-world country, or to work together towards a more inclusive and equitable community-oriented society. We need to garner the exposure currently given by the media to the inequalities brought to the forefront by the pandemic to turn the general public into advocates for socially-just policies and solutions.

Figure 1*. Retail Food Environment and Customer Interaction Model (RFE) for *Tiendas

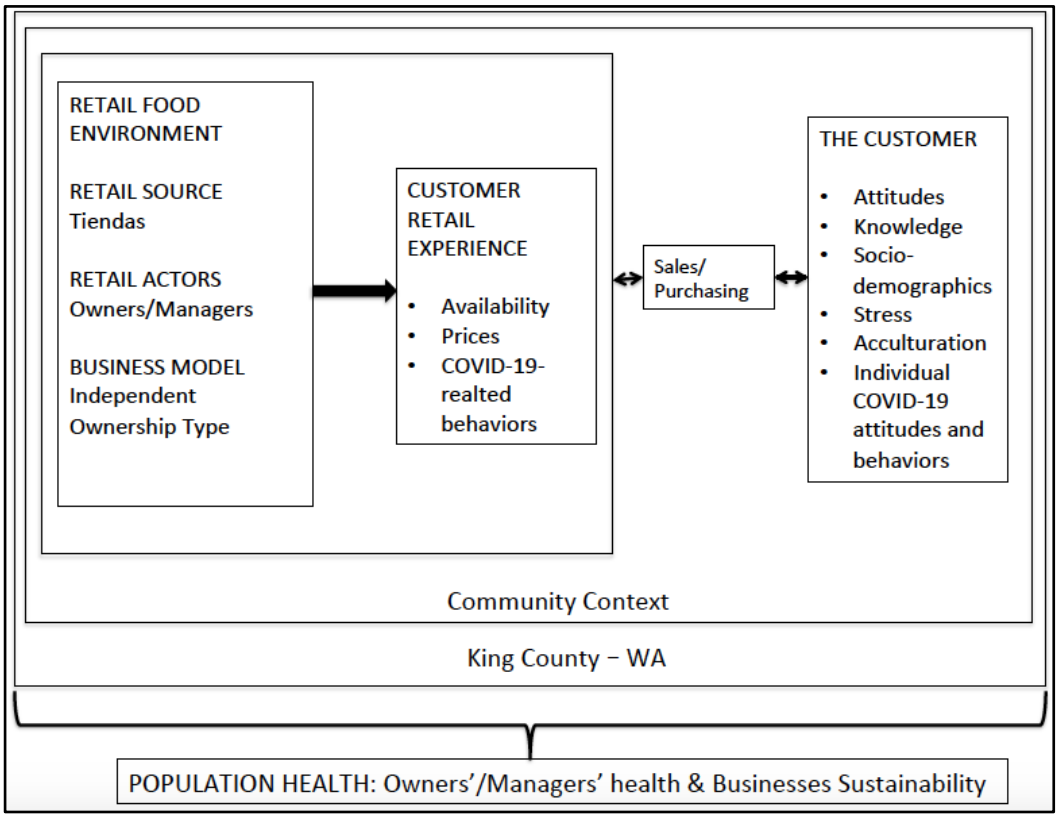

***Figure 2*. Compre Saludable/ Shop Healthy Recruitment Process**

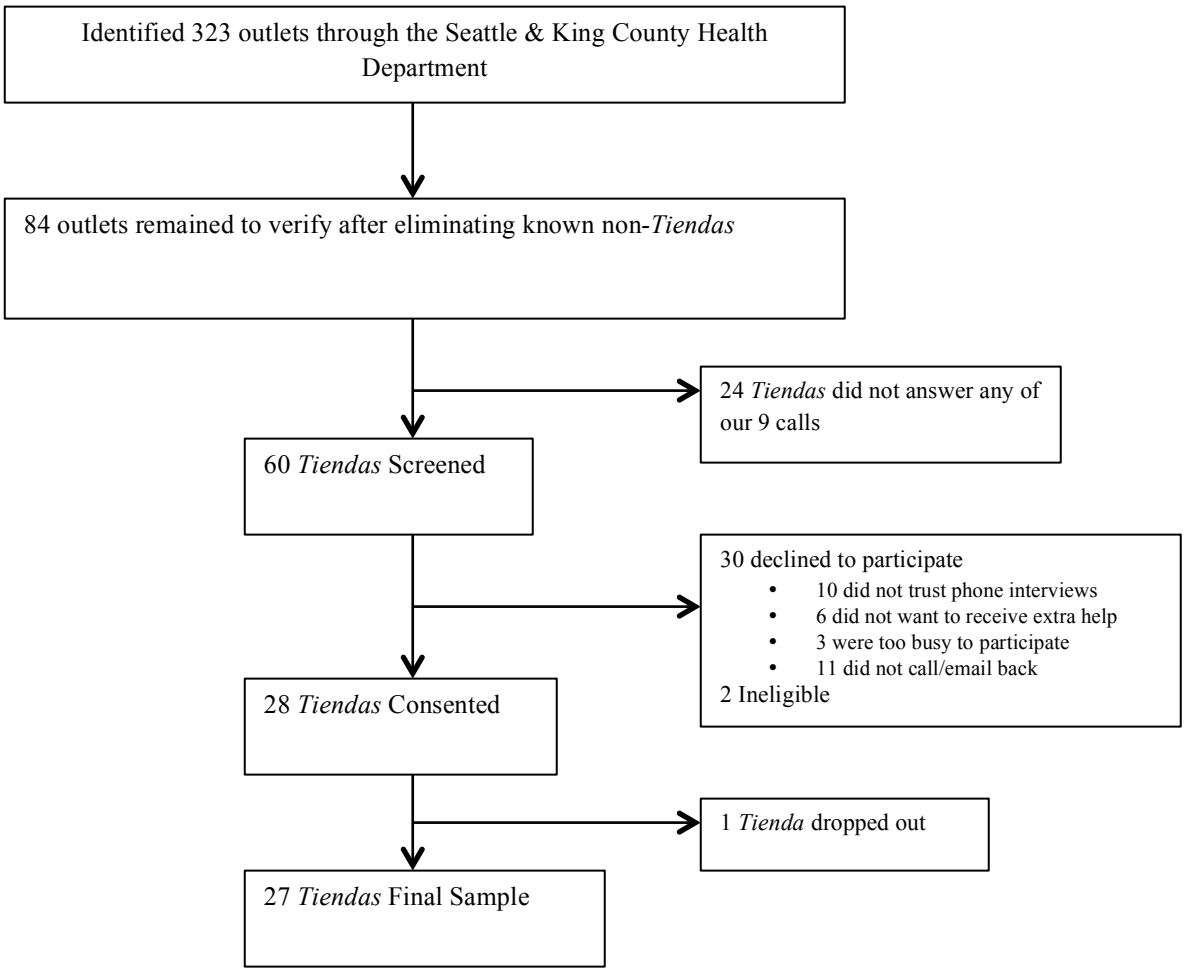

Figure 3. **King County Cities with their Corresponding Number of Participating *Tiendas***

