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Vanessa Noel Torres

Assessing alcohol-related consequences, participant satisfaction, and engagement strategies in the Vida PURA study of unhealthy alcohol use among Latino immigrant men

Vanessa Noel Torres

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Reading Committee:

India J. Ornelas, Chair

Emily C. Williams

Rachel Ceballos

Dennis Donovan

Program Authorized to Offer Degree:

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University of Washington

**Abstract**

Assessing alcohol-related consequences, participant satisfaction, and engagement strategies in the Vida PURA study of unhealthy alcohol use among Latino immigrant men

Vanessa Noel Torres

Chair of the Supervisory Committee:  
India J. Ornelas, Associate Professor  
Department of Health Services, School of Public Health

Latino immigrant men have an increased risk for unhealthy alcohol use compared to men in other racial ethnic groups. The purpose of this study is to: 1) estimate the association of alcohol use and social stressors to alcohol-related consequences, 2) assess participant satisfaction and acceptability of culturally adapted Screening and Brief Intervention (SBI) to reduce unhealthy alcohol, and 3) describe engagement strategies for optimizing participation among Latino immigrant men in a community-based alcohol research study. We used data from the Vida PURA study, which included a preliminary study to assess patterns of alcohol use and the feasibility of offering a brief intervention to Latino immigrant men, and a pilot randomized control trial to assess the efficacy of a culturally adapted brief intervention to reduce unhealthy drinking. In addition, it included a qualitative study using semi-structured interviews to

determine participant perceptions of the culturally adapted brief intervention from the Vida PURA study and engagement strategies for optimizing participation. For Aim 1, we estimated the association of alcohol use and social stressors to alcohol-related consequences among Latino immigrant men using linear regression. For Aim 2, we used a mixed-methods approach to assess participant satisfaction and acceptability, including both participant surveys and in-depth interviews. For Aim 3, we used qualitative data collected by research staff and qualitative interviews to identify engagement strategies and best practices from conducting community-based alcohol research with Latino immigrant men. In Aim 1, among men in this sample, alcohol use and social stressors were positively associated with alcohol-related consequences. In Aim 2, we found that participants were highly satisfied with the content and delivery of the BI. Similarly, interviews revealed that participants had positive perceptions of the BI, felt it helped them reflect on their drinking behaviors, found *promotores* (community lay workers) to be a trusted source of health information and liked the use of tablets to see their personalized feedback. However, participants wanted clearer advice on how to reduce their drinking and more intervention contacts. Finally, in Aim 3, we identified several facilitators of study participation, including relevance of the study topic to participants, alignment with participants' goals to improve their lives and give back to their communities, partnerships with study staff that offered access to resources, and respectful treatment by research staff. Further, men reported that the study time and location were convenient and that they appreciated being fairly compensated for their time. Barriers to participation included survey questions with too high a literacy level and competing demands of work responsibilities. Future research should focus on better understanding the relevant mechanisms, incorporate and test improved components of a the

culturally adapted brief intervention and investigate how Community-based Participatory Research (CBPR) partnership processes can inform intervention and research approaches.

# TABLE OF CONTENTS

List of Figures .....	iii
List of Tables .....	iv
Chapter 1. Introduction .....	1
1.1 Background.....	1
1.2 Study Aims.....	6
1.3 Conceptual Models .....	7
1.4 Summary.....	10
Chapter 2. Alcohol use, social stressors, and alcohol-related consequences: exploring these relationships for latino immigrant men.....	11
2.1 Introduction.....	11
2.2 Methods.....	12
2.3 Results.....	16
2.4 Discussion.....	18
Chapter 3. Participant satisfaction and acceptability of a culturally adapted brief intervention to reduce unhealthy alcohol use among latino immigrant men .....	25
3.1 Introduction.....	25
3.2 Methods.....	26
3.3 Results.....	31
3.4 Discussion.....	35

Chapter 4. Engagement in a community based participatory research study to reduce unhealthy alcohol use among latino immigrant men.....	43
4.1 Introduction.....	43
4.2 Methods.....	45
4.3 Results.....	48
4.4 Discussion.....	52
Chapter 5. Conclusion.....	60
5.1 Summary of findings.....	60
5.2 Implications for research.....	61
5.3 Implications for policy & practice .....	63
5.4 Limitations .....	65
5.5 Conclusions.....	65
Bibliography .....	67

## LIST OF FIGURES

<a href="#"><u>Figure 1.1. Social determinants of alcohol use and alcohol-related consequences among Latino immigrant men.</u></a> .....	8
<b>Figure 1.2.</b> Assessing acceptability and satisfaction of a brief intervention to reduce unhealthy alcohol use .....	9
<b>Figure 1.3.</b> CBPR conceptual logic model: domains of participant engagement for the Vida PURA study .....	10
<b>Figure 3.1.</b> Assessing acceptability and satisfaction of a brief intervention to reduce unhealthy alcohol use .....	40
<b>Figure 4.1.</b> CBPR conceptual logic model: domains of participant engagement for the Vida PURA study .....	56

## LIST OF TABLES

<b><u>Table 2.1. Sample characteristics (N = 187)</u></b> .....	23
<b><u>Table 2.2. Linear regression models estimating associations between alcohol-related consequences, alcohol use and social stressors</u></b> .....	24
<b><u>Table 3.1. Sample demographic characteristics (N = 73)</u></b> .....	41
<b><u>Table 3.2. Satisfaction with the brief intervention (N = 73)</u></b> .....	42
<b><u>Table 4.1. Sample characteristics (N = 25)</u></b> .....	57
<b><u>Table 4.2. Mapping CBPR logic models with themes, subthemes and selected quotes</u></b> ..	58

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## **DEDICATION**

This dissertation is dedicated to: 1) my mom and dad; 2) my siblings; and 3) the memory of my beloved grandmother Adelaida H. Nuño (1923 – 2017) and godmother Maria G. Lozano (1945 – 2019)

## Chapter 1. INTRODUCTION

### 1.1 BACKGROUND

#### *Social and economic context of Latino immigrant men*

The health of Latino immigrant men is impacted by their social and economic context. Due to restrictive immigration policies, some Latino immigrants are living in the U.S. without legal permission. Their legal status limits their economic opportunities and makes them vulnerable to exploitation (Enriquez, 2015). For those Latino immigrant men that are undocumented, many turn to day labor as a source of income, which consists of seeking temporary employment (Valenzuela Jr, 2003); jobs such as construction and landscaping (Cepeda, Valdez, Kaplan, & Hill, 2010; Portes & Zhou, 1993; Valenzuela, Theodore, Melendez, & Gonzalez, 2006; Valenzuela Jr, 2003). These jobs are often physically demanding with increased risk of occupational injury. As a result, many Latino immigrant men that are day laborers are economically unstable and live at or below the federal poverty level (Ornelas, 2013; Valenzuela et al., 2006).

#### *Social stressors faced by Latino immigrant men*

In addition to Latino immigrants' disadvantaged social and economic status, some of these men face unique social stressors such as discrimination and acculturation stress (i.e. language barriers, unstable housing, and social isolation) (Negi, 2013; Worby & Organista, 2007). Because of these intersecting vulnerabilities related to their race/ethnicity, country of origin, immigration status and gender, Latino immigrant men have an increased risk of experiencing psychological distress (i.e. hopelessness, depression, anxiety, and *desesperacion* [desperation]) (Organista, Arreola, & Neilands, 2016; Organista, Ngo, Neilands, & Kral, 2017).

Research has also shown that Latino immigrant men may engage in unhealthy alcohol use as a way to cope with these stressors, thus increasing their risk for alcohol use disorders and social consequences of drinking (Kissinger et al., 2013; Worby et al., 2014).

### ***Patterns of alcohol use for Latino immigrant men***

Latino immigrant men have an increased risk for unhealthy alcohol use compared to men in other racial ethnic groups (Caetano & Clark, 1998; Caetano, Ramisetty-Mikler, & Rodriguez, 2008; Mills et al., 2013; Organista & Kubo, 2005). Unhealthy alcohol use is a spectrum ranging from at-risk drinking or drinking above recommended limits (for men 4 drinks per day or 14 drinks per week) (NIAAA) to meeting diagnostic criteria for alcohol use disorders (Chavez, Williams, Lapham, & Bradley, 2012; Saitz, 2005; Whitlock, Polen, Green, Orleans, & Klein, 2004). Heavy episodic drinking, defined as 5 or more drinks per drinking occasion (NIAAA) is a common form of unhealthy alcohol use among Latino immigrant men; approximately 44-58% of adult Latino immigrant men report heavy episodic drinking compared to 33% of the U.S. population (Kissinger et al., 2013; Ornelas, Eng, & Perreira, 2011). Unhealthy alcohol use increases risk for adverse health and social consequences, thus leading to greater alcohol-related morbidity and mortality (Dawson, 2000; Rehm et al., 2003).

### ***Alcohol-related consequences for Latino immigrant men***

Alcohol-related consequences of drinking include problems with physical health, relationships with family/friends, money, losing work opportunities, feelings of guilt or shame, and negative law enforcement interactions (Caetano & Clark, 1998; García, 2008; Mulia, Ye, Greenfield, & Zemore, 2009; Worby et al., 2014; Zemore, Karriker-Jaffe, & Mulia, 2013). Evidence suggests that Latino immigrant men experience greater prevalence of alcohol-related consequences than White men regardless of the quantity of alcohol consumed (Gilbert, Perreira,

Eng, & Rhodes, 2014; Herd, 1994). While the quantity of alcohol consumed and high-risk consumption patterns are associated with increased alcohol-related consequences (Hilton, 1987; Midanik, Tam, Greenfield, & Caetano, 1996; Shield, Parry, & Rehm, 2014; Stockwell et al., 1996), further research is needed on these relationships among Latino immigrant men (Caetano, Vaeth, Chartier, & Mills, 2014; Guerrero, Marsh, Khachikian, Amaro, & Vega, 2013; Vaeth, Wang- Schweig, & Caetano, 2017). The limited research available suggests that differences in the quantity of alcohol consumed cannot completely explain why Latino immigrant men have a higher risk of alcohol-related consequences compared to Whites (Zemore et al., 2018).

Other factors that may contribute to increased alcohol-related consequences among Latino immigrant men are their social and economic context compounded by their social stressors associated with their racial/ethnic minority identity and immigration status (Caetano & Clark, 1998). For example, Latino immigrant men living in low-income and urban neighborhoods, may experience more discrimination by police or law enforcement, and thus be under more law enforcement scrutiny, and in turn may be more likely than Non-Hispanic Whites to face social consequences from drinking, regardless of levels of alcohol use (Herd, 1994; Mulia et al., 2009; Park, 1983). These consequences include having a higher risk for experiencing negative law enforcement interactions, such as being more likely to get pulled over for a DUI, being involved in alcohol-related motor-vehicle accidents (Caetano, Ramisetty-Mikler, & Lori A Rodriguez, 2008), and being detained or deported depending on immigration status. However, little is known about the relationship between social stressors and alcohol-related consequences in this vulnerable population. Therefore, in order to understand how to address unhealthy alcohol use at its consequences, we need to identify factors associated alcohol-related consequences among Latino immigrant men.

