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The Health And Wellness Characteristics Of Food And Beverage Service Industry Workers In Austin, Texas: A Participatory Cross-Sectional Survey

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THE HEALTH AND WELLNESS CHARACTERISTICS OF FOOD AND BEVERAGE
SERVICE INDUSTRY WORKERS IN AUSTIN, TEXAS: A
PARTICIPATORY CROSS-SECTIONAL SURVEY

by

ALEXANDRIA ABBOTT, BS

APPROVED:



HENRY SHELTON BROWN III, PHD



JACQUELINE ANGEL, PHD

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Alexandria Abbott, BS, MPH, MPAff
2020

DEDICATION

To the service industry workers displaced by COVID-19.

THE HEALTH AND WELLNESS CHARACTERISTICS OF FOOD AND BEVERAGE
SERVICE INDUSTRY WORKERS IN AUSTIN, TEXAS: A
PARTICIPATORY CROSS-SECTIONAL SURVEY

by

ALEXANDRIA ABBOTT
BS, The University of Texas at Austin, 2014

Presented to the Faculty of The University of Texas
School of Public Health
in Partial Fulfillment
of the Requirements
for the Degree of

MASTER OF PUBLIC HEALTH

THE UNIVERSITY OF TEXAS
SCHOOL OF PUBLIC HEALTH
Houston, Texas
May 2020

PREFACE

Just before my 16th birthday, I began my career in the food and beverage service industry as a cashier. I worked my way up the restaurant pecking order as a janitor, dishwasher, prep cook, barista, hostess, and food runner. I finally found my niche as a waitress at a local diner, where I worked full-time during my undergraduate studies and part-time in the years following graduation.

I befriended characters with severe health problems during my tenure in the service industry: an uninsured, pregnant waitress who contracted avian influenza from cleaning the restaurant patio; a manager with untreated bipolar disorder who abused his staff and himself; older cooks working through chronic pain with no access to medical care; young coworkers with dangerous drug and alcohol dependencies; and a veteran server who was found dead in his apartment from a speculated accidental overdose.

These individuals inspired this study. Their stories highlight the need for investment in this underserved and often misunderstood segment of the U.S. workforce. It is my hope that this study sheds light on the health needs of an industry to which I owe a great deal.

ACKNOWLEDGEMENTS

Thank you to Dr. Brown and Dr. Angel for your faith in this project. I am deeply grateful for your council throughout the past few years, and I look forward to your friendship in the years to come.

Thank you to Ryan Goebel and Kat Sisler for your continuous support. This project would not have been possible without your expert judgment and kind words.

Special thanks to Brooke Brockman and all other service industry workers who gave their time to promote this project.

THE HEALTH AND WELLNESS CHARACTERISTICS OF FOOD AND BEVERAGE
SERVICE INDUSTRY WORKERS IN AUSTIN, TEXAS: A
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The University of Texas
School of Public Health, 2020

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Food and beverage service industry workers are prone to tobacco use, alcohol abuse, illicit drug use, and mental health conditions. These workers are also highly likely to not have health insurance. Despite the poor health outcomes that stem from these conditions, little to no empirical evidence currently exists to explain the factors that contribute to the poor health condition of the service industry workforce.

This study used a cross-sectional online survey to gather preliminary information on the health and wellness condition of service industry workers over the age of 18 in Austin, Texas. Survey respondents revealed high rates of alcohol abuse, substance abuse, tobacco use, poor mental health, as well as a high likelihood to be uninsured that is reflective of the service industry population nationwide. Patterns emerged regarding health insurance and health care system utilization, health insurance and employer size, pay type and prior health diagnoses, proximity to alcohol and drinking habits, and job function and health concerns. These findings justify the need for additional interest in the health needs of this population on behalf of researchers, policymakers, and service industry leaders.

TABLE OF CONTENTS

List of Tables.....	i
List of Appendices.....	ii
Background.....	1
Introduction.....	1
The Service Industry and Unionization.....	3
Health Behaviors and Service Industry Workers.....	5
Mental Health in the Service Industry.....	6
Public Health Significance.....	8
Study Objective.....	10
Research Hypotheses.....	10
Methods.....	12
Study Design.....	12
Study Population.....	13
Data Collection.....	13
Data Analysis.....	14
Safety Consideration for Human Subjects.....	14
Results.....	15
Descriptive Statistics.....	15
Open-Ended Responses.....	19
Health Coverage and Health Conditions.....	21
Health Insurance Coverage and Health System Utilization.....	22
Health Coverage Type and Size of Employer.....	22
Drinking Habits and Proximity to Alcohol in the Workplace.....	24
Payment Type and Health Conditions.....	25
Health Concerns and Occupation Type.....	27
Discussion.....	28
Health Coverage and Health Care Utilization.....	28
Tobacco Use, Alcohol Abuse, and Substance Abuse.....	29
Mental Health.....	30
Pay Structure and Occupation Type.....	31
Conclusion.....	32
Research Strengths and Limitations.....	33
Implications for Decisionmakers.....	34
Appendices.....	36
References.....	50

LIST OF TABLES

Table 1: Open-Ended Survey Responses from Austin-Area Service Industry Workers.....20

Table 2: Survey Respondents by Health Insurance Coverage Status and Prior Diagnoses from a Medical Professional.....21

Table 3: Survey Respondents by Insurance Coverage Status and Date of Last Visit to a Doctor or Nurse.....22

Table 4: Survey Respondents by Health Insurance Coverage Type and Size and Scale of Employer.....23

Table 5: Survey Respondents by Average Weekly Alcohol Consumption and Percentage of Employer’s Alcohol Sales24

Table 6: Survey Respondents by Payment Type and Health Diagnoses.....25

Table 7: Survey Respondents by Payment Type and Age.....26

Table 8: Survey Respondents by Job Type and Health Concern.....27

LIST OF APPENDICES

Appendix A: Survey Questions.....	36
Appendix B: Survey Consent Form.....	46
Appendix C: UTHealth CPHS Approval Letter.....	47
Appendix D: UTHealth Thesis Proposal Approval Letter.....	49

BACKGROUND

Introduction

The Affordable Care Act, the landmark 2010 health care package designed to increase the availability of affordable health insurance options for working Americans, requires qualifying U.S. employers to provide basic health insurance coverage for employees. Businesses with fewer than 50 full-time or full-time-equivalent employees (FTEs) are exempt from the Affordable Care Act's Employer Mandate, meaning they are not required by law to provide health coverage of any kind for their staff (IRS, 2019). Some U.S. employment sectors are comprised of mostly small businesses with fewer than 50 FTEs and, consequently, workers in these sectors often go without support from their employers when seeking and purchasing health insurance coverage.

Over 90% of food and beverage service establishments are independent operations with fewer than 50 FTEs (National Restaurant Association, 2019). Due to the small business exemption from the ACA Employer Mandate, nearly all qualifying food and beverage service establishments do not provide health coverage for staff in order to preserve thin profit margins in a competitive market; this leaves food and beverage service industry workers to fend for themselves when it comes to finding and funding their own health coverage (Cowley, 2015).

The food and beverage service industry, which will hereby be referred to as the service industry, employs 15.3 million workers, comprising approximately 10% of the U.S. workforce (National Restaurant Association, 2019). Service industry workers include servers, bartenders, barbacks, line cooks, prep cooks, chefs, managers, bakers, table bussers,

hosts and hostesses, baristas, dishwashers, cashiers, and all other personnel involved in the preparation and service of food or drinks. Non-managerial service industry workers earn an average annual pay ranging from \$21,720 to \$25,820, with tipped workers, such as servers and bartenders, generally earning on the higher end of the spectrum (United States Bureau of Labor Statistics, 2019). Tipped workers in some states, however, are paid a wage of just \$2.13 an hour, forcing a dependency on the temperament of their customers for steady income (United States Department of Labor, 2019).

An estimated 16.7% of all service industry workers live below the federal poverty level, disproportionate to the national average of 6.3% (Shierholz, 2014). Although many in this population are low income, financial need is often not enough to qualify for U.S. safety net programs. Eligibility for Medicaid, the nationwide health care safety net program for low-income individuals and families, is determined on a state-by-state basis. For instance, to be eligible for Medicaid in Texas, a state that chose not to expand its Medicaid program in the aftermath of the ACA's passage, one must have very low income and be pregnant, a parent or guardian, over the age of 65, or have a disability; these qualifications exclude many low-income, single adults from obtaining health coverage through the program (U.S. Department of Health and Human Services, 2020).