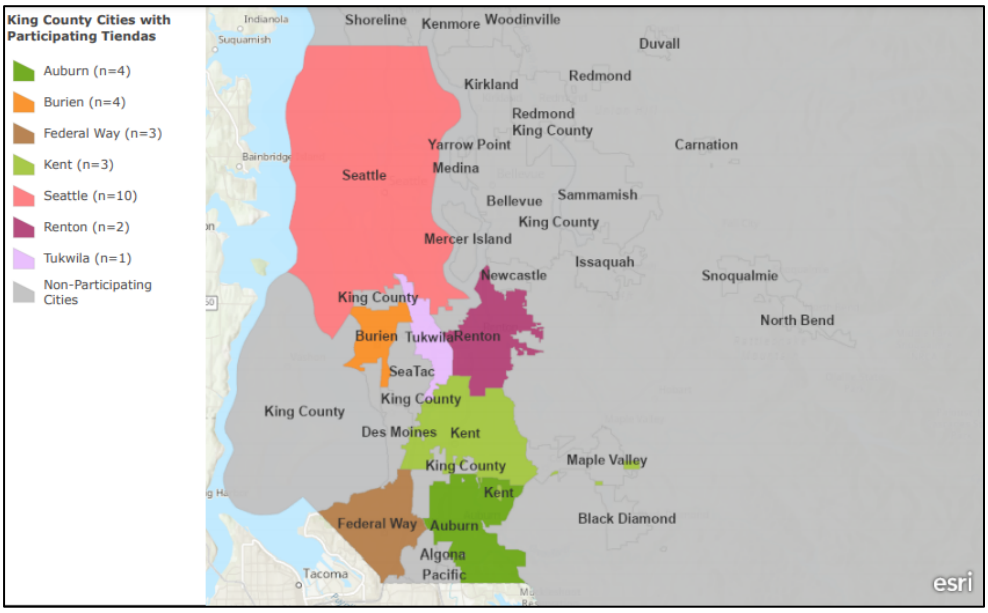

Table 1. **Demographics**

Demographics	**Total *Tiendas*** N=27 (N)%	**Small *Tiendas*** N=12 (N)%	**Micro *Tiendas*** N=15 (N)%
Sex of Owner/Manager			
Female	(11) 40.7%	(7) 58.3%	(4) 26.7%
Male	(16) 59.3%	(5) 41.7%	(11) 73.3%
Ethnicity			
Mexican	(19) 70.4%	(8) 66.7%	(11) 73.3%
Mexican-American	(2) 7.4%	(1) 8.3%	(1) 6.7%
Latinx/Hispanic	(5) 18.5%	(2) 16.6%	(3) 20%
Declined to answer	(1) 3.7%	(1) 8.3%	-
Preferred Language			
Only Spanish	(24) 88.9%	(10) 83.3%	(14) 93.3%
Only English	(1) 3.7%	(1) 8.3%	-
Spanish & English	(2) 7.4%	(1) 8.3%	(1) 6.7%
Place of Birth			
Mexico	(23) 85.2%	(10) 83.3%	(13) 86.7%
Colombia	(1) 3.7%	(1) 8.3%	-
Guatemala	(1) 3.7%	-	(1) 6.7%
El Salvador	(1) 3.7%	(1) 8.3%	-
Declined to answer	(1) 3.7%	-	(1) 6.7%
Age When Moved to the U.S.			
<21 years old	(12) 44.4%	(5) 41.6%	(7) 46.7%
21 to 30 years old	(7) 25.9%	(3) 25%	(4) 26.7%
>30 years old	(7) 25.9%	(4) 33.3%	(3) 20%
Declined to answer	(1) 3.7%	-	(1) 6.7%
Years Living in the U.S.			
10 to 20 years	(14) 51.9%	(8) 66.7%	(6) 40%
21 to 30 years	(10) 37%%	(3) 25%	(7) 46.7%
>31 years	(2) 7.4%	(1) 8.3%	(1) 6.7%
Declined to answer	(1) 3.7%	-	(1) 6.7%
Education			
Middle or high school	(21) 77.8%	(9) 75%	(12) 80%
1 year of college	(3) 11.1%	(2) 16.7%	(1) 6.7%
Vocational school	(1) 3.7%	-	(1) 6.7%
Associate Degree	(1) 3.7%	(1) 8.3%	-
Bachelor's Degree	(1) 3.7%	-	(1) 6.7%
Place of Educational Attainment			
Mexico	(20) 74.1%	(7) 58.3%	(13) 86.7%
U.S.	(3) 11.1%	(2) 16.7%	(1) 6.7%
Other countries in Latin America	(3) 11.1%	(2) 16.7%	(1) 6.7%

Declined to answer	(1) 3.7%	(1) 8.3%	-
Marital Status			
Married living with spouse	(13) 48.1%	(6) 50%	(7) 46.7%
Living with partner	(3) 11.1%	(2) 16.7%	(1) 6.7%
Divorced	(2) 7.4%	(1) 8.3%	(1) 6.7%
Separated	(2) 7.4%	-	(2) 13.3%
Single	(7) 25.9%	(3) 25%	(4) 26.7%
Living Arrangements			
Rented house/apartment	(15) 55.5%	(4) 33.3%	(11) 73.4%
Owned house/apartment	(12) 44.4%	(8) 66.7%	(4) 26.7%
Living in *Tienda's* Neighborhood			
Yes	(12) 44.4%	(5) 41.7%	(7) 46.7%
No	(15) 55.5%	(7) 58.3%	(8) 53.3%

Table 2. **Manager's/Owner's Report on *Tiendas***

Manager/Owner	**Small *Tiendas*** (N=12) Mean (SD)	**Micro *Tiendas*** (N=15) Mean (SD)
*Tienda'*s years in operation	10.79 (7.39)	6.03 (4.80)
Years managed that *tienda*	11.14 (7.31)	5.50 (4.81)
Full-time employees	9.50 (10.74)	1.73 (1.16)
Part-time employees	2.33 (1.82)	1.27 (1.45)
Store size (sq. ft.)	5,145.5 (5,208.52)	1,271 (780.95)
Number of stock-keeping units (SKUs)	387.91 (877.83)	107.69 (171.39)
Number of suppliers	15 (12.91)	6.67 (3.22)