### *Addressing unhealthy alcohol use among Latino immigrant men*

One approach to addressing alcohol use disparities has been to culturally adapt evidence-based interventions for high-risk underserved populations, such as Latino day laborers (Cooper, Hill, & Powe, 2002). There is some evidence suggesting that brief interventions can be effective in reducing alcohol use among Latinos with alcohol dependence and who are injured in clinical settings (Field & Caetano, 2010). However, given their limited access to health care (Alcalá, Chen, Langellier, Roby, & Ortega, 2017; Ortega et al., 2007), many Latino immigrant men are unlikely to receive brief interventions. Therefore, we may be able to observe more favorable results if the intervention is delivered in a setting that is accessible and convenient to this population (Kaner et al., 2007; Nilsen, 2010). Thus, more research is needed to improve access to, the feasibility and efficacy of, and satisfaction with alcohol-focused brief interventions among Latino immigrant men delivered in non- healthcare settings (Field et al., 2015; Whitlock et al., 2004).

The Vida PURA study was a pilot randomized controlled trial that assessed the feasibility and efficacy of a culturally adapted brief intervention to reduce unhealthy drinking among Latino immigrant men. The cultural adaptation of this evidenced-based intervention drew on Barrera and Castro's framework (Castro, Barrera, & Martinez, 2004). The process included formative research with health and social service providers and Latino immigrant men. Based on our findings we made the following modifications: 1) using bilingual and bicultural *promotores* (community lay workers) to deliver the intervention, in lieu of health care providers, 2) translating the personalized feedback materials into Spanish, 3) delivering the intervention in a community setting, as opposed to a primary care setting, and 4) referring men to low-cost

Spanish speaking services if needed (Ornelas, Allen, Vaughan, Williams, & Negi, 2015). The culturally-adapted brief intervention consisted of a 30-minute motivational interviewing (MI) counseling session that followed standard protocols for previously tested brief interventions, including personalized feedback on drinking behaviors, discussion of motives and consequences of drinking, and making a plan to change alcohol use (Whitlock et al., 2004). One key aspect to designing and evaluating culturally adapted interventions is to understand whether it is considered acceptable and satisfactory to the target population. However, existing research in this area is limited.

### ***Research Participation of Latino immigrant men***

Although Latino immigrant men experience many alcohol-related disparities, they continue to be underrepresented in research aimed at developing interventions to alleviate these burdens (Beech, 2004; Calderon et al., 2006). Under-representation in research may be due to participant fear and mistrust based on a history of exploitation, lack of culturally appropriate recruitment and engagement strategies, and competing priorities (Beech, 2004; Calderon et al., 2006). Researchers may lack culturally appropriate communication strategies to engage Latino immigrant men in research (Calderon et al., 2006; George, Duran, & Norris, 2014). Latino immigrants may also face language barriers to participating in research, if it is not conducted in Spanish (George et al., 2014; Shi, Lebrun, & Tsai, 2009). Undocumented Latino immigrants may fear that they will be reported to government officials if it is revealed that they are undocumented when participating in research (Calderon et al., 2006). Therefore, in order to address alcohol-related disparities, more research is needed on engagement strategies to engage this vulnerable population. By engaging Latino immigrant men in community-based studies, researchers may be

able to identify ways to effectively reduce unhealthy alcohol use and alcohol-related consequences.

## 1.2 STUDY AIMS

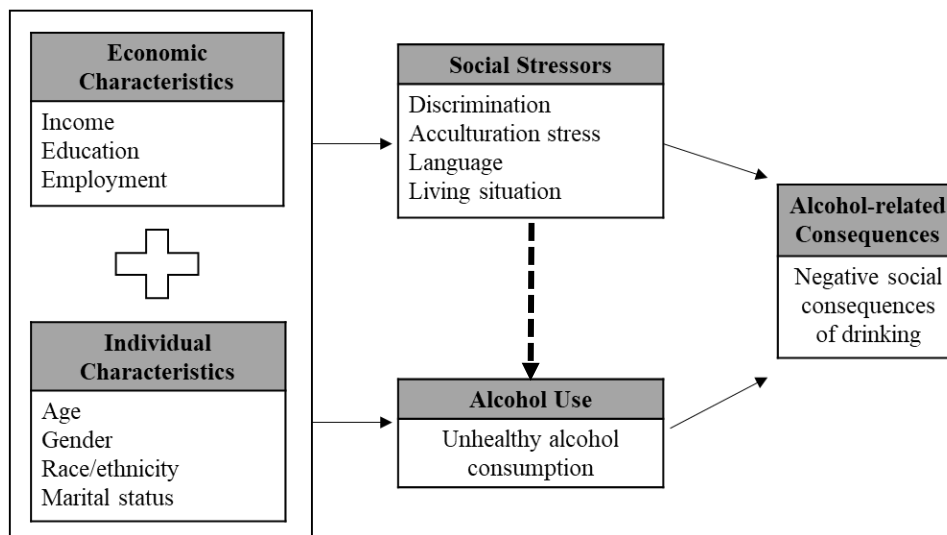
For all aims in this dissertation, we used data from the Vida PURA study. The Vida PURA study included a preliminary study to assess patterns of alcohol use and the feasibility of offering a brief intervention to Latino immigrant men and a subsequent pilot randomized control trial to assess the efficacy of a culturally adapted brief intervention to reduce unhealthy drinking (Ornelas et al., 2019; Ornelas, Torres, & Serrano, 2016). It also included a qualitative sub-study using semi-structured interviews to determine participant perceptions of the culturally adapted brief intervention from the Vida PURA study and engagement strategies for optimizing participation.

For Aim 1 (Chapter 2), we conducted a cross-sectional analysis utilizing baseline data from the Vida PURA study to estimate the association of alcohol use and social stressors to alcohol-related consequences among Latino immigrant men (N = 187). For Aim 2 (Chapter 3), we conducted a mixed methods study to assess participant satisfaction of screening and brief intervention using survey data from participants that received the intervention (N = 73) and participant acceptability with qualitative interviews (N = 20). For Aim 3, we used qualitative data collected by research staff (*promotor* logs) and qualitative interviews (N = 25) to identify engagement strategies and best practices for conducting community-based alcohol research with Latino immigrant men. Collectively, the aims of this dissertation are intended to better inform interventions and future research aimed at reducing unhealthy alcohol use among Latino immigrant men.

### 1.3 CONCEPTUAL MODELS

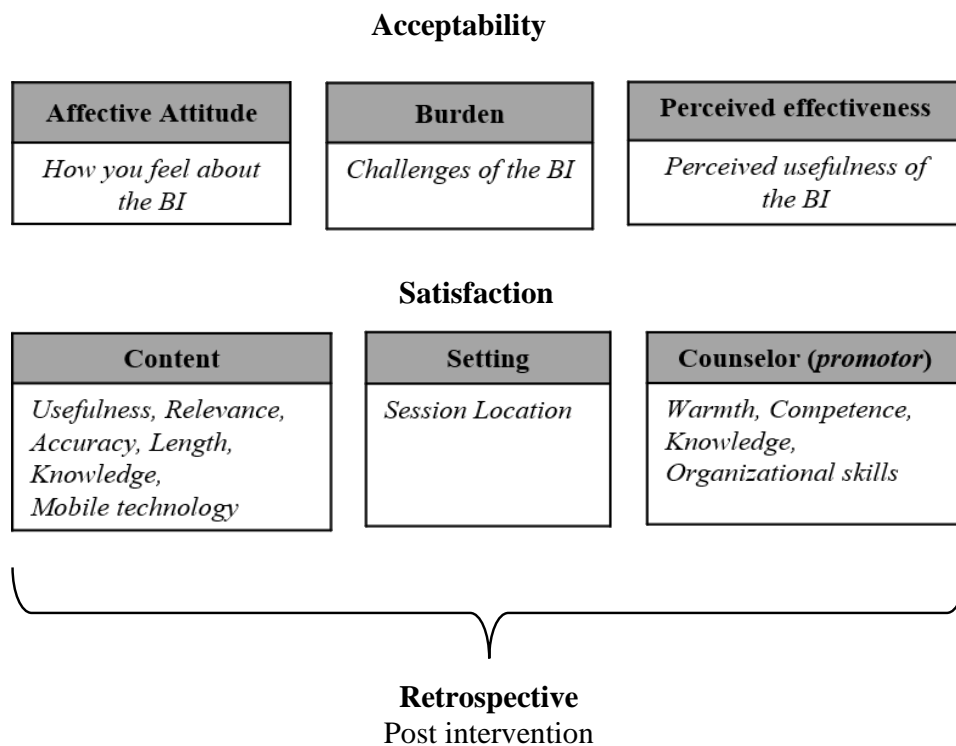
The conceptual model used for Aim 1 (**Figure 1.1**) draws from two theoretical frameworks including Lazarus & Folkman's (1984) transactional model of stress and coping, and Meyers' (1995, 2003) minority stress model to better understand the relationship between social determinants of alcohol use and alcohol-related consequences among Latino immigrant day laborers. Meyer (1995) posits that minority stress, psychosocial stress derived from minority status, arises from negative events as well as the accumulation and intersectionality of the experiences faced by minorities in a dominant society. Theories of stress and coping suggest that substance use is an avoidant coping strategy used to minimize stress (Lazarus & Folkman, 1984; Meyers, Lewis, & Parker-Dominguez, 2003). Certain stressful situations may stimulate alcohol use, due to the expectations that drinking and its effects will relieve or alleviate stress (Wilkins, Gorelick, Nademanee, & Taylor, 2000; Wills & Shiffman, 1985). Furthermore, severe and chronic stressors are associated with higher levels of alcohol use when stressors are unavoidable, uncontrollable, or occur in the absence of social support (Canino, 1994; Pohorecky, 1991; Volpicelli, 1987). This model depicts a hypothesized mechanism between individual and economic characteristics of Latino immigrant men that leads to increased alcohol consumption and social stressors related to migration to the U.S. and its effect on alcohol-related consequences (see **Figure 1.1**). The model also shows relationships between alcohol use, social stressors and alcohol-related consequences. Given the lack of social support, job stability, and continued discrimination and criminalization, Latino immigrant men may have fewer resources to cope and therefore stresses are compounded. Latino immigrant men may be more severely impacted by alcohol use or consequences than those with more economic resources. Ultimately,

their health may become more impaired, leading to a continuous cycle of downward social mobility for this population (Cockerham, 2007).



**Figure 1.1.** Social determinants of alcohol use and alcohol-related consequences among Latino immigrant men

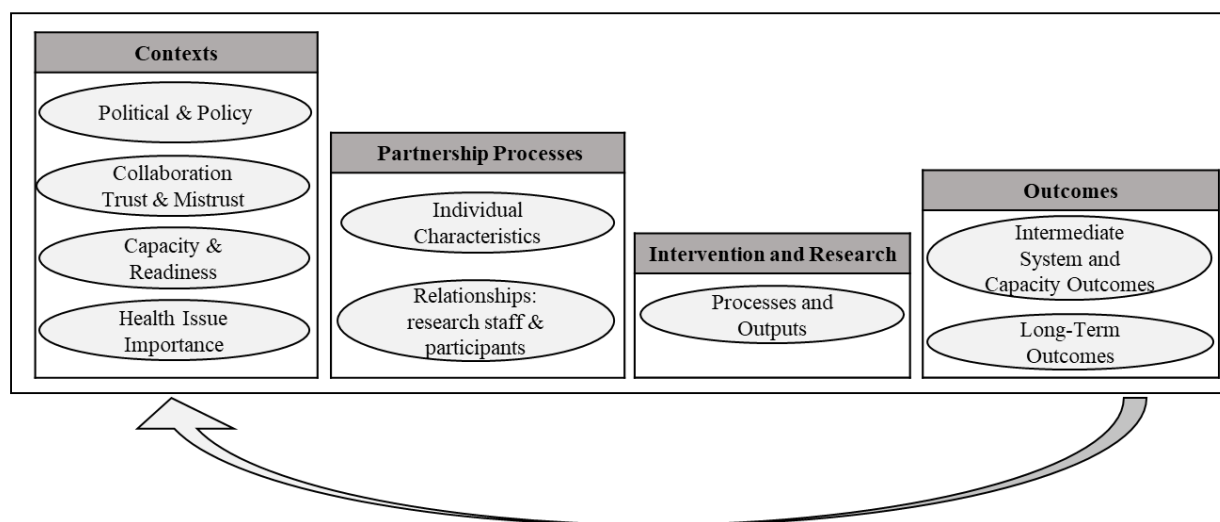
Aim 2 was guided by Sekhon and colleagues' (2017) Theoretical Framework of Acceptability (TFA) and included satisfaction constructs (Platt et al., 2016) for each culturally adapted element of the brief intervention (**Figure 1.2**). We assessed three domains of satisfaction—content, setting and counselor (*promotor*) qualities. We also assessed three domains of acceptability—attitude (i.e. how you feel about the BI), burden (i.e. challenges of the BI), and perceived effectiveness (i.e. perceived usefulness of the BI) (Sekhon, Cartwright, & Francis, 2017).