Strict safety net eligibility requirements in non-expansion states leave excluded service industry workers the option of purchasing their own health plan on the ACA marketplace. However, ACA plans can be cost-prohibitive for this population. The cost of an ACA marketplace plan ranges significantly depending on age, household size, income, and an individual's personal health needs. However, plans that offer the bare-minimum of

coverage often have premiums that cost enrollees hundreds of dollars per month (Healthcare.gov, 2020), which can be up to 20% of an average service industry worker's pre-tax annual pay (United States Bureau of Labor Statistics, 2019). Low wages, coupled with the prohibitive cost of purchasing a plan on the ACA marketplace, lead many service industry workers to forego health coverage entirely (Cowley, 2015).

The Service Industry and Unionization

A potential avenue for the service industry workforce to gain access to health coverage is through unionization. For centuries, U.S. workers used unionization and collective bargaining to open pathways for gender equality, civil rights, immigrant rights, workplace safety, retirement benefits, and other human rights in the workplace (AFL-CIO, 2020). Unionization, achieved when a critical mass of workers within a localized industry organize and pay dues in efforts to represent their workplace interests, allows workers to negotiate the terms of their employment directly with their employers through political leverage and contract negotiation. Successful unionization serves to protect workers, particularly those with low-income, from exploitation on behalf of their employer and their government, and often leads to major gains for workers in terms of wages and access to health care (AFL-CIO, 2020).

U.S. unions have seen drastic declines in membership in all employment sectors since the late 1950s (Economic Policy Institute, 2020), the reasons for which are highly complex and deserving of their own dedicated research. Nationwide union membership for service industry workers is just 2.3% (United States Bureau of Labor Statistics, 2019). Low unionization membership specific to the service industry may be due in part to the

fragmented nature of independently-owned restaurants, as well as the heterogeneous blend of race and ethnicity, gender, and immigration status that differentiate individuals' workplace needs in the service industry work environment (Tapia, Lee, & Filipovitch, 2017).

Although service industry unionization efforts have failed to gain ground nationwide, fragmented collective bargaining has succeeded in producing some slow, incremental changes in the service industry. One of the biggest labor reform efforts in modern history, known as the "Fight for \$15," was led by low-income fast-food service employees in major cities demanding minimum wage increases. The movement, catalyzed by New York City McDonald's employees in 2012, resulted in the passage of legislation increasing the minimum wage to \$15 per hour for over ten million people in several U.S. states (Fight for \$15, 2020).

One of the few existing service industry unions in the U.S., Nevada's Culinary Union (NCU) 226, made national news by refusing to endorse self-proclaimed pro-labor candidate Bernie Sanders in the state's 2020 Democratic caucuses. NCU 226, a large, powerful union that has offered comprehensive health care plans to its members since the 1960s, refused to endorse any political candidates who support Medicare for All in order to protect its members' access to their currently-held private plans (Nittle, 2020). The union's power in influencing a national primary is unprecedented, as service industry workers have rarely had the privilege of wielding such a high level of political influence.

The Fight for \$15 was a rare moment of political gain for fast food workers, just as the NCU 226 is an anomaly in terms of its robust membership and political power. The continuous absence of large-scale collective bargaining power leaves minimal opportunities

for service industry workers to earn employer-sponsored health benefits, maintaining the status quo of limited access to health care (Cowley, 2015).

Decades of literature indicate that union membership yields positive health outcomes, particularly in terms of social determinants of health (Malinowski, Minkler, & Stock, 2015), due in no small part to increased wages, increased access to health care, healthier workplace conditions, and an improved sense of community among unionized workers (Hagedorn et al., 2016). If current barriers to unionization persist, service industry workers will likely not have collective bargaining power for the foreseeable future and thus will not have access to the direct and indirect health benefits that accompany unionization.

Health Behaviors of Service Industry Workers

Alarming patterns of adverse health behavior exist within the service industry population. This industry has the third-highest rate of heavy alcohol use of any occupation, defined as five or more drinks in one sitting occurring on five days or more per month, with 11.8% of all surveyed industry employees reporting such habits (Bush & Lipari, 2015). It has the highest rate of illicit drug use of any occupational group at 19.1% (Bush & Lipari, 2015). Additionally, approximately 30% of service industry workers smoke cigarettes, the highest percentage of any occupational group (Syamlal, Jamal, & Manzurek, 2015).

Despite well-documented negative health behaviors within the service industry population, the causal explanations for these health behaviors are inconclusive and largely anecdotal. The majority of existing evidence comes from op-eds, sporadic news articles, and other gray literature, highlighting a general lack of interest in this population on behalf of academic circles.

For instance, prior surveys of service industry workers have identified a link between occupations in which workers are forced to fake positivity to please customers and self-medication with alcohol (Grandey et al., 2019). Some workers attribute excess drinking to a party culture in which customers pressure staff to drink while on the job (Buzztime, 2018), prompting some establishments to mandate that staff drink on duty if it means pleasing the customer (Day, 2016). Many workers will go out for a drink after work to celebrate the end of a long, stressful shift, which often snowballs into a party when other co-workers join at the end of their shifts (Janzer, 2017). Nearly all bars, restaurants, and clubs allow smoke breaks for their staff, which may offer the only form of respite from a long, high-stress shift and encourage tobacco use as a means to qualify for such breaks (Janzer, 2017).

Mental Health in the Service Industry

The high likelihood of service industry workers to develop mental health issues may provide clues as to why this population has high instances of adverse health behaviors. Industry workers, especially those reliant on tips, may be highly susceptible to stress and depression due to the necessity to suppress emotions while on the job to please customers as well as the precarious, transitory nature of service industry work (Andrea, Messer, Marino, & Boone-Heinonen, 2018). Women and racial and ethnic minorities make up a high proportion the service industry workforce in relation to other industries (Shierholz, 2014). These groups are especially vulnerable to poor mental health outcomes due to added stressors resulting from the intersection of gender, race and ethnicity, and low socioeconomic status (Trigg, Gustafsson, & Mansdotter, 2019).

Unfortunately, much like explanations for the industry's substance abuse problems, explanations as to why service industry workers have a higher propensity for developing mental health conditions are largely anecdotal and sourced from gray literature. Some opinion pieces attribute poor mental health to sexual harassment and bullying on behalf of supervisors and customers, which are seen as par for the course in the industry and dismissed as just "part of the job" (Johnson & Madera, 2018). Others claim that the industry's negative effect on workers' mental health is a byproduct of the restaurant industry culture at large, which is notorious for glorifying burnout and resilience as well as dismissing self-help (Grinberg, 2018).

Untreated mental health issues within the service industry population have culminated in clusters of suicides throughout the U.S. (Mantey, 2019). One of the most high-profile members of the community who was outspoken about the drugs, alcohol, and mental health issues running rampant through the industry, Anthony Bourdain, took his own life in 2018, which briefly positioned unchecked mental health issues in the service industry at the forefront of American popular culture (Grinberg, 2019).

In the aftermath of the Bourdain suicide, some long-time service industry employees made efforts to raise awareness of the high-speed, high-stress, occasionally-abusive, drug-and-alcohol-drenched environments and accompanying mental health issues that disproportionately affect industry workers (Danovich, 2018). Others have gone further to address the issues by creating virtual self-help platforms catered to the specific needs and culture of service industry workers ("Chefs with Issues," 2019). However, such scattered efforts have done little to impact the service industry culture at large and its speculated

effects on health. Attempts on behalf of service industry employees to prioritize sobriety and self-care are often met with mockery by their supervisors, customers, and peers, highlighting the challenge present in reshaping a culture that has persisted for decades (Bossart, 2018).

Public Health Significance

The service industry is expected to grow by 14% by the year 2028, making it one of the fastest-growing occupational groups in the country (United States Bureau of Labor Statistics, 2019). Unchecked alcoholism, illicit drug use, tobacco use, and mental health issues in a growing workforce have the potential to generate significant economic costs, especially given that many of those suffering from these conditions in the industry have no form of health insurance coverage.

Tobacco-related illnesses, which include cancer, cardiovascular disease, COPD, and other lethal diseases (Saha et al., 2007), cost \$170 billion in medical care and \$156 billion in productivity loss in the U.S. each year (Centers for Disease Control and Prevention, 2020). Alcohol abuse, a common element in premature deaths, generates an annual economic cost of approximately \$223.5 billion; the majority of costs (76.4%) result from binge drinking, and the bulk of economic impact (72.2%) stems from productivity loss (Bouchery et al., 2011). Illicit drug use costs an estimated \$193 billion annually in the U.S., with the majority of the cost share attributed to productivity loss; not included in this figure is the double-cost society pays in the event of hospitalization or incarceration, after which users are likely to relapse and resume nonproductivity (National Drug Intelligence Center, 2011). Mental health conditions have proven linkages to severe comorbidities such as substance abuse disorder, cardiovascular diseases, and metabolic diseases; nearly all of those who die by suicide

(90%), the second-leading cause of death among those age 10-34, demonstrated symptoms of a mental health condition prior to their death (National Alliance on Mental Illness, 2020). Research on the total cost of mental health conditions is inconclusive, mostly due to the fact that many mental health conditions in adults (approximately 65%) are undiagnosed and untreated (GAO, 2019).