Table 3. **Manager's/Owner's Report on their Health Status**

Manager/Owner	**Total *Tiendas*** (N=27) (N) %	**Small *Tiendas*** (N=12) (N) %	**Micro *Tiendas*** (N=15) (N) %
Health Insurance			
No	(23) 85.2%	(10) 83.3%	(13) 86.67%
Yes	(4) 14.8%	(2) 16.67%	(2) 13.33%
Perception of Health			
Excellent	(2) 7.40%	(2) 16.67%	-
Very Good	(15) 55.56%	(6) 50%	(9) 60%
Fair	(10) 37.03%	(4) 33.33%	(6) 40%
Poor	-	-	-
Medical Conditions			
Hypertension	(8) 29.63%	(3) 25%	(5) 33.33%
High Cholesterol	(12) 44.44%	(5) 41.66%	(7) 46.67%
Asthma	(1) 3.70%	-	(1) 6.67%
Diabetes	(7) 29.92%	(2) 16.67%	(5) 33.33%
Some Type of Cancer	-	-	-
Mood Disorders	(3) 11.11%	(2) 16.67%	(1) 6.67%

Table 4. **Socioeconomic Factors between Small and Micro *Tiendas***

Socioeconomic Factors	**Total *Tiendas*** (n=27)	**Small *Tiendas*** (n=12)	**Micro *Tiendas*** (n=15)	**Fisher's Exact Test**
Reduction of personnel due to the pandemic				
Yes	15 (55.5%)	9 (75%)	6 (40%)	p= 0.076
No	12 (44.4%)	3 (25%)	9 (60%)	n=27
Disruption of food distribution due to the pandemic				
	24 (88.9%)	11 (91.7%)	13 (86.7%)	p= 0.586
Yes	3 (11.1%)	1 (8.3%)	2 (13.3%)	n=27
No				
Reduction of weekly sales due to the pandemic				
Yes	21 (95.5%	8 (100%)*	13 (92.9%)*	p= 0.636
No	1 (4.54%)	0	1 (7.1%)	n=22

** Micro tiendas missing: (n=1) Participant declined to answer or reported not to know. Small tiendas missing: (n=4). Participant declined to answer or reported not to know.*

Table 5. **Strategies Implemented Following CDC Recommendations between Small and Micro *Tiendas***

Strategy	**Total Tiendas** (n=27)	**Small Tiendas** (n=12)	**Micro Tiendas** (n=15)	Fisher's Exact Test
Set up contactless pay, pickup, and/or delivery options				
Implemented/Possible	13 (48.1%)	7 (58.3%)	6 (40%)	p= 0.698
Not Sure	7 (25.9%)	2 (16.7%)	5 (33.3%)	n=27
Impossible	7 (25.9%)	3 (25%)	4 (26.7%)	
Limit occupancy to 30% maximum				
Implemented/Possible	16 (59.3%)	7 (58.3%)	9 (60%)	p= 0.423
Not Sure	5 (18.5%)	1 (8.3%)	4 (26.7%)	n=27
Impossible	6 (22.2%)	4 (33.3%)	2 (13.3%)	
Place distance markers outside of the *tienda*				
Implemented/Possible	21 (77.8%)	10 (83.3%)	11 (73.3%)	p= 1.00
Not Sure	3 (11.1%)	1 (8.3%)	2 (13.3%)	n=27
Impossible	3 (11.1%)	1 (8.3%)	2 (13.3%)	
Place distance markers inside of the *tienda*				
Implemented/Possible	26 (96.3%)	11 (91.7%)	15 (100%)	p= 0.44
Impossible	1 (3.7%)	1 (8.3%)	-	n=27
Place distance markers in check-out lines				
Implemented/Possible	26 (96.3%)	12 (100%)	14 (93.3%)	p= 1.00
Impossible	1 (3.7%)	-	1 (6.7%)	n=27
Establish exclusive operation hours for high-risk individuals				
Implemented/Possible	16 (59.3%)	7 (58.3%)	9 (60%)	p= 1.00
Not Sure	1 (3.7%)	-	1 (6.7%)	n=27
Impossible	10 (37%)	5 (41.7%)	5 (33.3%)	
Sanitize high-contact areas frequently				
Implemented/Possible	25 (92.6%)	10 (83.3%)	15 (100%)	p= 0.188
Not sure	2 (7.4%)	2 (16.7%)	-	n=27
Provide employees with PPE				
Implemented/Possible	26 (96.3%)	12 (100%)	14 (93.3%)	p= 1.00
Impossible	1 (3.7%)	-	1 (6.7%)	n=27
Ensure frequent and adequate hand washing				
Implemented/Possible	27 (100%)	12 (100%)	15 (100%)	n=27