**Figure 1.2.** Assessing acceptability and satisfaction of a brief intervention to reduce unhealthy alcohol use

For Aim 3, we used Wallerstein *et al.*'s 2018 CBPR conceptual logic model (**Figure 1.3**) to identify the major components of participant engagement. The model provides a framework for understanding and evaluating the relationship between four overarching domains—contexts, partnership process, intervention & research, and outcomes—that are relevant to developing culturally centered interventions and collaborative research processes (Kastelic, Wallerstein, Duran, & Oetzel, 2018). The model posits that the contextual factors that influence the partnership processes may include the political environment (politics & policy), collaboration, trust and mistrust between the partners, capacity and readiness, and the perceived importance of health issue to the community (Kastelic et al., 2018). If these partnership processes are authentic within the context and relational spheres, they have the potential to positively affect research

design, intervention development and produce “culture-centered” approaches that fit local populations and service domains. In turn, the implementation of successful research and interventions can lead to intermediate system and capacity outcomes, and eventually long-term health outcomes (see Figure 1.3) (Kastelic et al., 2018).



**Figure 1.3.** CBPR conceptual logic model: domains of participant engagement from the Vida PURA study

#### 1.4 SUMMARY

In summary, this dissertation was guided by the three conceptual models (shown above) to address gaps in the literature related to unhealthy alcohol use among Latino immigrant men. First, we address the relationship between alcohol use and alcohol-related consequences as well as the relationship between social stressors and alcohol-related consequences. Next, we assessed participant perceptions of a culturally adapted brief intervention to determine what components worked and how it could be improved. Finally, since existing research in this area is limited and this may be due to underrepresentation of Latino immigrant men in research, we described engagement strategies for optimizing participation in a community-based alcohol research study.

## Chapter 2. ALCOHOL USE, SOCIAL STRESSORS, AND ALCOHOL-RELATED CONSEQUENCES: EXPLORING THESE RELATIONSHIPS FOR LATINO IMMIGRANT MEN

### 2.1 INTRODUCTION

Previous studies using national samples of Latinos have found that Latino men with lower levels of education and income are at increased risk of experiencing alcohol-related consequences relative to Whites (Vaeth, Caetano, Ramisetty-Mikler, & Rodriguez, 2009). Alcohol-related consequences (also referred to as social consequences of drinking) include problems with physical health, poor relationships with family/friends, financial hardships, loss of work opportunities, feelings of guilt or shame, and negative law enforcement interactions (Caetano & Clark, 1998; García, 2008; Mulia et al., 2009; Worby et al., 2014; Zemore et al., 2013). Although studies have explored the relationship between alcohol use and alcohol-related consequences across racial/ethnic groups, these relationships have not been well described among Latino immigrant men (Galvan & Caetano, 2003; Vaeth et al., 2017).

Previous studies using large national samples in the U.S. found that the quantity of alcohol consumed, especially high-risk consumption patterns, are strong predictors of alcohol-related consequences (Hilton, 1987; Midanik et al., 1996; Rehm et al., 2003; Rubinsky, Dawson, Williams, Kivlahan, & Bradley, 2013; Shield et al., 2014; Stockwell et al., 1996). Latino immigrant men have an increased risk for unhealthy alcohol use compared to men in other racial ethnic groups (Caetano & Clark, 1998; Caetano, Ramisetty-Mikler, & Rodriguez, 2008; Mills et al., 2013; Organista & Kubo, 2005). In particular, they have an increased risk for heavy episodic drinking, defined as 5 or more drinks per drinking occasion (NIAAA) compared to the men in

the general U.S. population (Kissinger et al., 2013; Ornelas, Eng, et al., 2011). Unhealthy alcohol use and heavy episodic drinking, in particular, may contribute to the alcohol-related consequences among Latino immigrant men (Naimi et al., 2003; Rehm et al., 2003). However, few studies have assessed whether the frequency and quantity of alcohol use are associated with alcohol-related consequences in this population (Caetano et al., 2014; Guerrero et al., 2013; Vaeth et al., 2017).

While there may be an association between alcohol use and alcohol-related consequences, Latino immigrant men may also experience more alcohol-related consequences than other racial/ethnic groups due to their social and economic context (Gilbert et al., 2014; Herd, 1994). Latino immigrant men face several social stressors associated with their minority status such as discrimination and acculturation stress (i.e. language barriers, unstable housing, and social isolation) (Negi, 2013; Worby & Organista, 2007) that may contribute to negative consequences of drinking (Mulia et al., 2009). However, in spite of Latino immigrant men's increased exposure to social stressors, little is known about the relationship between social stressors and alcohol-related consequences among this vulnerable population. This study aimed to examine the relationship between alcohol use and alcohol-related consequences, as well as the relationship between social stressors and alcohol-related consequences in a sample of Latino immigrant men.

## 2.2 METHODS

### *Study sample*

We conducted a secondary data analysis of data from the Vida PURA study. Vida PURA included a preliminary study to assess patterns of alcohol use and the feasibility of offering brief intervention to Latino immigrant men (2013) and a subsequent pilot randomized control trial

(RCT) to assess the efficacy of a culturally adapted brief intervention to reduce unhealthy alcohol use among Latino immigrant men (2016) (Ornelas et al., 2019; Ornelas et al., 2016). Participants in the feasibility and pilot RCT studies were recruited from Casa Latina, a day labor worker center in Seattle, Washington. Eligible participants were men who self-identify as Latino, speak Spanish, and were born outside the U.S. The pilot randomized control trial had additional inclusion criteria of an alcohol screening score of six or greater on the Alcohol Use Disorders Identification Test (AUDIT), which indicated low-risk drinking (Babor, Higgins-Biddle, Saunders, & Monteiro, 2001). Men who agreed to participate in the first feasibility study (N = 104) were given a baseline survey and screened using the AUDIT. All men with an AUDIT score  $\geq 6$  were also offered a brief intervention to reduce their alcohol use. For the pilot randomized trial, screened and eligible participants completed a baseline survey (N = 121) and were randomized into an intervention or control group. For the present secondary analysis, participants were included only if they had complete baseline data on all measures of interest. For men who participated in both the feasibility and pilot randomized trial (N = 38), we used the most current data collected during the pilot randomized trial. The total sample size of eligible participants was 187.

### ***Data collection Procedures***

Baseline surveys included measures of demographic characteristics, discrimination, acculturation stress, alcohol use, and alcohol related consequences. Baseline data were collected by Spanish speaking *promotores*, community lay workers, at a private location within the day labor center using paper surveys and tablets (preliminary study and randomized control trial, respectively). On average, baseline surveys took about 40 minutes to complete and study participants received either \$25 (first study) or \$30 (second study) for their time. All Vida PURA

study procedures were reviewed and approved by the Human Subjects Division at the University of Washington.

### ***Measures***

***Alcohol-related consequences*** were measured using a 15-item Short Inventory of Problems (SIP) questionnaire (Miller, Tonigan, & Longabaugh, 1995). Participants reported whether they have ever experienced any of the fifteen problems related to drinking (e.g. been unhappy, not eaten properly, have failed to do what is expected of them, have done impulsive things that they regret later, money problems) with no (0)/yes (1) responses. Scores from all fifteen items were summed to calculate a total SIP score ranging from 0 to 15, with higher values indicating more alcohol-related consequences (Miller et al., 1995). Additionally, preliminary analyses we calculated scores for each of the 5 subscales with three items each: physical, interpersonal intrapersonal, impulse control and social responsibility, with scores ranging from 0-3.

***Alcohol use.*** We used three measures of alcohol use that assess frequency and quantity of drinking: 1) the Alcohol Use Disorders Identification Test (AUDIT) Consumption (AUDIT-C) score, 2) drinks per drinking day, and 3) drinks per week. The AUDIT-C is a 3-item alcohol screen based on quantity and frequency questions used to identify unhealthy alcohol use (Bush, Kivlahan, McDonell, Fihn, & Bradley, 1998). Each item is scored 0-4, resulting in a total score ranging from 0-12, with higher scores indicating higher levels of alcohol-related risk (e.g. consumption, unhealthy alcohol use severity, and alcohol abuse or dependence) (Bradley et al., 2007; Rubinsky et al., 2013). For men, AUDIT-C scores of 4 or greater indicate positive screen for unhealthy alcohol use (Bush et al., 1998; Frank et al., 2008; Rubinsky et al., 2013). Drinks per drinking day and drinks per week were measured using the Timeline Follow-back (TLFB), a

calendar-based assessment measure where participants provided a self-reported estimate of the number of drinks consumed (including the type, brand, and amount) per day over the past two weeks (Agrawal, Sobell, & Sobell, 2009; Sobell & Sobell, 2003, 2007). The TLFB has been validated among Spanish-speaking populations (Sobell et al., 2001). We used a calendar labeled with special holidays or events to help recall drinking patterns over the last two weeks. We calculated number of drinks per drinking day and drinks per week and based on recommended drinking limits for men, exceeding 5 drinks per drinking day and/or 14 drinks per week indicates unhealthy alcohol use (NIAAA).

***Social stressors.*** Social stressors included discrimination and acculturation stress. Our measure of discrimination was based on items used in the Multicultural Discrimination Module in the California Health Interview Survey (CHIS), and included questions related to discrimination in different settings (Ornelas, Martinez, Mariscal, & Thompson, 2011; Shariff-Marco et al., 2009). We created indicator variables for participants that reported being “treated unfairly or discriminated against” since arriving to the U.S. in work, medical care, police/courts, and other settings, with a score of 1= yes, indicating discrimination (vs. 0= no). To measure acculturation stress, we used ten items from the Migrant Farmworker Stress Inventory (MFWSI) (Hovey & Magaña, 2000). We selected the items based on our previous studies and input from community advisors about which stressors were most relevant for Latino immigrant men. Participants were asked to rate how stressful they found the experience described in each statement (e.g. difficulty communicating in English, unable to purchase desired items, difficulty accessing healthcare, working long hours, being away from loved ones, difficulty finding a job). Responses were rated on a five-point scale ("Have Not Experienced" to "Extremely Stressful"). We summed responses for a total score ranging from 0-40, with higher scores indicating more

acculturation stress. For preliminary analyses, we also categorized acculturation stress as “low” or “high” acculturation stress based on a median split (at score of 18) (Hill, Williams, & Ornelas, 2019).

*Demographic characteristics.* We also included age in years, years living in the U.S., marital status (single/divorced/widowed, or married/cohabitating), weekly income (less than \$300, or \$300 or more), education level (primary or less, or high school graduate or more), and living situation (homeless/temporary housing, or house/apartment).