The negative health conditions within the nationwide service industry population show no signs of slowing down given the lack of interest on behalf of researchers and policymakers. A greater understanding of health conditions impacting this population, and the root causes contributing to these conditions, is essential in order to inform professional public health interventions that will improve the health outcomes of these workers; evidence-based interventions tailored to this population have the potential to save health care dollars and lives. However, in order to develop evidence-based interventions that improve service industry health outcomes, advocates need to motivate researchers, policymakers, and restaurant industry decisionmakers to conduct professional research and take appropriate action to address the findings.

One approach for engaging relevant decisionmakers involves framing the issue on a local level as opposed to examining data on a national level. Local data from bartenders, waitresses, and chatty cooks at the local diner may prove more effective in inspiring action from local policymakers, researchers, and citizens than will nationwide data on the workforce, because these local decisionmakers have preexisting relationships with their local service industry community. These relationships may incline decisionmakers to protect the

health of individuals in the service industry who they know personally rather than the abstract mass of service industry workers represented in nationwide labor statistics.

Study Objective

The specific aim of this study is to gather basic information on the health and wellness condition of the food and beverage service industry workforce in Austin, Texas. Austin has a sizeable service industry comprising 10.8% of the total metropolitan area workforce (Austin Chamber of Commerce, 2019). The city's famous bar, restaurant, and entertainment districts are the foundation of Austin's economic prosperity (City of Austin, 2013). Despite the size and economic importance of the local service industry population, no local data of any kind currently exist on the health of Austin-area service industry workers.

This study is intended to identify divergent patterns in the health and wellness of Austin's service industry workers and serve as a starting point for further research on the local service industry population. This study, if supported by subsequent research on this population, may serve to motivate policymakers and public health experts to take action to improve the health and wellness of underserved service industry workers.

Research Hypotheses

Given the available background information on the service industry population nationwide, it is likely that many in Austin's service industry do not have health insurance coverage. It is also likely that Austin's service industry population has health conditions that reflect the national service industry average, including high rates of tobacco use, substance abuse, alcohol abuse, and mental health conditions. This study will examine potential correlations between adverse health outcomes and lack of insurance coverage in participating

Austin-area service industry workers, which is expected to demonstrate a positive correlation between absence of coverage and poor health outcomes of all types.

Because a significant portion of restaurants are exempt from the ACA employer mandate, it is likely that this study will confirm national patterns in terms of employer type and health insurance coverage options: participating Austin-area service industry employees will be less likely to have employer-sponsored health insurance coverage if they work at a smaller, independently-owned establishment as opposed to a larger chain establishment with a large number of FTEs.

An additional research outcome of interest regards service industry employees' alcohol consumption and their proximity to alcohol in the workplace. With anecdotal evidence depicting pressure to drink on the job in workplaces that specialize in alcohol sales, this study is likely to identify a positive correlation between the amount of alcohol a respondent consumes and the percentage of alcohol sales in the respondent's workplace.

Another research area of interest regards pay type and health condition. It is anticipated that employees who are dependent on tips for the majority of their incomes will have poorer health outcomes, because cash-in-hand payments may contribute to a culture in which employees spend more on drugs, alcohol, tobacco, and other quick-fix self-medication strategies. Additionally, it is likely that those who are reliant on customers' tips may have more adverse mental health outcomes due to the social pressures of feigned positivity and caving to customers' demands in order to receive adequate wages. Because the survey population works in Texas, a state in which the minimum wage for tipped workers is \$2.13

per hour, particular attention will be given to the health conditions of workers earning the lowest-possible hourly pay.

METHODS

Study Design

The study used a single, cross-sectional survey to gather basic demographic and health and wellness information from participating Austin-area service industry workers. The survey was designed for electronic distribution using the University of Texas Qualtrics survey tool. Participants had the option of taking the survey via smartphone, tablet, computer, or any device with internet access.

The survey (Appendix A) was divided into three sections: section one asked participants to provide basic demographic information such as age, gender, highest education level completed, and race and ethnicity; section two asked a series of questions regarding participants' current occupation in the service industry, the number of hours each participant works per week, the average wages each participant earns per shift, whether a majority of each participant's income comes from cash tips, and whether a majority of sales in each participant's work establishment come from alcohol purchases; section three asked participants to answer a series of questions regarding their personal health and wellness, such as whether or not each participant has health insurance, the frequency of each participant's alcohol consumption and illicit drug use, the frequency of each participant's tobacco use, the frequency of each participant's self-reported symptoms of depression, anxiety, and chronic stress, and each participant's self-assessment of their general health and the general health of the service industry at large. The final question in the survey gave participants the

opportunity to provide an open-ended response as to their general thoughts on the health and wellness condition of the service industry workforce.

The survey launched on January 23, 2020, and closed on March 15, 2020.

Participation in the survey was voluntary, and no compensation was offered to those who chose to participate.

Study Population

All persons over the age of 18 working in the service industry in Austin, Texas were eligible for participation in this study. Study participants were asked to verify their eligibility for the survey in the consent form (Appendix B). Because of the time and funding constraints of this project, in addition to the necessity to guarantee confidentiality in participants' responses, it was not possible to verify that each survey respondent met the study's age and employment criteria.

Data Collection

Given the limited resources available to execute this project, random sampling of the target population was not possible. Instead, the results of this survey constitute a convenience sample. Participants were recruited by word of mouth communication between participants, in-person canvassing on behalf of the principal investigator, and timed postings on Facebook pages specific to Austin-area service industry workers. Because random sampling was not possible, the results of this survey cannot be generalized to reflect the Austin-area service industry workforce at large nor the nationwide service-industry workforce.

Data Analysis

The results of the survey were analyzed using Qualtrics and Microsoft Excel. Because the study population constituted a convenience sample and is not a scientifically accurate representation of the service industry population at large, sophisticated statistical analysis was not necessary. Instead, the study identified basic trends within the sample's descriptive statistics. Analysis entailed the use of unweighted column-percent cross tabulations to identify basic relationships between relevant sample variables.

Safety Considerations for Human Subjects

Respondents were not asked to provide their name, employer's name, location, or contact information to ensure confidentiality and anonymity in the study. Additionally, the survey did not collect any potentially identifiable health data that could jeopardize the medical privacy of participants. All respondents were asked to read and acknowledge a consent form (Appendix B) affirming respondents' anonymity in participation and confirming their eligibility for study participation prior to launching the survey. Because of these privacy precautions, as well as the security measures embedded in the University of Texas Qualtrics platform, jeopardization of participants' personal information is not anticipated at this time.

This study received approval from the University of Texas Health Science Center at Houston (UTHealth) Committee for the Protection of Human Subjects as study # HSC-MS-19-0944 on November 6, 2019. A copy of the approval letter can be found in Appendix C of this document. The proposal for this thesis received an additional letter of approval from the

University of Texas School of Public Health at Houston Office of Academic Affairs and Student Services on January 19, 2020, which can be found in Appendix D.

RESULTS

Descriptive Statistics

This survey collected 134 unique responses from workers who self-identified as being over the age of 18 and employed in the Austin-area service industry, exceeding the study's initial goal of 100 unique responses. Of the respondents who reported their gender, 47 (35%) were male, 77 (57%) were female, and 3 (2%) were gender non-binary. The respondents' ages ranged from 18 to 56 years old: 16 (12%) respondents were adults under the age of 26, 64 (48%) were between the ages of 26 and 34, and 53 (40%) respondents were between the ages of 35 and 56. Regarding ethnicity, 94 (70%) respondents were white, 16 (12%) were Hispanic or Latino, 16 (12%) were mixed race, Asian, American Indian, or Alaska Native, and zero were African American. Regarding education, 17 (13%) respondents had a high school or high-school equivalent education level or less, 55 (41%) respondents had some college credit, an associate's degree, or a technical or trade certification, 37 (28%) respondents had earned a bachelor's degree, and 17 (13%) respondents had a partial or completed graduate degree. In terms of outside education, 17 (13%) respondents reported that they were enrolled in school or technical training outside of their current job in the service industry.

Of the respondents who reported their employment tenure, 30 (22%) reported working at their current job for less than 1 year, 41 (31%) reported working at their current

job for more than 1 year and less than 3 years, 31 (23%) reported working at their current job for more than 3 years and less than 10 years, and 7 (5%) respondents reported working at their current job for longer than 10 years. Regarding respondents' tenure in the service industry as a whole, 1 (<1%) respondent reported working in the industry for less than 1 year, 7 (5%) respondents reported working in the industry for more than 1 year and less than 3 years, 35 (26%) respondents reported working in the industry for more than 3 years and less than 10 years, and 74 (55%) respondents reported working in the industry for more than 10 years.