Screen employees for signs/symptoms of COVID-19 at start of every shift				
Implemented/Possible	20 (74.1%)	10 (83.3%)	10 (66.7%)	p= 0.662
Not Sure	5 (18.5%)	2 (16.7%)	3 (20%)	n=27
Impossible	2 (7.4%)	-	2 (13.3%)	

References

Albro, R. & Hershberg. E. (2020). Assessing Impacts of the COVID-19 Pandemic on Latino-Owned Business in the DC-Metro Region. Retrieved from: https://www.american.edu/centers/latin-american-latino-studies/upload/au_gwhcc-latino-business-report_june-2020.pdf

Association for Entreprise Opportunity (AEO, 2019). Bigger Than You Think. The Economic Impact of Microbusiness in the United States. Retrieved from: https://www.aeoworks.org/wp-content/uploads/2019/03/Bigger-than-You-Think-Report_FINAL_AEO_11.10.13.pdf

Ayala, G. X., Baquero, B., Laraia, B. A., Ji, M., & Linnan, L. (2013). Efficacy of a store-based environmental change intervention compared with a delayed treatment control condition on store customers' intake of fruits and vegetables. *Public health nutrition*, *16*(11), 1953–1960. https://doi.org/10.1017/S1368980013000955

Ayala, G. X., Baquero, B., Pickrel, J. L., Mayer, J., Belch, G., Rock, C. L., Linnan, L., Gittelsohn, J., Sanchez-Flack, J., & Elder, J. P. (2015). A store-based intervention to increase fruit and vegetable consumption: The El Valor de Nuestra Salud cluster randomized controlled trial. Contemporary clinical trials, 42, 228–238. https://doi.org/10.1016/j.cct.2015.04.009

Baquero, B., Gonzalez, C., Ramirez, M., Chavez Santos, E., & Ornelas, I. J. (2020). Understanding and Addressing Latinx COVID-19 Disparities in Washington State. *Health education & behavior : the official publication of the Society for Public Health Education*, *47*(6), 845–849. https://doi.org/10.1177/1090198120963099

Baquero, B., Linnan, L., Laraia, B. A., & Ayala, G. X. (2014). Process evaluation of a food marketing and environmental change intervention in Tiendas that serve Latino immigrants in North Carolina. *Health promotion practice*, *15*(6), 839–848. https://doi.org/10.1177/1524839913520546

Baquero, B., Ornelas, I., Chaves, E. (2020). Focus on Health Needs of Those Most in Need, Including Latinx Communities. The Seattle Times. Available at: https://www.seattletimes.com/opinion/focus-on-health-needs-of-those-most-in-need-including-latinx-communities/

Bowen, D. J., Briant, K. J., Harris, J., Hannon, P., & Buchwald, D. (2015). A multilevel health promotion intervention in minority-owned workplaces. *Journal of racial and ethnic health disparities*, *2*(4), 457–464. https://doi.org/10.1007/s40615-015-0093-z

Brulay, H. (2017). Study: U.S. Hispanic Businesses Continue Steady Growth, 4.4 million firms will Contribute $709 Billion to the U.S. Economy in 2017. Businesswire. Available at: https://www.businesswire.com/news/home/20171002005951/en/Study-U.S.-Hispanic-Businesses-Continue-Steady-Growth

Butthe, R. (2020). The State of Latino Business: A Conversation With Ramiro Cavazos, President And CEO Of The U.S. Hispanic Chamber of Commerce. Forbes. Available at: https://www.forbes.com/sites/rhettbuttle/2020/07/27/conversation-with-ramiro-cavazos-us-hispanic-chamber-of-commerce/?sh=5546355e20b0

Carney, M. (2012). Compounding crises of economic recession and food insecurity: a comparative study of three low-income communities in Santa Barbara County. *Agric Hum Values* **29,** 185–201. https://doi.org/10.1007/s10460-011-9333-y

Centers for Disease Control and Prevention (2015). Hispanic Health. CDC VitalSigns. Available at: https://www.cdc.gov/vitalsigns/hispanic-health/index.html

Centers for Disease Control and Prevention. Coronavirus Disease 2019. (2020). Cases in the US. Available at: https://www.cdc.gov/coronavirus/2019-ncov/cases-updates/cases-in-us.html