### *Analysis*

We calculated means and percentages to describe alcohol-related consequences, alcohol use, social stressors, and demographic characteristics. Bivariate analyses were performed to assess the independent association between participant characteristics, social stressors and alcohol-related consequences using chi-square tests of independence for categorical measures and Pearson’s correlation for continuous measures. As part of the bivariate analyses, we also ran linear unadjusted models.

To assess the relationship between alcohol use and alcohol-related consequences, we conducted three linear regression models, one for each measure of alcohol use. Next, to assess the relationship between social stressors and alcohol-related consequences we conducted two linear regression models, one for each social stressor. All models were adjusted for participant demographic characteristics with robust standard errors. Estimates of main effects were reported with 95% confidence intervals (CI). All analyses will be conducted using Stata MP Edition, v14.

## 2.3 RESULTS

The demographic characteristics of participants are described in Table 2.1. The mean age of the sample was 47 years old and they had been living in the United States for eighteen years

on average. Most participants were single (73%), low income, with low levels of education, and many were homeless or living in temporary housing (42%). We found that the sample experienced an average of 7 alcohol-related consequences overall. The most commonly reported alcohol-related consequences included social responsibility problems (i.e. I have failed to do what is expected of me, I have had money problems, and I have had an accident while drinking or intoxicated) with a mean score of 1.6 problems. Next, participants reported experiencing an average of 1.5 intrapersonal problems including the following: I have been unhappy because of my drinking, I have felt guilty or ashamed, and my drinking has gotten in the way of my growth as a person. Similarly, participants reported experiencing 1.5 physical problems (i.e. my physical health and appearance have been harmed and I have not eaten properly).

The mean AUDIT-C score was 6.3, indicating a positive screen for unhealthy alcohol use. Men reported consuming an average of 6.6 drinks on days that they drank indicating daily heavy episodic drinking, and 19.6 drinks per week. Furthermore, more than half of the men (61.5%) reported experiencing discrimination in at least one setting. Twenty percent of men had experienced discrimination when getting medical care, 28% had experienced discrimination by police or courts, and 37% had experienced discrimination at work. The men reported an average acculturation score of 18.3 indicating a high levels of acculturation stress. More than half of the participants (52%) reported high acculturation stress (i.e. their experiences related to immigration, communication, poverty, health care, work and feeling of belonging were somewhat or extremely stressful).

Table 2.2 provides estimates from the five unadjusted and adjusted linear regression analyses. Increasing levels of alcohol use were associated with increasing alcohol-related consequences in both unadjusted and adjusted models ( $p < 0.001$ ). In the adjusted models, each

1-unit increase in the AUDIT-C score was associated with an increase of 0.48 points on average in the SIP score. In addition, each additional drink per drinking day was associated with an increase in the SIP score of 0.23 points on average. For each additional drink per week, the SIP score increased by 0.06 points on average. After adjusting for participant characteristics, the estimates slightly decreased, but remained in the same direction.

Experiencing social stressors was also associated with increased alcohol-related consequences in both the unadjusted and adjusted models. In the adjusted models, men who reported experiencing discrimination had SIP scores 2.52 points higher on average than those that did not. For acculturation stress, each 1-unit increase was associated with a SIP score increase of 0.21 points. Similarly, estimates for adjusted models compared to unadjusted models remained very consistent.

## 2.4 DISCUSSION

In this sample of Latino immigrant men, we found high levels of alcohol use and high prevalence of social stressors. Men in our study had high AUDIT-C scores, as well as drinking quantities and frequency indicating unhealthy alcohol use. The drinking patterns in this population were comparable to the drinking patterns observed in previous studies of Latino immigrant men (Kissinger et al., 2013; Ornelas, Eng, et al., 2011). Consistent with our previous work, we also found that the majority of men in our study experienced discrimination and that levels of acculturation stress were high (Hill et al., 2019). Men most often reported experiencing discrimination at work which reflect the most common social settings Latino immigrant men more often engage in (Flippen & Parrado, 2015) and by the police or courts.

In this cross-sectional analysis of a recruited sample of Latino immigrant men, higher levels of alcohol use and social stressors were associated with more alcohol-related

consequences. The most prevalent alcohol-related consequences included failing to meet expectations, problems with money, and motor vehicle accidents while drinking or being intoxicated. Previous studies of alcohol-related consequences among Latinos have focused on experiences in the past year and have included both U.S. and foreign-born (Caetano & Clark, 1998; Caetano et al., 2008; Vaeth et al., 2009). Therefore, it is difficult to directly compare our findings to these studies. However, these studies have reported that Latinos experience similar types of consequences as those reported in our study, including financial problems, belligerence, and problems with their spouses (Caetano & Clark, 1998; Vaeth et al., 2009).

Our findings showed that increased alcohol use was associated with alcohol-related consequences. This association has been well documented in many studies, although few among Latino immigrant men specifically (Hilton, 1987; Midanik et al., 1996; Rehm et al., 2003; Shield et al., 2014; Stockwell et al., 1996). In an analysis of the prevalence and correlates of alcohol-related consequences among Latinos in the Hispanic American Baseline Alcohol Survey (HABLAS), Vaeth and colleagues (2009) found that besides the quantity of drinking, the frequency of heavy episodic drinking contributed independently to the risk of developing alcohol-related consequences. Similarly, in our sample of Latino immigrant we also found that the quantity and frequency of alcohol use were associated with experiencing more alcohol-related consequences.

Our study also found that social stressors were positively associated with alcohol-related consequences. One key finding was that experience of discrimination was associated with substantially increased risk of alcohol-related consequences. Given that 61% of the sample reported experiencing discrimination in one or another setting, these findings are particularly concerning. One potential pathway described by previous studies is that perceived discrimination

is associated with higher levels of alcohol use among racial/ethnic minority individuals (Gerrard et al., 2012; Martin, Tuch, & Roman, 2003) and thus leads to more alcohol-related consequences. For example, Latino immigrant men may be engaging in unhealthy alcohol use to cope or escape negative feelings from experiencing discrimination, which directly places them at risk for alcohol-related consequences (Cooper, Frone, Russell, & Mudar, 1995; Wray, Pantalone, Kahler, Monti, & Mayer, 2016). However very little is known about the type and level of discrimination experienced by a specific racial/ethnic group and the mechanisms through which discrimination affects alcohol outcomes (i.e. alcohol consumption, alcohol-related consequences) therefore more research is needed to explore this relationship (Gilbert & Zemore, 2016). Although we may be unclear about the mechanisms through which discrimination affects alcohol outcomes, our findings suggest that interventions are needed on two fronts—to reduce discrimination and to help decrease drinking by combatting the negative effects of discrimination.

In addition to discrimination, we found high levels of acculturation stress in our study. Our findings are consistent with a study of urban heavy drinking Latinos in the Northeast U.S., which found that acculturation stress was associated with alcohol-related consequences (Lee et al., 2013). Our results suggest that acculturation stress may also increase risk for experiencing negative social drinking consequences among Latino immigrant men. For example, Latino immigrant men living in a disadvantaged economic context and experiencing high levels of acculturation stress as a result of being away from loved ones, lacking job stability and health care access may be less able to mitigate alcohol-related consequences. Future studies should further explore the relationship between acculturation stress and alcohol-related consequences, as well as how this varies by level of alcohol use.

Another possible explanation is that social stressors are directly related to alcohol-related consequences, independent of their association with alcohol use. For example, some consequences depend on other factors not directly related to the quantity and pattern of drinking of an individual (Vaeth et al., 2009) such as living in low-income and urban neighborhoods, under more law enforcement scrutiny, which may put these men at a higher risk for experiencing consequences, such as negative law enforcement interactions, being more likely to get pulled over for a DUI, being involved in alcohol-related motor-vehicle accidents (Caetano et al., 2008), or being detained or deported by immigration officials. However, we need to further unpack the social stressors faced by Latino immigrant men such as housing, legal status, and family structure and their association with alcohol use and alcohol-related consequences.

### ***Limitations***

There are some important limitations to this study. First, the data we used for this study are cross-sectional, and therefore we cannot make any causal interpretations. Secondly, the findings were limited to our study sample which was recruited for a randomized controlled trial to reduce unhealthy alcohol use from a day labor center, and we cannot generalize to other Latino immigrant populations. Third, there may be bias due to participant recall or social desirability bias. Participants may underreport alcohol use due to the timeframe in which questions were asked (seasonal variability), forgetfulness as a result of heavy drinking, and the way the questions are asked (Sobell & Sobell, 2003). Consequently, alcohol-related consequences may also be underreported for similar reasons. Therefore, if alcohol use and alcohol-related consequences are underreported, there may other associations we were not able to detect.

## *Conclusions*

Despite these limitations, this is the first study to our knowledge to investigate the relationship between alcohol use, social stressors and alcohol-related consequences among a community-based sample of Latino immigrant men. We found that while drinking levels were associated with alcohol-related consequences, social stressors were also associated with alcohol-related consequences, suggesting that unhealthy alcohol use in the context of social stressors may exacerbate alcohol-related consequences. Therefore, it is important to consider factors related to social and cultural context of Latino immigrant men (Mulia et al., 2009) in order to better understand the impact of alcohol-related consequences. The findings suggest that behavioral interventions need to address multiple sources of risk (i.e. discrimination, economic and social context) to enhance their efficacy in changing behavior (Mulia et al., 2009). For example, interventions are needed to reduce discrimination and to help decrease drinking by combatting the negative effects of discrimination. While our study focused on discrimination and acculturation stress, other social stressors such as housing, legal status, and family structure may also contribute. Future research is needed to better understand patterns of alcohol-related consequences among this population and to further investigate the joint effects of alcohol use and social stressors to predict alcohol-related consequences. For example, future studies should investigate whether different kinds of discrimination or experiencing discrimination in different settings impacts both alcohol use and risk of experiencing alcohol-related problems.

**Table 2.1 Sample characteristics (N = 187)**

	N/Mean	% (SD)
<b>Participant Characteristics</b>		
Age (years)	47.0	(11.5)
Years living in the United States	18.2	(11.6)
Marital status		
Single/divorced/widowed	137	73.3
Married/cohabitating	50	26.7
Weekly income		
Less than \$300	107	58.5
\$300 or more	76	41.5
Education level		
Primary or less	99	52.9
High school graduate or more	88	47.1
Living situation		
Homeless or temporary housing	78	41.7
House/apartment	109	58.3
<b>Alcohol Use</b>		
AUDIT-C	6.3	(3.4)
Drinks per drinking day	6.6	(5.8)
Total drinks per week	19.6	(29.1)
<b>Social Stressors</b>		
Discrimination		
Medical	36	19.5
Police	51	27.6
Work	69	37.1
Any	112	61.5
Acculturation stress		
Low	88	48.4
High	94	51.7
Acculturation stress score (0-40)	18.3	(7.2)
<b>Alcohol-related Consequences</b>		
Physical problems (0-3)	1.5	(1.2)
Interpersonal problems (0-3)	1.3	(1.3)
Intrapersonal problems (0-3)	1.5	(1.3)
Impulse control problems (0-3)	1.4	(1.1)
Social responsibility problems (0-3)	1.6	(1.3)
Total SIP score (0-15)	7.2	(5.5)

\*Not all categories add up to 187 due to missing data for some variables

**Table 2.2 Linear regression models estimating associations between alcohol-related consequences, alcohol use and social stressors**

Variable	Unadjusted models		Adjusted models		
	<i>B</i>	<i>SE B</i>	$\beta$	<i>95% CI</i>	<i>R</i> <sup>2</sup>
<i>Alcohol use</i>					
AUDIT-C score	0.63***	0.11	0.48***	(0.22, 0.74)	0.19
Drinks per drinking day	0.32***	0.07	0.23***	(0.10, 0.37)	0.19
Total drinks per week	0.08***	0.08	0.06***	(0.03, 0.09)	0.19
<i>Social stressors</i>					
Experienced discrimination (vs. none)	3.07***	0.83	2.52**	(0.89, 4.15)	0.16
Acculturation stress	0.23***	0.06	0.21***	(0.11, 0.31)	0.19

*Note.* Models are adjusted for age, years living in the U.S., marital status, income, education, living situation

\* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$

## Chapter 3. PARTICIPANT SATISFACTION AND ACCEPTABILITY OF A CULTURALLY ADAPTED BRIEF INTERVENTION TO REDUCE UNHEALTHY ALCOHOL USE AMONG LATINO IMMIGRANT MEN

### 3.1 INTRODUCTION

One approach to addressing substance use disparities has been to culturally adapt evidence-based interventions for high-risk underserved populations, such as Latino immigrant men (Cooper et al., 2002). Recent reviews have called for more rigorous evaluation of culturally adapted interventions in order to assess their reach and effectiveness (Alvidrez et al., 2019; Castro & Yasui, 2017; Nápoles, Santoyo-Olsson, & Stewart, 2013). Our study aimed to assess participant satisfaction and acceptability of a culturally-adapted brief intervention aimed at reducing unhealthy alcohol use among Latino immigrant men. Previous studies have shown that brief interventions can be effective in reducing alcohol use among Latinos in clinical settings (Field & Caetano, 2010). However, given their limited access to health care (Alcalá et al., 2017; Ortega et al., 2007), many Latino immigrant men are unlikely to receive brief interventions.