A majority of respondents (56%) reported that they currently work in an independently-owned establishment with only one or two locations in the Austin area as opposed to an establishment that is part of a larger chain or hospitality group operation (28%). Regarding alcohol sales, 54 (40%) respondents reported that 50% or more of sales to guests at their workplace are alcoholic beverages. Of the respondents who reported their occupation type, 105 (78%) reported to have some form of a customer-facing, front-of-house position.

Regarding hours worked per week, a majority of respondents worked four (14.2%), five (28.4%), or six (14.2%) shifts per week at their primary job in the service industry. Regarding length of shifts, 97 respondents (72.4%) reported that an average shift at their primary service industry job lasts between six and ten hours. In terms of dollars earned per average shift, responses were evenly distributed and ranged between \$0-\$40 per average shift to over \$300 per average shift. Regarding payment type, 43 (32%) respondents reported to earn \$2.13 per hour with a majority of their income sourced from tips, 30 (22%) reported to

earn an hourly wage higher than \$2.13 but were still dependent on tips for a majority of their income, 22 (16%) reported to earn most or all of their income from an hourly wage as opposed to tips, and 20 (15%) reported that they were salaried employees. Of those who reported on outside employment, 38 (28%) reported to have a second job in the service industry, and 36 (27%) reported to have a second job outside of the service industry.

Regarding health insurance coverage status, 65 (49%) respondents claimed to have some form of health insurance, and 46 (34%) respondents reported to have no form of health insurance. Of those who claimed to have health insurance, 22 (34%) respondents claimed to have obtained their insurance through their job in the service industry. Regarding visits to a doctor or other medical professional, 56 (42%) respondents claimed to have visited a doctor or medical professional for a concern about their health within the past 12 months, and 37 (28%) respondents claimed to have visited a dentist within the past 12 months. Of those who responded, 25 (19%) respondents reported to have never been diagnosed with a health condition, 52 (39%) reported to have been formally diagnosed with a mental health condition, 12 (9%) reported to have been formally diagnosed with substance use disorder, and 79 (59%) reported to have been diagnosed with a medical condition of some kind (including cancer, chronic pain, substance abuse and mental health conditions, obesity or excess body weight, high blood pressure, and other chronic conditions).

Regarding alcohol consumption, 42 (31%) respondents reported to drink an average of 3 or more alcoholic beverages per day, 53 (40%) respondents reported to drink an average of 1 to 2 alcoholic beverages per day, and 17 (13%) respondents reported to rarely or never drink alcoholic beverages. In terms of number of alcoholic beverages per one sitting, 47

(35%) respondents reported to have consumed more than five alcoholic beverages in a two-hour timeframe within the past 7 days; 16 (12%) of respondents reported to have consumed more than five alcoholic beverages in a two-hour timeframe within the past 24 hours. Regarding tobacco use, 42 (31%) respondents reported that they regularly smoke cigarettes, and 23 (17%) respondents reported to use e-cigarettes or vape pens. In terms of substance abuse, 17 (13%) respondents reported to use non-prescribed stimulant drugs at least once per month, 4 (3%) respondents reported to use opioids at least once per month, and 12 (9%) respondents reported to use other recreational drugs at least once per month.

In terms of self-assessed mental health, 38 (28%) respondents experienced feelings indicative of depression including sadness, anger, or hopelessness at least half of the time in the past two weeks; 65 (49%) respondents reported feelings indicative of anxiety such as difficulty relaxing or excessive worrying at least half of the time in the past two weeks; and 63 (47%) respondents reported feeling chronically stressed or overwhelmed with work and other responsibilities at least half of the time in the past two weeks. Regarding access to emotional support, 82 (61%) respondents reported to have someone they can count on to provide them with emotional support, and 52 (39%) received emotional support from coworkers or supervisors.

In terms of self-assessed general health and wellness, 77 (57%) respondents rated their health as excellent, very good, or good, 25 (19%) respondents rated their health as fair, and 7 (5%) respondents rated their health as poor. When asked about their greatest concern about their personal health, 45 (34%) respondents were most concerned about their mental health, 24 (18%) respondents were most concerned about their physical health, 16 (12%)

respondents were most concerned about their dental health, 7 (5%) respondents were most concerned about their alcohol consumption, 8 (6%) respondents were most concerned about managing their chronic conditions that require consistent medication, 4 (3%) respondents were most concerned about their tobacco use, and 1 (<1%) respondent was most concerned about their substance abuse.

Regarding respondents' perceptions of the biggest health problems faced by the industry as a whole, 42 (31%) respondents indicated that mental health is the biggest health issue faced by service industry workers, 32 (24%) respondents indicated that alcohol abuse is the biggest health issue faced by service industry workers, 19 (14%) respondents indicated that substance abuse is the biggest health issue faced by service industry workers, and 18 (13%) respondents indicated that physical health, managing chronic conditions, or other conditions are the biggest health issues faced by service industry workers.

Open-Ended Responses

The final survey question, which received 22 responses, prompted respondents to provide open-ended feedback on the general health condition of the industry. A selection of open-ended responses, chosen for their relevance to the question and their clarity, can be found in Table 1. The responses characterize the service industry as physically, mentally, and emotionally demanding. Multiple respondents cited concerns about their health and their inability to access health services. Some respondents emphasized the lack of support from their employers and their government. The open-ended responses also yielded some positive responses, including comments indicating that many enjoy the service industry lifestyle and that many industry workers are committed to sobriety.

Table 1: Open-Ended Survey Responses from Austin-Area Service Industry Workers

Q: Is there anything else you'd like to tell us about your health, the health of other people who work in the service industry, or the service industry in general?

"Many do not have insurance and do not or cannot take care of their health."

"I'm diagnosed bipolar and have struggled to find employment [that] will provide the stability or insurance to let me treat this condition. It's a vicious cycle."

"We need support and help, emotionally and medically."

"There are quite a few people who are sober in the industry."

"Many of my coworkers who do have health insurance are afraid to use it."

"Work hard play hard..."

"The work definitely takes a physical toll on your body."

"People are really not putting their mental and physical health forward. In today's day and age, especially in the United States, it is so hard to maintain a household on one job. Often people work multiple [jobs] with no time for themselves or family, plus we don't place enough importance [on] rest as well as exercise in our population. People need to be more aware of the benefits of a more balanced lifestyle. But it's hard when you have rent over \$1200, car payments, and a myriad of other things breathing down your back monthly."

"We 'work through the pain' because we get used to it, but also in my experience, because it is more expensive and difficult to get proper health care...When you're not making a whole lot to begin with – for me at least – I have no incentive to invest in my long-term health."

"I feel that the service industry has a stress amount that is beyond control. We don't make enough for insurance and being bullied by management is a huge influence on stress and anxiety attacks."

"The tipped minimum wage is far too low. Tips should not supplement pay...Health insurance needs to be covered, at least to some degree, by the state...otherwise you can't keep your health at a status that will allow you to work the hours needed to make it in this industry. That is key."

"I feel like the majority of industry people really do enjoy what we do. We like being the party. That being said, it's a very taxing business that isn't very forgiving. Long late hours, unappreciative customers, [dismissive] management that treat you as if you should feel lucky to be offered hours but don't really deserve it...All said and done, I've made lifelong friends, and while this industry has been stressful, depressing, and even brought me to tears from the pain, I've enjoyed it since my first shift."

Health Insurance Coverage and Health Conditions

A large portion of the sample population reported to have been diagnosed with a mental health condition (39%), and another large portion of the sample population reported to have no health insurance coverage (34%). A cross-tabulation of these two variables can be found in Table 2. The results indicate that a majority of those who reported to have a mental health condition also indicated that they did not have health insurance coverage (54.3%). Table 2 also indicates that respondents who have been diagnosed with a substance abuse disorder are more likely to be uninsured (15.2%) than insured (7.7%). Similar results can be seen regarding those who have been diagnosed as having excess bodyweight or obesity, as more of these respondents are likely to be uninsured (26.1%) than insured (13.8%). Respondents who reported to be insured are more likely to have never been diagnosed with a condition (26.2%) than respondents who do not have health insurance (17.4%).