Choi EJ, & Spletzer JR (2012). The declining average size of establishments: Evidence and explanations. *Monthly Labor Review*, 50–65. Retrieved from: https://www.bls.gov/osmr/research-papers/2012/pdf/ec120010.pdf

Clay, L. A., & Rogus, S. (2021). Impact of Employment, Essential Work, and Risk Factors on Food Access during the COVID-19 Pandemic in New York State. *International journal of environmental research and public health*, *18*(4), 1451. https://doi.org/10.3390/ijerph18041451

Daley, B. (2021). Why Black and Hispanic small-business owners have been so badly hit in the pandemic recession. The Conversation. Economy+Business. Available at: https://theconversation.com/why-black-and-hispanic-small-business-owners-have-been-so-badly-hit-in-the-pandemic-recession-150818

Flynn, M. A., Eggerth, D. E., & Jacobson, C. J., Jr (2015). Undocumented status as a social determinant of occupational safety and health: The workers' perspective. *American journal of industrial medicine*, *58*(11), 1127–1137. https://doi.org/10.1002/ajim.22531

Gennetian, L. & Johnson, M. (2020). Work-based Risks to LAtino Workers and Their Families From COVID-19. ECONOFACT. Available at: https://econofact.org/work-based-risks-to-latino-workers-and-their-families-from-covid-19

Gruver, T. (2020). Pacific Northwest may have lowest COVID-19 case rates in U.S., mayor's findings claim. The Center Square. Available at: https://www.thecentersquare.com/washington/pacific-northwest-may-have-lowest-covid-19-case-rates-in-u-s-mayors-findings-claim/article_63b09db6-080c-11eb-9c48-9f215de64bbc.html

Hait, A. (2021). The Majority of U.S. Businesses Have Fewer Than Five Employees. United States Census Bureau. Business and Economy. Available at: https://www.census.gov/library/stories/2021/01/what-is-a-small-business.html

Harris JR, Hannon PA, Beresford SA, Linnan LA, McLellan DL.(2014). Health promotion in smaller workplaces in the United States. Annu Rev Public Health. 2014;35:327-42. doi: 10.1146/annurev-publhealth-032013-182416. PMID: 24387086.

Harris, P., Taylor, R., Thielke, R., Payne, J., Gonzalez, N. & Conde, J. (2009). Research electronic data capture (REDCap) - A metadata-driven methodology and workflow process for providing translational research informatics support, J Biomed Inform.;42(2):377-81.

Hellman, M. (2021). Interconnected: The Latino community calls for action amid high COVID-19 rates. Seattle Times. Health. Available at: https://www.seattletimes.com/seattle-news/health/interconnected-the-latino-community-calls-for-action-amid-high-covid-19-rates/

Hellman, M. (2021). King County approves hazard pay for grocery workers in unincorporated areas. Health. Seattle Times. Available at: https://www.seattletimes.com/seattle-news/health/king-county-approves-hazard-pay-for-grocery-workers-in-unincorporated-areas/

Jetter KM, Cassady DL. (2010). Increasing fresh fruit and vegetable availability in a low-income neighborhood convenience store: a pilot study. Health Promot Pract.11(5):694-702. doi: 10.1177/1524839908330808. Epub 2009 Feb 12. PMID: 19221010.

Jimenez-Magdaleno, K. (2021). How the Latinx Community Built Con Confianza Y En Comunidad. Public Health Insider. Public Health - Seattle & King County. Available at: https://publichealthinsider.com/2021/05/18/con-confianza/

Kamb, L. (2020). King County has a big racial disparity in coronavirus cases and deaths, according to public-health data. The Seattle Times. Health Section. Available at: https://www.seattletimes.com/seattle-news/health/king-county-has-big-racial-disparities-in-coronavirus-cases-and-deaths-according-to-public-health-data/

King County (2017). Demographic Trends of King County. The Office of Economic and Financial Analysis. Retrieved from: https://kingcounty.gov/independent/forecasting/King%20County%20Economic%20Indicators/Demographics.aspx

King County (2021). Race and Ethnicity data dashboard. Executive Summary. Available at: https://www.kingcounty.gov/depts/health/covid-19/data/race-ethnicity.aspx

Krouse H. J. (2020). COVID-19 and the Widening Gap in Health Inequity. *Otolaryngology--head and neck surgery : official journal of American Academy of Otolaryngology-Head and Neck Surgery*, *163*(1), 65–66. https://doi.org/10.1177/0194599820926463

La Monica, M. (2021). Why Black and Hispanic small-business owners have been so badly hit in the pandemic recession. The Conversation. Economy + Business. Retrieved from: https://theconversation.com/why-black-and-hispanic-small-business-owners-have-been-so-badly-hit-in-the-pandemic-recession-150818

Lan F, Suharlim C, Kales SN*, et al. (2020).* Association between SARS-CoV-2 infection, exposure risk and mental health among a cohort of essential retail workers in the USA*Occupational and Environmental Medicine* 2021;**78:**237-243.