Our cultural adaptation of this evidenced-based intervention drew on Barrera and Castro's framework (Castro, Barrera, & Martinez, 2004). The process included formative research with health and social service providers and Latino immigrant men (Castro et al., 2004). Based on our findings we made the following modifications: 1) using bilingual and bicultural *promotores* (community lay workers) to deliver the intervention, in lieu of health care providers,

2) translating the personalized feedback materials into Spanish, 3) delivering the intervention in a community setting, as opposed to a primary care setting, and 4) referring men to low-cost Spanish speaking services if needed (Ornelas et al., 2015). The culturally-adapted brief intervention consisted of a 30-minute motivational interviewing counseling session that followed standard protocols for previously tested brief interventions, including personalized feedback on drinking behaviors, discussion of motives and consequences of drinking, and making a plan to change alcohol use (Whitlock et al., 2004).

We conducted a pilot randomized trial (Vida PURA) to assess the efficacy of the culturally-adapted brief intervention relative to the control condition (Ornelas et al., 2019). Although self-reported alcohol use decreased in both arms, there were no significant differences between the intervention and control group (Ornelas et al., 2019). Given these results, we sought to evaluate participant satisfaction and acceptability to help explain if participants rendered the intervention less useful than expected.

One key aspect to intervention effectiveness is the extent to which the intervention is considered acceptable and satisfactory to those receiving it. We drew on the Theoretical Framework of Acceptability (TFA, v2) (Sekhon et al., 2017) to assess participant satisfaction and acceptability of the culturally adapted brief intervention. Our goal was to identify which elements of the intervention were preferred by participants, as well as which were perceived to be most helpful. We also sought to identify whether intervention components could be improved in future studies of brief interventions to address unhealthy alcohol use in this population.

## 3.2 METHODS

### *Vida PURA study procedures*

Participants in the Vida PURA study were recruited from a community-based organization serving Latino immigrants in Seattle. The organization served as a day labor worker center, and therefore many Latino immigrant men came to the organization seeking employment each day. Persons were eligible who: self-identified as Latino male, spoke Spanish, were born outside the U.S. (immigrant) and screened positive for unhealthy alcohol use (based on a score of six or higher on the Alcohol Use Disorders Identification Test [AUDIT]). Eligible participants completed a baseline survey (N = 121), were randomized into either an intervention or control group, and completed two and eight week follow-up surveys with participant retention rates of 86% and 88%, respectively) (Ornelas et al., 2019). For this study only survey data from men who received the intervention (N = 85) and completed two week-follow up surveys (N = 73; 86%) were included.

The culturally-adapted brief intervention was delivered by *promotores* with the aid of intervention content presented using mobile technology (Microsoft Surface Pro). Participants were given personalized feedback on their drinking behaviors that was generated based on survey results and presented on the tablets. Participants were then shown a list of their self-reported drinking motivations and consequences on the tablet to help generate a discussion about pros and cons of their drinking. Lastly, the participants were asked to assess their readiness to change their drinking behavior using a readiness ruler with a linear scale from 0 to 10 (higher score indicating greater willingness to consider change).

### ***Present study—sample and design***

We used a mixed-methods approach to assess participant satisfaction and acceptability, including both participant surveys and in-depth interviews. We specifically used a concurrent embedded (nested) design, in which qualitative interviews were embedded within the Vida

PURA pilot randomized trial (Creswell, 2013). Interviewer-administered participant satisfaction surveys were completed for 86% of the participants that received the intervention and completed the 2-week follow up assessment (N = 73). In order to assess participant acceptability of the brief intervention, we conducted in-depth qualitative interviews (N = 20) with a random sample of participants from the Vida PURA study that received the brief intervention, completed follow-up assessments, and gave permission to be contacted for additional interviews. Qualitative interviews were conducted from January 2016 to December 2016 and study participants received \$30 for each survey and interview completed. Quantitative and qualitative data were collected simultaneously and were then integrated during the analysis phase (Creswell, 2013, 2015; Tashakkori & Teddlie, 2003).

For the purposes of this study participant acceptability and satisfaction were defined and conceptualized as two distinct concepts. Each was analyzed separately using a distinct methodology (i.e. qualitative interviews for acceptability and quantitative surveys for satisfaction), and during interpretation we assessed the differences and possible overlap between the two (Creswell & Plano Clark, 2011). Our goal in analyzing the qualitative interviews and the quantitative survey responses together was to provide a more holistic and comprehensive understanding of participants' perspectives (Abbastashakkori, 2003; Creswell, 2013). This study was approved by the Human Subjects Division at the University of Washington.

***Data collection: participant satisfaction and acceptability***

Our study was guided by Sekhon and colleagues' (2017) TFA and included satisfaction constructs (Platt et al., 2016) for each culturally adapted element of the brief intervention (**Figure 3.1**). We assessed three domains of satisfaction—content, setting and counselor (*promotor*) qualities. We also assessed three domains of acceptability—attitude (i.e. how you

feel about the BI), burden (i.e. challenges of the BI), and perceived effectiveness (i.e. perceived usefulness of the BI) (Sekhon et al., 2017).

### *Demographic characteristics*

Vida PURA survey data were used to summarize participants' demographic characteristics including participant age, number of years residing in the U.S., weekly income, level of education, and total hours worked per week.

### *Satisfaction*

Satisfaction was assessed via a survey administered to the intervention group two-weeks after receiving the brief intervention. Satisfaction with the content of the brief intervention was assessed using responses to eight items that corresponded to different aspects of the intervention (i.e. usefulness, relevance, accuracy, knowledge, length, and use of mobile technology). An example item was, "I found the information provided to be useful in helping me to think about my alcohol use." Satisfaction with the setting of the brief intervention was assessed with two items about session location (e.g. "the location of the session was convenient" and "the location of the session was safe"). Satisfaction with counselor (*promotor*) relationships was assessed with four items related to the *promotor's* warmth, competence, knowledge, and organization skills. An example item was, "The counselor seemed warm and understanding." Levels of satisfaction were rated based on a Likert-scale ranging from 0-4 (0= completely disagree, 1= disagree, 2= Neutral, 3= agree, and 4= completely agree). We categorized participants as being "satisfied" with the intervention if they responded with agree or completely agree and "not satisfied" if they responded with completely disagree, disagree, or neutral.

### *Acceptability*

The qualitative interview guide included a series of twenty open-ended questions with structured probes to elicit information regarding acceptability of the intervention. Acceptability was defined as how the recipients of the intervention perceive and react to it (Brooke-Sumner et al., 2015). We asked participants what they generally thought about the brief intervention, as well as what they found most challenging and useful. All interviews were conducted in-person and in Spanish at a private location at the day labor worker center and lasted between 30-45 minutes.

### *Data analysis*

For the quantitative data, we calculated means and percentages to describe demographic characteristics and participant satisfaction with the brief intervention.

For the qualitative data, audio recordings of the in-depth interviews were transcribed verbatim and reviewed for accuracy. The data were analyzed using template analysis, a technique that utilizes thematic coding which allows the use of a priori codes as well as emergent identification codes (King, 1998). The initial template for coding was informed by the semi-structured interview questions and the theoretical framework of acceptability (Sekhon et al., 2017). The coding template was used by two bilingual research assistants to code three initial transcripts. After resolving discrepancies, we modified the template and remaining transcripts were coded independently using Atlas.ti Version 8. We generated queries in Atlas.ti which included all quotations for each code. The lead author (VT) read the queries and identified themes which were then further refined within the larger research team. We drafted a summary of the themes which were shared with co-investigators and community advisors for assistance with interpretation. Salient quotes were identified for each theme and then translated from Spanish to English.

### 3.3 RESULTS

Table 3.1 shows the participant characteristics. The mean age was 48 years old, the majority of men were from Mexico (66%) and had been living in the U.S. for an average of twenty years. Most participants were single (55%), low income and with low levels of education.

#### *Satisfaction*

Most participants reported high levels of satisfaction with the content, setting, and counselors (*promotores*) delivering the brief intervention (see **Table 3.2** for detailed findings). For each of the satisfaction items, the percent of men who reported being “satisfied” with the brief intervention ranged from 84 -95 percent. In terms of the content, the majority of participants found the information useful in thinking about their alcohol use (89%), relevant (90%), and accurate (90%). The men also reported that the time and length of the session was convenient for them (90%), they liked the use of the tablet for providing information (94%) and found the interaction with the tablet to be straightforward (93%). The satisfaction with the setting of the brief intervention was ranked high overall, with 89% reporting that the location of the session was convenient and 93% felt it was safe. Lastly, satisfaction with the *promotor* was also high. Participants agreed that the *promotor* was warm and understanding (95%), competent and well-trained (91%), knowledgeable about alcohol use in the male Latino population (89%), and well-organized (94%).

#### *Acceptability*

Qualitative analysis of interviews identified eight themes, which were grouped into the three domains based on our conceptual model: affective attitude—thoughts about the brief intervention (3 themes), burden—challenges of the brief intervention (3 themes), and perceived effectiveness—perceived usefulness of the brief intervention (2 themes). A summary of these themes and representative quotes are presented below.

*Affective attitude—thoughts about the brief intervention (3 themes)*

*Theme 1. The brief intervention helped participants reflect on their alcohol use.* Many participants noted that the brief intervention helped them reflect on how much alcohol they were consuming, as well as the consequences of their alcohol use. For example, one participant said, “Sometimes you do not realize how much you drink and there are some drinks that are stronger than others.” Another participant said, “Well, more than anything [the brief intervention] helped me reflect on how much money I spend [on alcohol], instead of sending the money I’m supposed to send back home to my family...the little money that I earn is spent on my vice, alcohol.”

*Theme 2. Participants found promotores to be a trusted source of health information.* Participants had very positive perceptions about the *promotores* delivering the brief intervention. They found them to be friendly, knowledgeable, personable, organized, and trustworthy. One participant said, “[We felt] very comfortable with [the *promotores*], the truth is that they are very good people, very nice...with time we felt more trust. I’ve noticed that they are good to us, and they are respectful...”