Table 2: Survey Respondents by Health Insurance Coverage Status and Prior Diagnoses from a Medical Professional*

		Do you currently have health insurance?			
		Yes	No	Not Sure	Sample Total
Has a medical professional ever diagnosed you with one of the following conditions? Please select all that apply.	Cancer	0%	2.2%	0%	0.89%
	Chronic Pain	18.5%	17.4%	100%	18.8%
	Excess body weight or obesity	13.8%	26.1%	0%	18.8%
	Heart condition	4.6%	0%	0%	2.7%
	High blood pressure	16.9%	13.0%	0%	15.2%
	I have been diagnosed with a condition not listed	13.8%	17.4%	100%	16.1%
	I have never been diagnosed with a condition	26.2%	17.4%	0%	22.3%
	Mental health condition	41.5%	54.3%	0%	46.4%
	Other chronic condition requiring consistent medication	7.7%	6.5%	0%	7.1%
	Prefer not to answer	4.6%	2.2%	0%	3.6%
Substance abuse disorder	7.7%	15.2%	0%	10.7%	

* This table represents a question to which participants had multiple responses, yielding percentages over 100%.

Health Insurance Coverage and Health System Utilization

An additional finding of interest regards respondents' health insurance coverage and their last visit to a medical professional's office, which can be found in Table 3. The table suggests that those who reported to have health insurance were far more likely to have visited a doctor or nurse in the past 12 months (76.8%) than those who indicated that they do not have health insurance (23.2%). The trend is consistent throughout the most of the table, indicating that respondents with health insurance are more likely to have utilized the health care system than their uninsured counterparts within the past five years. On the opposite end of the spectrum, respondents who indicated that they do not have health insurance are far more likely to have visited a doctor or nurse over five years from the date of the survey (75%) than their insured counterparts (25%).

Table 3: Survey Respondents by Insurance Coverage Status and Date of Last Visit to a Doctor or Nurse

		When was the last time you visited a doctor or nurse for a check-up or a concern you have about your health? Do not include overnight hospitalizations or visits to the emergency room.					
		Never	Over 5 years	Past 2-5 years	Past 1-2 years	Past 12 months	Sample Total
Do you currently have health insurance?	Not sure	0%	0%	0%	5.6%	0%	0.9%
	No	100%	75%	23.2%	38.9%	23.2%	41.1%
	Yes	0%	25%	76.8%	55.6%	76.8%	58%

Health Insurance Coverage Type and Size of Employer

An additional cross-tabulation of interest regards insurance coverage type and the size and scale of the respondent's employer, specifically in terms of whether or not the respondent's employer provides them with health insurance. The results from this cross-

tabulation indicate that respondents working in larger chain restaurants (41.7%) or hospitality groups (26.7%) were more likely to receive health coverage through their employer than respondents working in independent restaurants (13.3%) or small-scale chain restaurants (10%). While it is not realistic to expect restaurant staff to know how many employees work under their employer, the question assessing size and scale gives a general impression of the employer’s health insurance provision requirements: it is likely that a majority of chain restaurants and hospitality groups, as opposed to independent restaurants, have more than 50 FTEs and are more likely to provide health insurance due to the ACA Employer Mandate in this sample.

Table 4: Survey Respondents by Health Insurance Coverage Type and Size and Scale of Employer*

		What is the size and scale of your current employer?					
		Unsure of employer’s size	Small local chain	Large restaurant chain	Hospitality Group	Independent Restaurant	Sample Total
If you indicated that you do have health insurance, please indicate how you were able to access your health insurance plan. Please select all that apply.	Covered by spouse’s plan	0%	20%	8.3%	13.3%	2.7%	6.0%
	Enrolled in local health program (HAAM/MAP)	0%	0%	0%	6.7%	6.7%	5.2%
	Under age 26	25%	10%	0%	6.7%	6.7%	6.9%
	No insurance	0%	40%	8.3%	20.0%	25.3%	23.3%
	Covered by school	0%	0%	0%	0%	1.3%	0.9%
	Covered by another job	0%	10%	8.3%	0%	1.3%	2.6%
	Purchased plan on ACA marketplace	0%	0%	8.3%	6.7%	24%	17.2%
	Service industry job provides insurance	25%	10%	41.7%	26.7%	13.3%	18.1%
	Other	0%	10%	0%	0%	4%	3.4%

* This table represents a question to which participants had multiple responses, yielding percentages over 100%.

Drinking Habits and Proximity to Alcohol in the Workplace

One of this study’s hypotheses regards workers’ proximity to alcohol in the workplace and drinking habits. According to Table 5, respondents who reported very high levels of alcohol consumption were more likely to work in establishments that do not sell any alcoholic beverages (27.3%) than they were to work in establishments that exclusively sell alcohol beverages (0%). Additionally, respondents who reported to never or very rarely drink alcohol were far more likely to work in establishments that exclusively sell alcoholic beverages (45.5%) than in establishments that do not sell alcoholic beverages (9.1%). Moderate to high alcoholic beverage consumption was more evenly distributed amongst survey participants by level of their employer’s alcohol sales. Very similar patterns were uncovered after cross-tabulating binge drinking behavior and percentage of alcohol sales.

Table 5: Survey Respondents by Average Weekly Alcohol Consumption and Percentage of Employer’s Alcohol Sales

		At your current job, about what portion of sales to guests is made up of alcoholic beverages as opposed to food, merchandise, or other products?					Sample Total
		100% of sales	> 50% of sales	50% of sales	< 50% of sales	0% of sales	
On average, how often do you drink alcoholic beverages?	Never or rarely	45.5%	3.6%	13.3%	16.0%	9.1%	14.8%
	Moderate (approx. 1-14 drinks per week)	27.3%	53.6%	53.3%	40.0%	54.5%	45.2%
	High (approx. 15-28 drinks per week)	27.3%	28.6%	13.3%	24.0%	9.1%	22.6%
	Very high (more than 29 drinks per week)	0%	14.3%	20.0%	10.0%	27.3%	13.0%

Payment Type and Health Conditions

Another finding of interest regards payment type and health, specifically in terms of poor health diagnoses and reliance on tips for wages. A cross-tabulation depicting participants' responses regarding these two variables can be found in Table 6. The table indicates that survey respondents paid by salary had a higher likelihood of having poor health diagnoses of all types in comparison to respondents with other pay structures. Respondents earning \$2.13 per hour reported a high likelihood to have a professionally diagnosed mental health condition, but no patterns distinguishing this pay group from others in the sample.

Table 6: Survey Respondents by Payment Type and Health Diagnoses*

		How are you paid at your current job?						Sample Total
		\$2.13 per hour + tips	> \$2.13 per hour + tips	50% hourly wage, 50% tips	Mostly hourly wage, some tips	100% hourly wage, no tips	Salary	
Has a medical professional ever diagnosed you with any of the following conditions? Please select all that apply.	Cancer	2.3%	0%	0%	0%	0%	0%	0.85%
	Chronic Pain	16.3%	16.0%	14.3%	33.3%	10.0%	38.4%	17.9%
	Excess body weight or obesity	11.6%	12.0%	14.3%	25.0%	10.0%	74.7%	17.9%
	Heart condition	2.3%	0%	0%	0%	0%	20.2%	2.6%
	High blood pressure	14.0%	4.0%	14.3%	25.0%	10.0%	49.5%	14.5%
	I have been diagnosed with a condition not listed	20.9%	4.0%	28.6%	25.0%	0%	31.3%	15.4%
	I have never been diagnosed with a condition	23.3%	28.0%	14.3%	8.3%	40.0%	18.2%	21.4%
	Mental health condition	53.5%	36.0%	14.3%	50.0%	20.0%	112.1%	44.4%

* This table represents a question to which participants had multiple responses, yielding percentages over 100%.

Other chronic condition requiring consistent medication	0%	8.0%	14.3%	8.3%	0%	40.4%	6.8%
Prefer not to answer	4.7%	4.0%	0%	0%	10.0%	0.0%	3.4%
Substance abuse disorder	14.0%	8.0%	14.3%	8.3%	0%	20.2%	10.3%

Table 6 warrants additional investigation as to why salaried respondents were more likely than other respondents to have received a health diagnosis from a medical professional. A potential explanation for this pattern may be age: salaried employees are likely older than hourly employees, and thus may be more likely to have a health condition due to age. Table 7 investigates the relationship between pay type and age.

Table 7: Survey Respondents by Age and Pay Type

		How are you paid at your current job?						
		\$2.13 per hour + tips	> \$2.13 per hour + tips	50% hourly wage, 50% tips	Mostly hourly wage, some tips	100% hourly wage, no tips	Salary	Sample Total
What is your age?	18-25	14.0%	4.0%	14.3%	33.3%	20.0%	0%	12%
	26-34	46.5%	40.0%	42.9%	16.7%	50.0%	50.55%	42.7%
	35-56	39.5%	52.0%	42.9%	41.7%	20.0%	49.45%	42.7%

According to the table, older survey respondents were somewhat more likely than younger respondents to be salaried employees, but not by much. Age may partially explain the high likelihood for salaried employees to have a diagnosed health condition, but it does

not thoroughly explain this pattern. Additional investigation is warranted regarding the causal explanations behind the health condition of salaried workers in the service industry.