Latino Center for Health (2021). COVID-19: CAses, Hospitalizations, deaths. Available at: https://latinocenterforhealth.org/physical/

Lauren, B. N., Silver, E. R., Faye, A. S., Rogers, A. M., Woo Baidal, J. A., Ozanne, E. M., & Hur, C. (2021). Predictors of households at risk for food insecurity in the United States during the COVID-19 pandemic. *Public health nutrition*, 1–19. Advance online publication. https://doi.org/10.1017/S1368980021000355

Leone, L. A., Fleischhacker, S., Anderson-Steeves, B., Harper, K., Winkler, M., Racine, E., Baquero, B., & Gittelsohn, J. (2020). Healthy Food Retail during the COVID-19 Pandemic: Challenges and Future Directions. *International journal of environmental research and public health*, *17*(20), 7397. https://doi.org/10.3390/ijerph17207397

Lucas, A. (2020). Covid Pandemic MAde Low-wage Workers Essential, But HArd-earned Gains Are Fleeting. Restaurants. CNBC. Available at: https://www.cnbc.com/2020/12/22/the-pandemic-made-low-wage-workers-essential-can-they-hold-onto-those-gains.html

Macias Gil R, Marcelin JR, Zuniga-Blanco B, Marquez C, Mathew T, Piggott DA. (2020). COVID-19 Pandemic: Disparate Health Impact on the Hispanic/Latinx Population in the United States. J Infect Dis. 222(10):1592-1595. doi: 10.1093/infdis/jiaa474. PMID: 32729903; PMCID: PMC7454709.

Metlife & U.S. Chamber of Commerce (2020) Small Business Coronavirus Impact Poll. Available at: https://www.uschamber.com/report/july-2020-small-business-coronavirus-impact-poll

Morales, D. X., Morales, S. A., & Beltran, T. F. (2020). Racial/Ethnic Disparities in Household Food Insecurity During the COVID-19 Pandemic: a Nationally Representative Study. *Journal of racial and ethnic health disparities*, 1–15. Advance online publication. https://doi.org/10.1007/s40615-020-00892-7

Moyce, Sally C.; Schenker, Marc (2017). *Occupational Exposures and Health Outcomes Among Immigrants in the USA. Current Environmental Health Reports, 4(3), 349–354.* doi:10.1007/s40572-017-0152-1

Murray, J. (2020). What is a Micro Business? *Small Business.* Available at: https://www.thebalancesmb.com/differences-between-micro-business-and-small-business-4159188

Nagata, J. M., Ganson, K. T., Whittle, H. J., Chu, J., Harris, O. O., Tsai, A. C., & Weiser, S. D. (2021). Food Insufficiency and Mental Health in the U.S. During the COVID-19 Pandemic. *American journal of preventive medicine*, *60*(4), 453–461. https://doi.org/10.1016/j.amepre.2020.12.004

Nord M, Coleman-Jensen A, Andrews M, Carlson S. (2010). Household food security in the United States in 2009. ERR-108, U.S. Department of Agriculture, Economic Research Service. Available at: https://www.ers.usda.gov/webdocs/publications/44776/7024_err108_1_.pdf?v=4464.8.

Office of Financial Management (2019). *Hispanic population as a percent of total population.* State of Washington.

Olsen, G. (2020). How the Pandemic Is Disproportionately Hurting Latinx Workers. Lendio. Blog. Available at: https://www.lendio.com/blog/pandemic-hurting-latinx-workers/

Rabbitt, M., Smith, M. & Coleman-Jensen, A. (2016). Food Insecurity Among Hispanic Adult in the United States, 2011-2014. EIB-153, U.S. Department of Agriculture, Economic Research Service. Available at: https://www.ers.usda.gov/webdocs/publications/44080/59326_eib-153.pdf?v=7422.3

Richardson A, Allen JA, Xiao H, & Vallone D (2012). Effects of race/ethnicity and socioeconomic status on health information-seeking, confidence, and trust. Journal of Health Care for the Poor and Underserved, 23(4), 1477–1493. 10.1353/hpu.2012.0181 [PubMed: 23698662]