*Theme 3. Participants liked the use of tablets to see their personalized feedback.* Participants described how seeing their personalized feedback displayed on the tablets was very helpful. The feedback included images of their daily and weekly drinking levels compared to the National Institute on Alcohol Abuse and Alcoholism (NIAAA) low risk guidelines, which helped them realize whether they were consuming more than the recommended guidelines and by how much. One participant said, “...the images help a little because you [become] conscious of what you are doing.”

*Burden—challenges of the brief intervention (3 themes)*

*Theme 4. Participants struggled to accept that they were drinking at unhealthy levels.*

Participants had a difficult time accepting that they were drinking at unhealthy levels, despite their high AUDIT scores. One of the participants said, “Well, the hard part was to start accepting that [I have a problem] with alcoholism.” However, a few of the men who acknowledged that they were drinking at unhealthy levels highlighted the importance of accepting it as a first step to addressing their alcohol use.

*Theme 5. Participants wanted concrete guidelines for reducing their drinking.*

Participants suggested providing more guidance and direction on how to reduce their alcohol consumption during the brief intervention. A few men found the motivational interviewing approach to be slightly vague in addressing unhealthy alcohol use; when participants were asked by the *promotores* about ways to reduce their drinking, they were unsure of what to do. For example, one participant said, “I feel that part of the intervention could be to give the participants some direction on where to go to receive help, even for a person like me who is not an alcoholic, but definitely wants to [stop drinking] all together.” Another participant explained, “...[I am] looking for a solution...maybe not a solution, but a response [such as]—look you have three options to help you avoid [drinking].” Overall, participants wanted more concrete guidelines and to help them reduce their alcohol consumption.

*Theme 6. Participants wanted more sessions with the promotores.* Participants also requested more brief intervention sessions. While all of the men mentioned that the length of the brief intervention was appropriate, they also suggested that having more sessions with the *promotores* would provide more time to discuss ways to reduce their unhealthy alcohol use. In an interview, one participant stated, “If the [brief intervention] was done more frequently, it would

be better...because that way we can pay attention more closely and not forget...the advice given to us.”

*Perceived effectiveness—perceived usefulness of the brief intervention (2 themes)*

*Theme 7. Participants perceived the brief intervention as useful and effective in reducing their drinking.* Participants thought that all the components of the study were helpful to make changes. Participants believed they reduced their drinking in response to the intervention. For example, one man said, “...I was astray, drinking and this *charla* [chat] helped me reduce [my drinking] a *little* bit, [however] I haven’t been able to completely stop drinking like I would like, but the *charla* has been useful.” Another explained that they were able to reduce their drinking due to “...the motivation that [the *promotores*] gave [me]—it encouraged and pushed me to begin drinking less.” Another helpful strategy shared was “...to focus on the risks of drinking—a car accident, getting a DUI, and many other ways that our world can be shattered.”

While participants acknowledged that the study and brief intervention were helpful for reducing their alcohol consumption, they also highlighted the role of self-motivation to make changes in their drinking behavior. They expressed a desire to take ownership for reducing their alcohol consumption and emphasized that in addition to being able to receive support from the *promotores*, they were also driven by their will power to make the changes. One participant said, “[It is a matter] of doing something on your part.”

*Theme 8. Participants felt that the brief intervention was not enough to reduce their drinking.* Although the brief intervention was helpful for participants to identify that they drink at risky levels, participants reported that it was not enough to get them to reduce their alcohol consumption. One of the participants said, “Well, I am still in the same boat. The truth is that this doesn’t go away. I was able to stop drinking for about two or three months...” So at first, I was

able to contain myself because I was taking medication, but it was very difficult for me because the truth is that I always drink.” A few other men resonated with this notion that they did not have the *fuerza de voluntad* (will power) to stop drinking.

### 3.4 DISCUSSION

We used a mixed-methods approach to assess satisfaction and acceptability of a culturally-adapted brief intervention to reduce unhealthy alcohol use among Latino immigrant men. Findings suggest that participants had high levels of satisfaction with and acceptability of the brief intervention, including the content and the way it was delivered. However, they found it challenging to integrate the personalized feedback with their own perception of their alcohol use, they wanted clearer advice, more intervention contacts, and described challenges reducing drinking that aligned with dependent drinking. Moreover, while the intervention was perceived as useful, they also believed that true change had to come from them.

Both quantitative and qualitative data identified high levels of satisfaction with and acceptability of the content and delivery mechanisms of the brief intervention. In survey data, participants reported finding the brief intervention content useful, relevant, and accurate, they found the tablet useful for receipt of information, and found the *promotores* delivering the brief intervention to be warm and understanding, competent, knowledgeable, and well-organized. Findings from qualitative interviews supported survey results, demonstrating participants’ positive perceptions of the brief intervention. Specifically, they described feeling like the intervention helped them reflect on their drinking behaviors, they liked the use of tablets to see their personalized feedback, and they reported great satisfaction with and appreciation for the *promotores*, whom they perceived to be trusted sources of health information.

Findings related to satisfaction with tablets are consistent with the formative research for the Vida PURA study, which found that some Latino immigrant men have low levels of formal education and therefore utilizing simple graphics can help make the information more accessible for this population (Ornelas et al., 2016). Findings related to *promotores* are consistent with existing evidence suggesting that *promotores* are a trusted source of health information for underserved populations (Arvey & Fernandez, 2012; Ramos et al., 2018; Rosenthal et al., 2010). Participants also highlighted specific *promotor* characteristics that contributed to their positive perceptions of the brief intervention which included being friendly, personable (i.e. warm and understanding), trustworthy, knowledgeable, and organized. These qualities reflect cultural values often shared by Latinos, such as *personalismo*—personal attention in establishing affective connections and working relationships (Flores, 2000). Together these findings confirm that culturally adapting the intervention by having *promotores* deliver the intervention was critical in establishing rapport and developing trusting relationships with the study participants (Ramos et al., 2018), and in delivering the information in an accessible way; each contributed to high levels of satisfaction with and acceptability of the intervention (Barrera, Berkel, & Castro, 2017).

However, participants also shared some of the challenges they experienced with the intervention and offered several suggestions on how to improve it. Although the participants found the personalized feedback to be helpful, one of the major challenges was accepting that they drink too much. For Latino men, unhealthy alcohol use may be common due to greater acceptance of heavy drinking among men in Latino culture (Kulis, Marsiglia, Lingard, Nieri, & Nagoshi, 2008). Additionally, participants provided three pieces of key feedback that may be useful for refining the brief intervention. First, they suggested providing more concrete

guidelines to reduce alcohol consumption. Specifically, while the participants found the motivational interviewing approach to be helpful in self-reflecting, they also sought more directive advice. These findings are aligned with those of previous studies which suggest that alcohol-related interventions in this population may need to balance participant autonomy with providing direct advice for those interested in reducing their drinking (Bradley et al., 2018; Oslin et al., 2014). Second, participants suggested having more brief intervention sessions with the *promotores*. Prior studies have found that repeated interventions may be most beneficial. (Kaner et al., 2007; O'donnell et al., 2013). Third, though the participants who received the brief intervention largely reported feeling that the intervention was useful for increasing self-motivation and taking steps to reduce their drinking, they also described a feeling that the decision to reduce their drinking would ultimately have to be self-generated, and the intervention did not improve drinking relative to the control in the pilot study. Sentiments expressed by participants are similar to those identified in prior qualitative work among persons receiving alcohol treatment, in which participants described the importance of “down to me,” or the idea that changes in alcohol use need to be self-directed to be effective (Orford et al., 2006). In combination, this feedback suggests that a refined brief intervention may be more effective if it is more directive, incorporates a greater number of sessions and/or touch points, and focuses on self-efficacy and motivation as key levers of change. Further research is needed to test whether such refinements improve the efficacy of a culturally-adapted alcohol counseling intervention for Latino immigrant men.

### ***Limitations***

Though this mixed methods study resulted in convergent findings across methodological approaches (Creswell, 2013; Creswell & Plano Clark, 2011) and provided key feedback from

participants with regard to their satisfaction with and acceptability of a culturally-adapted brief intervention in ways that can help refine such interventions, this study has several limitations.

First, our findings may not be generalizable to other populations. Although we selected a random sample of participants from the Vida PURA study that received the intervention to assess acceptability, we only selected participants who agreed to be contacted for future studies and thus our sample may not reflect the perspectives of those that chose not to participate.

Participants in our study may have reported higher levels of acceptability compared to those who chose not to participate. Other limitations include potential biases due to social desirability.

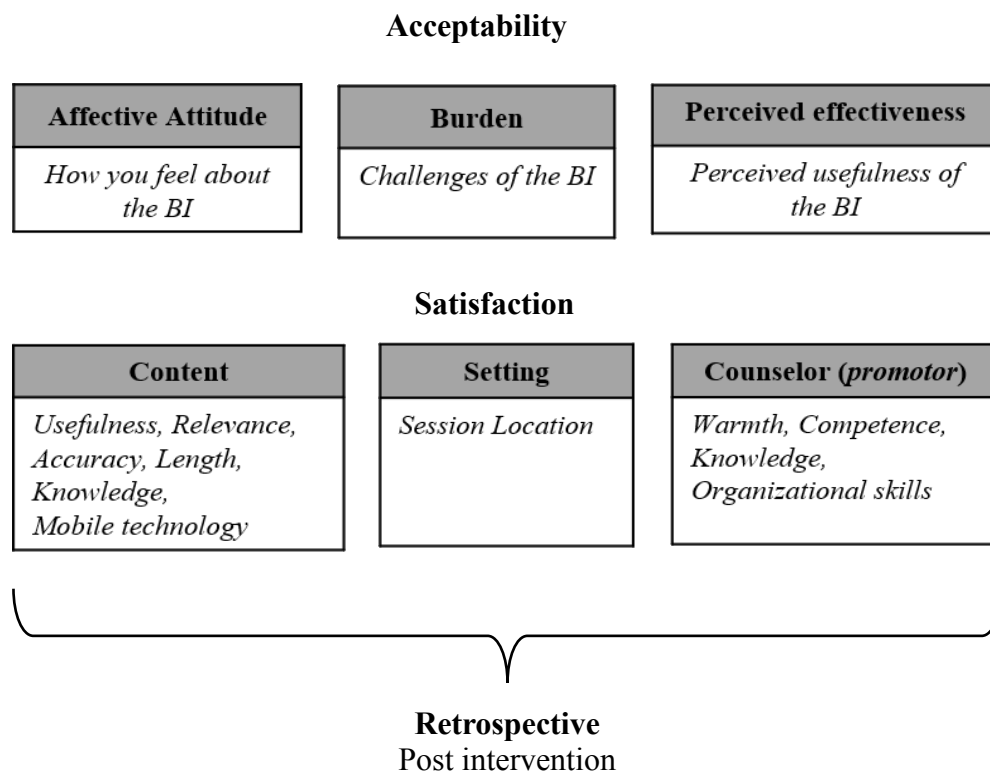
Participants who reported high levels of satisfaction may have been motivated out of desire to meet the expectations of the *promotores* or research team members. Other studies have shown a strong tendency towards social desirability in Latino populations, who value respect for authority figures and interpersonal relationships (Hopwood, Flato, Ambwani, Garland, & Morey, 2009).