Health Concerns and Occupation Type

Several patterns emerged when cross-tabulating participants' occupation type with health concerns. According to Table 7, which categorized respondents' self-reported occupation type into five distinct categories, survey respondents in front-of-house positions (FOH) were far more likely to report that they are most concerned about their mental health than respondents in the other job categories. Additionally, survey respondents in back-of-house positions (BOH) were far more likely to report that their greatest personal health concern is their physical health than other job categories.

Table 8: Survey Respondents by Job Type and Health Concern *

		What is your role at your current job? Please select all that apply.					
		FOH	BOH	Cleaning Services	Security	Management	Sample Total
What is your greatest concern about your personal health?	Alcohol abuse	23.9%	20.0%	0%	0%	10.3%	5.6%
	Cancer	0%	0%	0%	0%	0%	0%
	Dental health	34.6%	70.0%	33.3%	33.3%	15.4%	12.3%
	No concerns	53.2%	0%	0%	0%	0%	2.2%
	Managing chronic conditions	11.5%	25.0%	0%	0%	5.1%	4.5%
	Mental health	272.8%	70.8%	150.0%	0%	25.6%	36.9%
	Other	7.0%	0%	0%	33.3%	5.1%	3.4%
	Physical Health	143.5%	289.2%	116.7%	0%	28.2%	26.8%
	Substance Abuse	2.2%	0%	0%	0%	0%	0.56%
	Tobacco Use	27.4%	0%	0%	0%	5.1%	3.4%

* This table represents a question to which participants had multiple responses, yielding percentages over 100%.

DISCUSSION

Health Coverage and Health Care Utilization

The survey results indicated that many respondents are uninsured, which aligns with prior research on this population and confirms the study's hypothesis on the absence of health coverage in this sample. Survey respondents who receive health coverage through their employer were far more likely to work for a large restaurant chain or hospitality group than they were to work at an independent restaurant, confirming the hypothesis that the smaller establishments that employ survey respondents, which likely have fewer than 50 FTEs, are not opting in to health coverage provision. Since a significant majority of service industry establishments are independently-owned with fewer than 50 FTEs, these findings highlight the need for investigation as to the barriers faced by independent restaurant owners in providing health coverage for their staff.

An additional cause for concern, although not surprising, is that respondents who do not have health insurance were far less likely to have seen a medical professional within the past 12 months than their insured counterparts. For a sample population who reported significant need for medical care in terms of mental health, alcohol use, tobacco use, and illicit drug use, underutilization of the health system is unacceptable. Inadequate health insurance coverage, as well as inadequate health care utilization, within this sample population indicates that these adverse health conditions are likely to persist due to barriers to accessing treatment.

These findings emphasize the need for empirical evidence as to why the service industry population has high uninsured rates. Empirical evidence regarding this population's

specific barriers to obtaining health care coverage and accessing health services would serve policymakers and public health professionals in terms of developing strategies for boosting health insurance enrollment and health care utilization among this population.

Tobacco Use, Alcohol Abuse, and Substance Abuse

Nearly one third of survey respondents reported that they regularly use tobacco, which is reflective of nationwide data and in-line with this study's hypothesis. The reasons as to why this population and survey sample have a propensity to use tobacco, however, are unclear, which warrants additional research. Given the high societal cost of tobacco-related illness, studies that work to understand the psychosocial motivations for this health behavior may prove to be an excellent starting point for researchers interested in this population.

The survey responses indicated high levels of alcohol consumption and binge drinking within the sample population, which is on par with the nationwide average for this population and confirms the study's hypothesis. However, the survey results uncovered surprising findings on the sample population's frequency of alcohol consumption and its proximity to alcohol. Contrary to the study hypothesis, the results demonstrated a negative correlation between the respondents' employers' alcohol sales and the amount of alcohol consumed by the respondents. Respondents who reported to never or rarely drink were far more likely to work in establishments in which 100% of sales are in alcoholic beverages, and conversely, respondents who reported very high levels of alcohol consumption were far more likely to work in establishments that do not sell any alcohol.

This finding disproves the anecdotal theory that a party atmosphere contributes to higher drinking levels among employees among respondents in this sample. The reasons for

this finding are speculative: perhaps those who work in establishments that primarily sell alcohol have firm commitments to sobriety due to prior habits of heavy drinking, or perhaps those working regularly with alcoholic beverages choose to abstain from heavy drinking due to increased awareness of the negative social and financial impacts that may accompany heavy drinking. Further research is needed to better understand the preliminary patterns of drinking behavior uncovered in this population.

Patterns did not emerge in terms of illicit drug use and other variables within the sample. However, the fact that 9% of survey respondents have been formally diagnosed with a substance use disorder by a medical professional, coupled with the fact that 13% admitted to using non-prescribed stimulant drugs at least once per month, is cause for pause. Additionally, since survey respondents reported that substance abuse is one of their leading concerns about the service industry population at large, it is possible that some survey respondents underreported the extent of their illicit drug use. These figures, in addition to nationwide data, emphasize the need for professional research in the service industry population regarding illicit drug use.

Mental Health

Among respondents in this sample, mental health was cited as the greatest concern for both personal health and the health of the industry as a whole. The respondents' concerns are not unfounded, as an alarmingly high percentage of respondents reported to have been formally diagnosed with a mental health condition. In addition, many respondents reported symptoms of depression, anxiety, and chronic stress unrelated to formal diagnoses.

High rates of mental health conditions in a population with inadequate access to health insurance and a propensity for substance abuse is incredibly hazardous to public health. These findings are striking, and the status quo of inaction in terms of mental health treatment for this population is unacceptable. A substantial body of empirical evidence is needed to provide explanations as to why so many in the service industry struggle with their mental health. The results from peer-reviewed studies can serve to inform interventions for a population that is clearly in need of increased access to mental health services.

Because many in this sample reported to receive emotional support from coworkers or supervisors, the workplace may be an ideal environment from which to seek data and test mental health interventions in the service industry population.

Pay Structure and Occupation Type

Contrary to the study hypothesis, workers earning \$2.13 per hour were no worse off than workers with alternative pay structure in terms of health diagnoses. This disproves the study's hypothesis that working for tips, and the resulting cash-in-hand payments, would correlate with poor health. Surprisingly, salaried workers were the most likely pay type in this sample to have received a negative health diagnosis across nearly all diagnoses types.

The explanations for this pattern are purely speculative: perhaps salaried workers are older and have worked in the industry for longer, or perhaps salaried workers are under far more pressure to perform at work than their hourly-wage coworkers. The study's findings on pay structure could serve to inform future research targeting salaried service industry employees.

Occupation type yielded interesting patterns, particularly in terms of respondents' concerns about their personal health. Respondents in customer-facing FOH positions were far more likely to be concerned for their mental health than were other occupation types. Conversely, those in BOH positions were far more likely to be concerned for their physical health than were other occupation types. Speculative explanations for these results may be due to the nature of FOH work versus BOH work: FOH workers are under significant pressure to please customers and feign positivity, which could produce feelings of stress or anxiety; BOH workers, however, have physically demanding jobs in industrial kitchens that often involve very high temperatures, lifting heavy objects, and other physically demanding work conditions. Additional research uncovering the reasons as to why FOH workers and BOH workers may experience occupation-specific health needs is warranted.

CONCLUSION

The health condition of the service industry workers who participated in this survey is unacceptable. The findings, indicating that many in the sample struggle with mental health conditions, alcohol abuse, illicit drug use, and tobacco use and do not have access to health care, should be cause for alarm among public health researchers, policymakers, and service industry leadership. Although this study's sample is one of convenience, it holds value as a preliminary exercise for examining the general health and wellness condition of the Austin area service industry population. This study opens doors for future research into the service industry population at large, which could be examined by pay structure and occupation type in efforts to better understand the patterns uncovered in the results of this survey.

Research Strengths and Limitations

Given the resource constraints that shaped this study, the results of this survey provide a snapshot into the health condition of the service industry population that may serve to inform future academic research. However, several limitations of this study should be considered when designing future research on this population.

This study's sample lacked diversity in terms of race and ethnicity as well as age. The sample was mostly white, with very few Hispanic or Latino respondents and zero black respondents, which is not representative of the service industry population at large. The sample was also mostly young and middle-aged, therefore the needs of older service industry workers were not represented in the sample.

The survey was only offered in English, and as a result it failed to capture the health condition of a sizeable portion of the service industry workforce. Existing data are not entirely representative due to underreporting, but it is speculated that a sizeable portion of service industry staff is comprised of undocumented immigrants (Shierholz, 2014). This population faces significant barriers to enrollment in any type of health insurance plan due to legal constraints and fear of seeking government aid (Artiga & Diaz, 2019), and their responses would have significantly impacted the survey results. Future surveys should accommodate this segment of the service industry workforce by providing surveys in Spanish, Vietnamese, and other languages commonly spoken by newly-arrived immigrants to the United States.