Rural Health Information Hub (2019). Rural Health Disparities. Retrieved from: https://www.ruralhealthinfo.org/topics/rural-health-disparities

Sanchez-Flack, J. C., Baquero, B., Linnan, L. A., Gittelsohn, J., Pickrel, J. L., & Ayala, G. X. (2016). What influences Latino grocery shopping behavior? Perspectives on the small food store environment from managers and employees in San Diego, California. *Ecology of food and nutrition*, *55*(2), 163–181. https://doi.org/10.1080/03670244.2015.1112282

Sanchez-Flack, J., Baquero, B., Lin, S. F., Belch, G., Pickrel, J. L., Anderson, C., Arredondo, E., Martinez, M. E., Mayer, J., Ji, M., Elder, J. P., & Ayala, G. X. (2019). Evaluation of Store Environment Changes of an In-

Store Intervention to Promote Fruits and Vegetables in Latino/Hispanic-Focused Food Stores. *International journal of environmental research and public health*, *17*(1), 65. https://doi.org/10.3390/ijerph17010065

Sanchez-Flack, J., Pickrel, J. L., Belch, G., Lin, S. F., Anderson, C., Martinez, M. E., Arredondo, E. M., & Ayala, G. X. (2017). Examination of the Relationship between In-Store Environmental Factors and Fruit and Vegetable Purchasing among Hispanics. *International journal of environmental research and public health*, *14*(11), 1305. https://doi.org/10.3390/ijerph14111305

Sanchez, R. (2020). Why some Latino essential workers remain overlooked amid racial protest. abcNews. Available at: https://abcnews.go.com/Business/latino-essential-workers-remain-overlooked-amid-racial-reckoning/story?id=72863448

Schwatka, N. V., Tenney, L., Dally, M. J., Scott, J., Brown, C. E., Weitzenkamp, D., Shore, E., & Newman, L. S. (2018). Small business Total Worker Health: A conceptual and methodological approach to facilitating organizational change. *Occupational health science*, *2*(1), 25–41. https://doi.org/10.1007/s41542-018-0013-9

Shapiro, N. (2021). COVID-19 spikes fourfold among Washington's Latinos, and it's reaching almost every corner of the population. The Seattle Times. Available at: https://www.seattletimes.com/seattle-news/health/a-pastor-a-laundry-worker-a-laborer-a-business-owner-covid-hits-washingtons-latinos-harder-than-ever/

Soto Mas F, Mein E, Fuentes B, Thatcher B, & Balcázar H (2013). Integrating health literacy and ESL: An interdisciplinary curriculum for Hispanic immigrants. Health Promotion Practice, 14(2), 263– 273. doi: 10.1177/1524839912452736 [PubMed: 22982707]

Tai DBG, Shah A, Doubeni CA, Sia IG, Wieland ML. (2021). The Disproportionate Impact of COVID-19 on Racial and Ethnic Minorities in the United States. Clin Infect Dis. 16;72(4):703-706. doi: 10.1093/cid/ciaa815. PMID: 32562416; PMCID: PMC7337626.

U.S. Census Bureau (2021). Small Business Pulse Survey: Tracking Changes During The Coronavirus Pandemic. Experimental Data. Available at:https://www.census.gov/data/experimental-data-products/small-business-pulse-survey.html

U.S. Small Business Administration (2020). 2020 Small Business Profiles For The States And Territories. Office of Advocacy. Available at: https://advocacy.sba.gov/2020/05/20/2020-small-business-profiles-for-the-states-and-territories/

United States Census Bureau (2019). Quick Facts Washington. Retrieved from: https://www.census.gov/quickfacts/WA

United States Census Bureau (2020). U.S. Hispanic Population Growth. Available at: https://www.census.gov/library/visualizations/2020/comm/us-hispanic-population-growth.html

Wilder JM. (2021). The Disproportionate Impact of COVID-19 on Racial and Ethnic Minorities in the United States. Clin Infect Dis. 72(4):707-709. doi: 10.1093/cid/ciaa959. PMID: 32648581; PMCID: PMC7454466.

Winkler, M. R., Zenk, S. N., Baquero, B., Steeves, E. A., Fleischhacker, S. E., Gittelsohn, J., Leone, L. A., & Racine, E. F. (2020). A Model Depicting the Retail Food Environment and Customer Interactions: Components, Outcomes, and Future Directions. *International journal of environmental research and public health*, *17*(20), 7591. https://doi.org/10.3390/ijerph17207591