### ***Conclusions***

Despite these limitations, the present study provides a strong foundation for understanding components of an alcohol-related intervention that may be more effective in this population. Our findings suggest that the components of the intervention that were culturally adapted such as having a bilingual and bicultural *promotores* to deliver the intervention, and delivering the intervention in a community setting, contributed to the participants' positive perceptions of the brief intervention (Ayala & Elder, 2011; Barrera et al., 2017). Our study builds on the work of previous studies suggesting that culturally adapted interventions have the potential to increase participant engagement, intervention efficacy, and sustainability (Barrera et al., 2017; Chipungu et al., 2000; Du Bois, Johnson, & Mustanski, 2012). Given the negative trial results, our findings can also help improve future iterations of the culturally adapted brief

intervention. Brief interventions may be more effective if they maintain the *promotores* and the tablets to deliver the intervention, incorporate a greater number of intervention sessions, tailor intervention content to provide explicit advice and include shared decision making around treatment options for higher risk participants. Future studies should test a refined intervention that builds on the findings from this study.

**Figure 3.1 Assessing acceptability and satisfaction of a brief intervention to reduce unhealthy alcohol use**



**Table 3.1 Sample demographic characteristics (N = 73)**

	Mean/N	(SD)/%
<b>Age in years</b>		
18-34	14	19.2
35-49	19	26.0
50+	40	54.8
<b>Country of origin</b>		
Mexico	48	65.8
Central America	19	26.0
Other	6	8.2
<b>Years living in the United States</b>	20.1	(11.5)
<b>Marital Status</b>		
Single	40	54.8
Divorced/Widowed	23	31.5
Married/cohabitating	10	13.7
<b>Weekly Salary</b>		
\$200 or less	23	32.4
\$200-\$300	14	19.7
\$300-\$400	16	22.4
\$400 or more	18	25.4
<b>Educational Level</b>		
Primary or less	43	58.9
High school graduate or GED	19	26.0
Some college or more	11	15.1
<b>Hours of paid work in a typical week</b>	18.7	(12.7)

*Note.* Not all add up to N = 73 due to missing data

**Table 3.2 Satisfaction with the brief intervention (N = 73)**

	N	%	Mean	(SD)
<b>Brief Intervention Content</b>				
The information was useful in helping me think about my alcohol use	65	89.0	3.2	(0.64)
The information provided was relevant to men like me	66	90.4	3.2	(0.75)
I am confident that the information provided is accurate	66	90.4	3.3	(0.78)
I feel better able to deal with alcohol-related situations	61	83.6	3.1	(1.11)
I learned new information about drinking and its consequences	63	86.3	3.0	(1.06)
The time and length of the session was convenient	66	90.4	3.3	(0.84)
I liked the use of the tablet for providing information	67	94.4	3.4	(0.80)
I found the interaction with the tablet to be straightforward	67	93.1	3.3	(0.80)
<b>Brief Intervention Setting</b>				
Location of the session was convenient	64	87.7	3.2	(1.03)
Location of the session was safe	66	93.0	3.3	(0.92)
<b>Counselor (<i>promotor</i>) seemed...</b>				
Warm and understanding	69	94.5	3.4	(0.71)
Competent and well-trained	66	91.7	3.5	(0.65)
Knowledgeable about alcohol use in the Latino population	65	89.0	3.3	(0.78)
Well-organized	68	94.4	3.5	(0.61)

*Note.* not all add up to N = 72 due to missing data

## Chapter 4. ENGAGEMENT IN A COMMUNITY BASED PARTICIPATORY RESEARCH STUDY TO REDUCE UNHEALTHY ALCOHOL USE AMONG LATINO IMMIGRANT MEN

### 4.1 INTRODUCTION

Latino immigrant men face a number of structural and individual-level stressors which result in poor health outcomes, such as substance use, mental illness and chronic disease (Vasquez, Gonzalez-Guarda, & De Santis, 2011; Velasco-Mondragon, Jimenez, Palladino-Davis, Davis, & Escamilla-Cejudo, 2016). They also have limited access to health insurance and health care (Pérez- Escamilla, Garcia, & Song, 2010). Despite these significant public health problems, Latino immigrant men continue to be underrepresented in health research aimed at developing interventions to alleviate these burdens (Beech, 2004; Calderon et al., 2006). Underrepresentation in research may be due to barriers to participation, such as mistrust of health and research institutions and competing demands (Beech, 2004; Calderon et al., 2006; Ceballos et al., 2014). Latino immigrants may be particularly reluctant to participate in research due to a history of exploitation in previous studies (George et al., 2014). The current anti-immigrant political climate may make it even more difficult for researchers to build trust and engage with Latino immigrant communities (Morey, 2018; Williams & Medlock, 2017) or to find funding aimed at immigrant health equity. For example, undocumented Latinos may fear that they will be reported to government officials if they participate in government funded research studies or reveal their immigration status as part of a research study (Calderon et al., 2006).

To help mitigate these barriers, Community Based Participatory Research (CBPR) offers strategies for engaging underserved populations in research to potentially reduce health

disparities (Collins et al., 2018; Frohlich & Potvin, 2008; Michener et al., 2012; Wallerstein & Duran, 2006). CBPR is a collaborative research approach that brings together diverse perspectives, skills, knowledge, and expertise in an equitable partnership between researchers and community members to address complex health problems (Israel, Schulz, Parker, & Becker, 1998; Wallerstein, Duran, Oetzel, & Minkler, 2018). CBPR emphasizes shared power and knowledge democracy between communities and academic researchers (Michener et al., 2012). Some positive outcomes of these partnerships include more ethical and culturally appropriate research protocols, developed through ongoing dialogue and negotiation with communities (Maiter, Simich, Jacobson, & Wise, 2008; Wallerstein et al., 2018). Consequently, CBPR approaches may help reduce fear and mistrust and improve knowledge sharing, eventually leading to more culturally relevant interventions that can increase engagement, improve health outcomes and reduce health disparities in underserved populations (Michener et al., 2012; Wallerstein et al., 2018).

Wallerstein *et al.*'s CBPR conceptual model provides a framework for understanding and evaluating how four overarching domains—contexts, partnership processes, intervention & research, and outcomes—shape the collaborative research process (Kastelic et al., 2018). The model posits that the contextual factors that influence the partnership processes may include the political environment (politics & policy), collaboration, trust and mistrust between the partners, capacity and readiness, and the perceived importance of health issue to the community (Kastelic et al., 2018). If these partnership processes are authentic within the context and relational spheres, they have the potential to positively impact research design, intervention development and produce “culture-centered” approaches that fit local populations and service domains. In turn, the implementation of successful research and interventions can lead to intermediate

system and capacity outcomes, and eventually long-term health outcomes (see **Figure 4.1**) (Kastelic et al., 2018).

While there has been a growth in the use of CBPR strategies to engage underserved populations, little is known about best practices for engaging Latino immigrant men in CBPR. To address this, our study describes how specific partnership processes in the CBPR framework contributed to participant engagement in the Vida PURA study—a pilot randomized controlled trial of a brief intervention for unhealthy alcohol use that used CBPR to engage Latino immigrant men. Qualitative interviews with a subset of Vida PURA participants and study logs maintained by research staff were used to identify and describe the partnership processes critical to participant recruitment. Our findings build on existing theory and aims to provide recommendations for future research to optimize participation of Latino immigrant men in community-based alcohol research.

## 4.2 METHODS

### *Background on the Vida PURA study*

The Vida PURA study was a pilot randomized trial to evaluate the efficacy of a culturally adapted brief intervention to reduce unhealthy alcohol use among Latino day laborers (Ornelas et al., 2015). The Vida PURA study emerged from a series of collaborations over a 5-year period between the Principal Investigator (I.O.) and Casa Latina, a community-based organization serving as a day labor worker center connecting clients with employment opportunities. The collaborations included formative research that led to the identification of alcohol use as a community priority, guided the development of the culturally-adapted brief intervention to reduce alcohol consumption, resulted in a pilot study to test the feasibility of the intervention,

and ultimately, test the effectiveness of the Vida PURA study using a pilot randomized control trial design (Ornelas et al., 2019).

The study team included two bilingual and bicultural *promotores* (lay community health workers) that conducted recruitment, data collection, and delivered the intervention to study participants. The intervention consisted of a 30-minute, motivational interviewing (MI) counselling session, which used a client-centered counseling style designed to elicit behavior change (Miller & Rollnick, 2012). The sessions were conducted in Spanish and included personalized feedback, discussion of motives and consequences of drinking, and making a plan to change drinking behavior (Whitlock et al., 2004). Participants in the Vida PURA study were included if they self-identified as Latino male, spoke Spanish, were born outside the US (immigrant), and had an alcohol screening score of six or greater on the Alcohol Use Disorders Identification Test (AUDIT). Screened and eligible participants completed a baseline survey (N = 121) and were randomized into an intervention or control group. All participants completed interviewer-administered follow-up surveys two and eight weeks after the baseline survey. Participant retention rates were 87% for the two-week survey and 88% for the eight-week follow-up (Ornelas et al., 2019).

### ***Present Study—Sample and Design***

A random sample of ~20% of enrolled participants from the Vida PURA study who completed follow-up assessments and gave permission to be contacted in future studies were recruited to participate in qualitative interviews. Interviews took 30-45 minutes, were conducted in-person, in Spanish, in a private room at Casa Latina (N = 25), and were digitally audio recorded. Participants were asked for their consent prior to any data collection and received \$30

for participating upon completion of the interview. *Promotores* kept detailed study logs during the trial to describe recruitment and retention processes.

### ***Data Collection and Analysis Procedures***

Qualitative interviews were semi-structured and the interview guide drew on partnership processes described in the CBPR framework (Wallerstein et al., 2018). Specifically, interview questions focused on motives to participate, interactions with research staff, best ways to maintain contact, and barriers to participation.

Audio recordings of the interviews were transcribed verbatim and reviewed for accuracy by the research team. Data were analyzed using template analysis, a technique that utilizes a priori codes as well as emergent identification codes to identify themes (King, 1998). The coding template was informed by the interview guide and the CBPR framework. Transcripts were coded independently by two bilingual and bicultural graduate research assistants (V.T. and F.C.), who met regularly to resolve any coding decisions, discrepancies, and to revise the coding scheme as indicated. Themes were identified from the summarized queries for each code and reviewed by the research team to reach consensus on salient themes and examples. Salient representative quotes were translated from Spanish to English for presentation.

*Promotores* used logs to document recruitment, retention and data collection issues throughout the study. Comments from the logs were extracted and translated from Spanish to English. Comments were summarized and grouped into two categories: 1) logistical challenges for maintaining contact with participants; and 2) participant requests for additional resources. A final summary of themes from interviews and logs was shared with co-investigators and community advisors for assistance with interpretation.

## 4.3 RESULTS

### *Participant Characteristics*

Demographic data for the 25 Latino immigrant men who participated in this study is presented in Table 4.1. Overall, participants' mean age was 48 years. Most were born in Mexico with an average length of residence in the U.S. of 19 years. Most indicated very low income and had less than a high school education.

### *Themes from Qualitative Interviews and Promotor Logs*

We identified four key themes with subthemes that relate to the partnership processes and intervention and research in the CBPR framework: 1) participation was facilitated by the relevance of the study topic and a motivation to improve their life and help their community; 2) personal relationships enabled access to resources and facilitated participation and engagement; 3) logistical practicalities and financial incentives motivated participation; and 4) study design and requirements sometimes inhibited participation and engagement. Below we describe themes and subthemes and highlight relevant quotes from the participants and logs. Table 4.2 also summarizes the themes and subthemes and provides example for each domain.

#### *Participation was facilitated by the relevance of the study topic and a motivation to improve their life and help their community*

##### *The relevance of the study topic to participants' health facilitated participation*

The relevance of the study topic was the single most common motive to participate. The men said that before deciding to participate, they needed to know more about the study. They were less interested in participating if the topic was not relevant to their lives, did not address their needs, or if they would be harmed in any way. Alcohol use was seen as a particularly

relevant topic because they knew they had problems with their drinking and saw the study as an opportunity to receive *un consejo* (advice) and *apoyo* (support) to reduce their alcohol use.