The greatest limitation of this study involved the use of convenience sampling, because the results may not be interpreted as representative of the service industry population

at large. Despite its shortcomings, convenience sampling is useful in informing the need for future, more resource-intensive research (Given, 2008). Future research should invest time and resources into recruiting a random sample of service industry employees, which may also correct this study's limitations in terms of sample diversity.

Implications for Decisionmakers

Researchers have the opportunity to pioneer academic work on this little-understood segment of the U.S. workforce. The propensity of this population to suffer from tobacco use, substance abuse, alcohol abuse, and mental health conditions is relatively well-documented, giving researchers an opportunity to explore the little-understood causes driving these health issues. Future research could survey service industry workers for motivations explaining poor health behaviors and mental health outcomes, asking questions that dive deeper into the sociocultural factors that shape the service industry workplace.

Policymakers have the opportunity to better serve this population by opening pathways to health care for service industry workers. Local health care administrators could subsidize service industry workers' monthly premiums to make ACA marketplace coverage more affordable. Austin already has programs that provide health insurance subsidies and specialized mental health care for low-income musicians; perhaps those programs could be expanded or replicated to meet the needs of low-income service industry workers. State lawmakers could raise the minimum wage from \$2.13 per hour to give workers increased flexibility in purchasing a health insurance plan, and they could expand Medicaid eligibility requirements to cover able-bodied, single adults with low income. Federal lawmakers could prioritize mental health treatment for larger swaths of the population outside of the traditional

health insurance network, including the service industry workforce. However, change on the state and federal level is not likely without political sea change, as current leadership in Washington and the Texas State Capitol has taken numerous measures to reduce access to health care and entitlement benefits for low-income populations.

Restaurateurs and other service industry leaders have an opportunity to improve the health of their workforce by exploring creative pathways to accessing health care. Outspoken service industry leaders could work to unionize workers, leveraging their numbers to lobby lawmakers for health care and increased wages without cutting into establishments' profit margins. Restaurant managers and owners have an incentive to address the health needs of their staff because of the productivity loss incurred by alcohol abuse, substance abuse, and mental health. They should seriously consider the data on the health and well-being of this industry, and work to improve the health of the workforce to prevent costly losses and untimely deaths.

The justification for future investment in this population on behalf of decisionmakers is logical, but also humanitarian. The service industry workforce, many of whom we encounter on a highly frequent basis without giving any thought to the conditions under which they are required to serve, are deserving of acknowledgement, assistance, and the ability to lead healthy lives.

APPENDICES

Appendix A: Survey Questions

The first set of questions is intended to help us better understand the demographics of the people who work in the service industry. For each question, please select the answer that you feel best applies to you.

What is your age?

- Select from range 18-99*

What is your gender?

- Male
- Female
- Gender Non-Binary

What is your race or ethnicity?

- White
- Hispanic or Latino
- Black or African American
- Asian
- American Indian or Alaska Native
- Native Hawaiian or Pacific Islander
- Mixed Race
- Other

What is the highest education level you completed?

- No education completed
- Some high school
- High school or GED
- Some technical training
- Technical or trade certification
- Some college credit or associate's degree
- Bachelor's degree
- Partial master's degree
- Master's degree
- Partial doctoral degree
- Doctoral degree

In addition to your job in the service industry, are you currently enrolled in school or any type of technical training?

- Yes
- No

The next set of questions will ask you about your current job in the service industry. Please select the answer(s) that you feel best describes your job. If you currently have more than one job in the service industry, please answer the questions in a way that best describes the job at which you work the most hours per week.

How long have you been working at your current job?

- One month or less
- One to three months
- Three to six months
- Six months to one year
- One year to three years
- Three years to six years
- Six years to ten years
- Ten years to fifteen years
- Fifteen years to twenty years
- Over twenty years

How long have you worked in the service industry?

- One month or less
- One to three months
- Three to six months
- Six months to one year
- One year to three years
- Three years to six years
- Six years to ten years
- Ten years to fifteen years
- Fifteen years to twenty years
- Over twenty years

How would you describe the place where you currently work? If multiple answers apply, please choose the one answer that you think is best.

- Bakery
- Bar
- Bistro or brasserie
- Brewery or brewpub taproom
- Buffet restaurant
- Café
- Cafeteria
- Club
- Dancehall
- Diner

- Fast food
- Fast casual
- Family restaurant
- Fine dining
- Food truck or other mobile restaurant
- Hotel or inn
- Music venue
- Pub or tavern
- Specialty restaurant
- Other

What is the size and scale of your current employer?

- I work in an independently-owned establishment with only one or two locations in the Austin area.
- I work in an establishment that is owned by a hospitality group. (This response refers to a group of establishments, which may have different names and serve different products, that are all owned and operated by the same company. If you are unsure of whether or not your employer is owned and operated by a hospitality group, it is likely that someone else working in the restaurant will know.)
- I work in a chain establishment that has multiple locations in the Austin area.
- I work in a large chain establishment with many locations throughout the state and/or country.
- I am unsure of the size and scale of my employer.

At your current job, about what portion of sales to guests is made up of alcoholic beverages as opposed to food, merchandise, or other products?

- 100% of sales to guests are alcoholic beverages
- More than 50% of sales to guests are alcoholic beverages
- About 50% of sales to guests are alcoholic beverages
- Less than 50% of sales to guests are alcoholic beverages
- My employer does not sell alcoholic beverages

What is your role at your current job? Please select all that apply

- Baker or pastry chef
- Barback
- Bartender
- Busser
- Cashier
- Chef
- Cleaning services
- Cook (general)
- Line cook
- Prep cook

- Dishwasher
- Expo
- Host or hostess
- Server / waiter / waitress
- Management
- Security / bouncer

On average, how many shifts do you work per week at your main job (a “double” counts as two shifts)?

- One
- Two
- Three
- Four
- Five
- Six
- Seven
- Eight
- Nine
- Ten
- More than Ten

At your main job, about how long is an average shift?

- 3 hours
- 4 hours
- 5 hours
- 6 hours
- 7 hours
- 8 hours
- 9 hours
- 10 hours
- 11 hours
- 12 hours or more

How much do you usually earn during an average shift (including tips)?

- \$0-\$40
- \$40-\$60
- \$60-\$80
- \$80-\$100
- \$100-\$120
- \$120-\$140
- \$140-\$160
- \$160-\$180
- \$180-\$200

- \$200-\$220
- \$220-\$240
- \$240-\$260
- \$260-\$280
- \$280-\$300
- Over \$300

How are you paid at your current job?

- \$2.13 hourly wage, with a majority of income from tips
- Hourly wage higher than \$2.13, with a significant portion of income from tips
- About 50% of income from tips, 50% of income from hourly wage
- Most of income from hourly wage, some of income from tips
- All of income from hourly wage, no income from tips
- I am a salaried employee who receives tips
- I am a salaried employee who does not receive tips
- My position is unpaid / stage

In addition to your main job, do you have a second job in the service industry?

- Yes
- No

In addition to your main job, do you have a second job outside of the service industry?

- Yes
- No

The third set of questions will ask you about your overall health and wellness. Please note, all of your responses will be kept confidential and cannot be traced back to you or your employer.

Do you currently have health insurance?

- Yes
- No
- I'm not sure

If you answered yes, please indicate how you were able to access your current health insurance plan. Please select all that apply. If you answered "No" or "I'm not sure," please select "I don't have health insurance" as your response.

- My main job in the service industry provides health insurance
- I get health insurance through another job
- I get health insurance from school

- I am under the age of 26 and am covered under a parent or guardian's health insurance plan
- I am covered under my spouse's plan
- I purchased health insurance through the Affordable Care Act / ACA / Obamacare marketplace
- I am enrolled in a state or federal government-supported health insurance program (Medicaid, WIC, Medicare, Healthy Texas Women, etc.)
- I am enrolled in a local health insurance program (HAAM, MAP, etc.)
- Other
- I don't know how I was able to get health insurance
- I don't have health insurance

When was the last time you visited a doctor or nurse for a check-up or a concern you have about your health? Do not include overnight hospitalizations or visits to the hospital emergency room.

- Past 12 months
- Past 1 to 2 years
- Past 2 to 5 years
- Over 5 years ago
- Never

Has a medical professional ever diagnosed you with any of the following? Please select all that apply.

- Mental health condition (anxiety, depression, bipolar mood disorder, schizophrenia, post-traumatic stress disorder, eating disorder, or other)
- Heart condition
- Cancer
- High blood pressure
- Excess body weight or obesity
- Condition resulting in long-term chronic pain (arthritis, nerve damage, back problems, other)
- Substance abuse disorder (alcoholism, drug addiction, or other)
- Other long-term condition requiring consistent medication (HIV/AIDS, diabetes, or other)
- I have been diagnosed with a condition not listed above
- I have never been diagnosed with a condition
- Prefer not to answer

When was the last time you visited a dentist?

- Past 12 months
- Past 1 to 2 years
- Past 2 to 5 years
- Over 5 years ago

- Never

On average, how often do you drink alcoholic beverages? (A drink refers to one 12 oz. beer, 5 oz. glass of wine, or 1.5 oz. shot of hard liquor.)

- Never
- Rarely, or only on special occasions
- One to seven drinks per week (an average of one drink or less per day)
- Eight to fourteen drinks per week (an average of one or two drinks per day)
- Fifteen to twenty-one drinks per week (an average of two or three drinks per day)
- Twenty-two to twenty-eight drinks per week (an average of three or four drinks per day)
- Twenty-nine to thirty-five drinks per week (an average of four or five drinks per day)
- Thirty-six to forty-two drinks per week (an average of five or six drinks per day)
- Forty-three or more drinks per week (an average of six or more drinks per day)

When was the last time you consumed more than five alcoholic drinks beverages in one sitting (a period of roughly two hours)?

- Never
- Within the past 24 hours
- Within the past 72 hours
- Within the past 7 days
- Within the past 14 days
- Within the past 30 days
- Within the past year
- Over 1 year ago

On a typical day, how often do you smoke cigarettes or use tobacco? (There are usually 20 cigarettes in one pack.)

- Never
- Rarely
- One to five cigarettes per day
- Six to ten cigarettes per day
- Eleven to twenty cigarettes per day
- Twenty-one to thirty cigarettes per day
- Thirty-one to forty cigarettes per day
- More than forty cigarettes per day

Do you ever use e-cigarettes or vape pens?

- Yes
- No

On average, how often do you use stimulant drugs (This includes cocaine, methamphetamine, non-prescribed ADHD medication, etc.)?

- Never
- Rarely
- One to three times per month
- Once or twice per week
- Three to six times per week
- Once per day
- Multiple times per day

On average, how often do you use opioids (This includes codeine, fentanyl, heroin, methadone, oxycodone, etc.)?

- Never
- Rarely
- One to three times per month
- Once or twice per week
- Three to six times per week
- Once per day
- Multiple times per day

On average, how often do you use nitrous oxide, ketamine, MDMA, psychedelics, or other recreational drugs?

- Never
- Rarely
- One to three times per month
- Once or twice per week
- Three to six times per week
- Once per day
- Multiple times per day

In the past two weeks, how often have you experienced feelings of sadness, anger, or hopelessness?

- Never
- Sometimes
- About half the time
- Most of the time
- Always

In the past two weeks, how often have you had trouble relaxing or felt that you've worried too much about different things?

- Never
- Sometimes
- About half the time
- Most of the time

- Always

In the past two weeks, how often have you felt very stressed or overwhelmed with work and other responsibilities?

- Never
- Sometimes
- About half the time
- Most of the time
- Always

Do you have anyone you can count on to provide you with emotional support? (Emotional support includes talking about any problems you may have, as well as getting advice or help regarding a difficult decision.)

- Yes
- No
- I do not need help
- I am unsure

In the last 12 months, who has been helpful in providing you with emotional support? Please select all that apply.

- Friends
- Spouse or partner
- Family member
- Neighbors
- Coworkers
- Manager or supervisor
- Church members
- Club members
- Professional counselor or therapist
- Classmates
- Other
- No one
- I have not needed any emotional support

In general, would you say your health is:

- Excellent
- Very good
- Good
- Fair
- Poor

What is your greatest concern about your personal health?

- Mental health

- Physical health
- Substance abuse
- Alcohol abuse
- Managing condition(s) that require consistent medication
- Cancer
- Tobacco use
- Dental health
- Other
- I do not have any concerns about my personal health

What do you think is the biggest health issue faced by people who work in the service industry?

- Mental health
- Physical health
- Substance abuse
- Alcohol abuse
- Managing condition(s) that require consistent medication
- Cancer
- Tobacco use
- Dental health
- Other
- I do not think that there are any health issues commonly faced by people who work in the service industry

Is there anything you'd like to tell us about your health, the health of other people who work in the service industry, or anything else about the service industry in general?

- *Text box for open ended response.*

Thank you for your participation in the survey! You may now close this window.

Appendix B: Survey Consent Form

Welcome to the Service Industry Health and Wellness Research Study!

We are interested in understanding the health and wellness of Austin's service industry workers. You will be presented with information relevant to your job in the service industry and your health, and asked to answer some questions about it. Please be assured that your responses will be kept completely confidential and cannot be traced back to you, or to your employer, in any way.

The study should take you around 10 minutes to complete. Your participation in this research is voluntary. You may skip questions that you do not wish to answer. You have the right to withdraw at any point during the study, for any reason, and without any prejudice. If you would like to contact the Principal Investigator in the study to discuss this research, please e-mail Alex Abbott at alexandria.g.abbott@utexas.edu.

By clicking the button below, you acknowledge that your participation in the study is voluntary, you are at least 18 years of age, and that you are aware that you may choose to terminate your participation in the study at any time and for any reason.

Please note that this survey will be best displayed on a laptop or desktop computer. Some features may be less compatible for use on a mobile device.

- I consent, begin the study
- I do not consent, I do not wish to participate

Appendix C: UTHealth Committee for the Protection of Human Subjects Approval Letter



Committee for the Protection of Human Subjects

6410 Fannin Street, Suite 1100
Houston, Texas 77030

Alexandria Abbott
School of Public Health

NOTICE OF APPROVAL TO BEGIN RESEARCH
2019

November 06,

HSC-MS-19-0944 - Health and Wellness Characteristics of Food and Beverage Service Industry Employees in Austin, Texas: A Participatory Cross-Sectional Survey

PROVISIONS: This approval relates to the research to be conducted under the above referenced title and/or to any associated materials considered by the Committee for the Protection of Human Subjects, e.g. study documents, informed consent, etc.

APPROVED: By Expedited Review and Approval

REVIEW DATE: November 6, 2019

APPROVAL DATE: 11/06/2019

CHAIRPERSON: L. Maximilian Buja, MD

A handwritten signature in black ink that reads "L. Maximilian Buja".

Subject to any provisions noted above, you may now begin this research.

PLEASE NOTE: Due to revisions to the common rule that went into effect July 19, 2018, this study that was approved under expedited approval no longer needs to submit for continuing review. Changes to the study, adverse events, protocol deviations, personnel changes, and all other types of reporting must still be submitted to CPHS for review and approval. When this study is complete, the PI must submit a study closure report to CPHS.

CHANGES: The principal investigator (PI) must receive approval from the CPHS before initiating any changes, including those required by the sponsor, which would affect human subjects, e.g. changes in methods or procedures, numbers or kinds of human subjects, or revisions to the informed consent document or procedures. The addition of co-investigators must also receive approval from the CPHS. **ALL PROTOCOL REVISIONS MUST BE SUBMITTED TO THE SPONSOR OF THE RESEARCH.**

INFORMED CONSENT DETERMINATION:

Waiver of Documentation of Informed Consent

INFORMED CONSENT: When Informed consent is required, it must be obtained by the PI or designee(s), using the format and procedures approved by the CPHS. The PI is responsible to instruct the designee in the methods approved by the CPHS for the consent process. The individual obtaining informed consent must also sign the consent document. Please note that only copies of the stamped approved informed consent form can be used when obtaining consent.

HEALTH INSURANCE PORTABILITY and ACCOUNTABILITY ACT (HIPAA):

Exempt from HIPAA

UNANTICIPATED RISK OR HARM, OR ADVERSE DRUG REACTIONS: The PI will immediately inform the CPHS of any unanticipated problems involving risks to subjects or others, of any serious harm to subjects, and of any adverse drug reactions.

RECORDS: The PI will maintain adequate records, including signed consent and HIPAA documents if required, in a manner that ensures subject confidentiality.

Appendix D: Thesis Proposal Approval Letter



Office of Academic Affairs and Student Services

MEMORANDUM

TO: Alexandria Abbott

FROM: Nesh Aqrawi
Director for Academic Affairs

RE: Thesis Proposal

DATE: January 19, 2020

TITLE: Health and Wellness Characteristics of Food and Beverage Service Industry Employees in Austin, Texas: A Participatory Cross-Sectional Survey

Your proposal has been reviewed and approved by The University of Texas School of Public Health at Houston Office of Academic Affairs and Student Services. Your proposal was approved by The University of Texas Health Science Center at Houston (UTHealth) Committee for the Protection of Human Subjects as study # HSC-SPH-19-0944. You may proceed with your research.]

Cc: H. Shelton Brown III, PhD
Jacqueline Angel, PhD

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