*I want to improve my life and help my community*

Men also saw participation in the study as a way to *progresar* (progress), “*salir adelante*” (get ahead) or improve their lives. Some men felt that by participating in the study, they were being proactive about improving their lives, which in turn, affirmed their self-worth. In addition to improving their own lives, participants expressed their desire to support the Latino community by participating in the study. “...maybe my testimony will help other people...If you use [my testimony] for other people that are suffering with the same problem, then of course, I would participate.” Other men also expressed their interest in collaborating with the research staff and engaging in mutual learning interactions. One participant said that he participated in order, “...to learn a little bit about what [the research team] is studying and to help each other.”

***Personal relationships enabled access to resources and facilitated participation and engagement***

*Promotores treated me with (respeto) respect*

Participants reported that the relationships they developed with the *promotores* and other members of the research team played a key role in their willingness to engage in the study. As part of the study protocol, the research staff made weekly visits to Casa Latina for ten weeks prior to data collection, to build familiarity and trust with the staff and potential participants. Also, throughout the study, the staff participated in Casa Latina events in an effort to maintain trust and rapport.

Participants were clearly familiar with the *promotores* and other research staff. They mentioned certain characteristics of the research staff that were pivotal for developing good

relationships, such as being trustworthy, transparent, kind, humble, and knowledgeable.

Participants reported that they were willing to participate in the study because they felt respected, acknowledged, and cared for by the research staff. Another participant emphasized the importance of having trustworthy staff, “I know that what we talk about here, stays *en confianza* (in confidence) between us.” However, participants reported that if the staff had been rude, authoritative or arrogant they would not have participated in the study.

*I liked to be contacted in-person by the promotores (personalismo)*

The most preferred modes of contact expressed by participants was in-person at Casa Latina. For example, one participant said, “I am more personal for things, for interviews and everything, for the doctor. My wife likes to do things over the phone. I go direct. I like to see the person with whom I will speak, and they understand me. I think you get better results when you speak in-person... Maybe it’s a custom that we have in our countries [of origin].” The second most preferred mode of contact was by phone, and a few men were open to either calls or texts.

*Study staff provided access to resources outside of the scope of the Vida PURA study aims*

Data from the *promotores*’ logs noted any additional resources requested by the participants that were outside of the scope of the Vida PURA study aims. These included requests for assistance with immigration services, health insurance, housing, public transportation, employment opportunities and mental health support. The research staff made efforts to connect participants with other organizations that provide these services when requested. For example, a *promotor* recorded the following in the logs, “I assisted a day worker with community resources for medical insurance and primary care services.” Another issue that repeatedly surfaced as a major concern for participants was homelessness. In a few instances, the

PI (I.O.) wrote letters of support for participants to use in their applications for low-income housing or immigration proceedings.

***Logistical practicalities and financial incentives motivated participation***

*The study time and location were convenient*

The men reported that they were able to participate in the study because it was conducted at a convenient location and time. Participants appreciated that the interviews were conducted at Casa Latina, while they were waiting for job assignments. One participant said, "...we sometimes don't get called for work, so we can come and participate."

*Financial Incentive—I appreciate being compensated for my time*

Although some participants reported that receiving a financial incentive was a strong motivation to participate, most participants reported that they would have still participated without it. The men expressed their gratitude for being paid for their time, since many were not working consistently, and needed the money. As one participant stated, "Oh of course, [the financial incentive helped]! That is another reason why I participated. Right now, things are slow. It's raining and there is not much work." Many of the men mentioned that the money they received helped them pay for food, coffee, or transportation.

***Study design and requirements sometimes inhibited participation and engagement***

When asked about challenges experienced with the Vida PURA study, most participants gave neutral responses, such as, "*Todo esta bien* (everything is ok)", but throughout the interview a few of the participants made suggestions and comments about ways to improve the study and intervention to further facilitate participation and engagement. About half of the men mentioned challenges with the survey questions (e.g. difficult to understand, repetitive, or lengthy). For example, one participant said, "The questions are good, but sometimes they annoy

you a little bit because [the *promotores*] repeat the [same questions] over and over.”

Additionally, others mentioned that it was difficult to answer some of the survey questions because they were unable to recall how much alcohol they had consumed in the past two weeks and another participant mentioned that the survey response-options were not always representative of his preferred response. *Promotores* documented that a few of the participants faced some challenges completing the surveys due to mental health conditions, alcohol intoxication, and possible drug use. For example, one *promotor* noted that the “Participant demonstrated high level of behavioral health needs and challenges [which made it] hard to...administer surveys in an appropriate timely manner.”

In addition, *promotores* documented some of the barriers to research participation. The loss to follow-up at two and eight weeks was often due to participants competing demands. For example, one of the *promotor*'s comments stated that the participant was not available to complete the follow-up surveys because “[he] went to Alaska to work in the fishing industry and may come back in one month.” Another reason recorded by the *promotor* for not being able to complete follow-up surveys was due to receiving services from a recovery center.

#### 4.4 DISCUSSION

Guided by the CBPR conceptual framework, we conducted interview and focus groups during the Vida PURA pilot trial to understand partnership processes and participant engagement. Findings suggest several factors facilitated engagement, including relevance of the study topic, alignment with participants' goals to improve their lives and give back to their communities, and partnerships with study staff that offered access to resources and were experienced as respectful and personal. Some logistical aspects related to study design were facilitators, as well, but some were identified as barriers.

Our findings support previous work showing that racial/ethnic minority and immigrant populations are willing to engage in research under appropriate circumstances, especially when the research is seen as personally relevant to the participants (Wendler et al., 2005). Participants expressed more interest when the research reflected their specific priorities and values. Our ability to recruit and retain participants in the Vida PURA study may have been related to the fact that the study addressed their needs and they perceived relevant benefits to participation.

Our findings reveal that one of the most important elements for engaging Latino immigrant men in research were the personal relationships developed with the *promotores* and the time they spent with participants. The *promotores* served as critical bridges between academic researchers and the community, largely due to their shared characteristics with study participants, including ethnicity, cultural knowledge, immigration experience, and speaking Spanish (Belone et al., 2016). This allowed *promotores* to better understand the community needs and deliver the intervention in the context of a trusted relationship.

The *promotores* further reduced other barriers to participation by using “culture-centered” approaches that fit the local community (Dutta, Anaele, & Jones, 2013). Our findings show the importance of treating participants with *respeto* (respect), a culture-specific value in which deference is shown to elders and authority figures (Santiago-Rivera, Arredondo, & Gallardo-Cooper, 2002; Skaff, Chesla, de los Santos Mycue, & Fisher, 2002). Participants were very responsive to the study procedures because they felt validated and respected by the *promotores*.

While not part of the original design of the intervention, the role of the *promotores* in the study extended beyond addressing alcohol use. They were a resource that could help address social determinants like homelessness, access to job opportunities, immigration and health care

services. Previous community-based studies among Latino men have also noted that the role of *promotores* often extends to provide broader services than the original project scope. (Documet et al., 2016; Singer & Marxuach-Rodriquez, 1996).

Study design elements were both facilitators and barriers to participation. The men found it easy to participate because the location and time were convenient, and they got paid for their time. Previous studies have also shown increased engagement in research when it takes place in a setting that is accessible and convenient to the target population (Kaner et al., 2007; Nilsen, 2010). By conducting data collection and intervention activities at the day labor worker center, while the men were waiting for job assignments, we were able to eliminate barriers such as transportation and scheduling conflicts with work (Beech, 2004; Calderon et al., 2006; Ojeda, Flores, Meza, & Morales, 2011). However, for some of the men, especially for those with seasonal work, the timeline of the study was not aligned well with their lives. For example, during times when there are more employment opportunities, it may be challenging to engage participants who need to prioritize earning income.

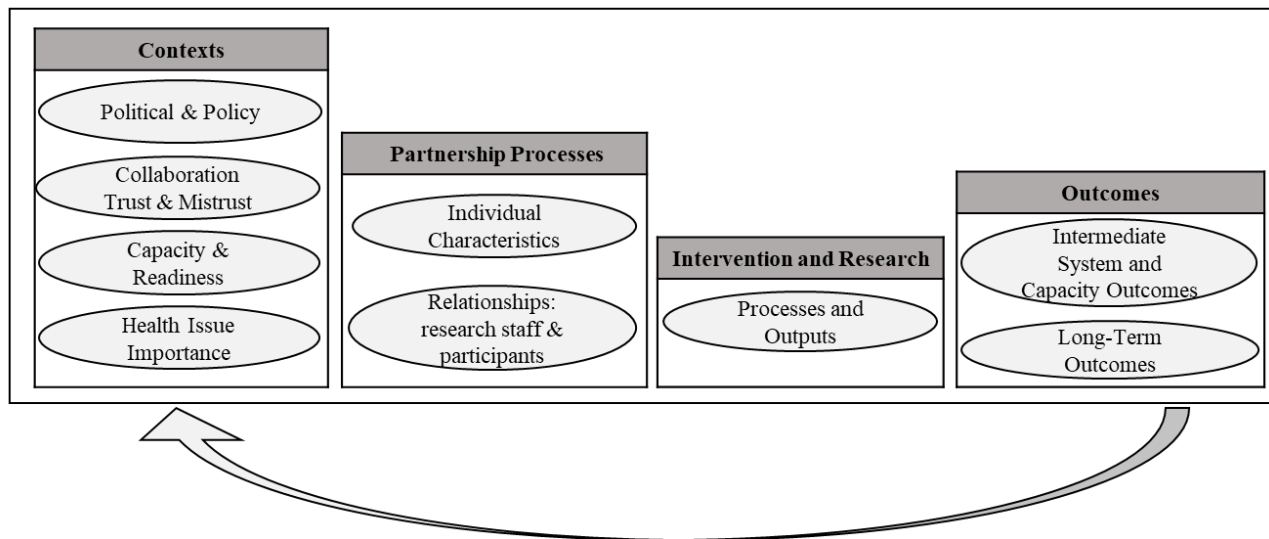
There are several important limitations to consider when interpreting results from this study. Our findings are grounded in the specific context and relationships developed through our long-standing partnership and may not be generalizable to other contexts. However, the success of the partnership to implement the brief intervention demonstrates the benefit of building strong community partnerships with organizations that have trusted and knowledgeable relationships with marginalized populations. Second, the men that participated in this study likely differ from those who choose not to participate. In our study, we selected participants from a sample of participants who completed the intervention's follow-up assessment and agreed to further research participation, which likely indicates they are a more "research compliant" group. Third,

participants' responses may have been influenced by social desirability biases. Previous research indicated that Latinos tend to respond in a more socially desirable manner compared to non-Latino Whites, meaning that they may have reported more favorable perceptions about their experience with research participation (Hopwood et al., 2009).

### ***Conclusions***

In summary, this study described key context, partnership processes, and intervention and research components of the CBPR framework that promote engagement of Latino immigrant men in research. Working with community advocates to ensure research topics are relevant to the community, provide participants' an opportunity for learning or personal benefit, and providing opportunities to give back to their community are important features of engagement. Further, inter-personal connectedness between the research staff and participants that reflects similar cultural values contributes to willingness to participate in community based alcohol research. Our findings suggest that intervention and research staff that are skilled at working with the target population are essential to building trust and engaging Latino immigrant men in research (Calderon et al., 2006; George et al., 2014; Ojeda et al., 2011). By engaging Latino immigrant men in research, we have the potential to improve their health through shared knowledge between researchers and community members (Muhammad et al., 2015). Future studies should further investigate how CBPR partnership processes can best inform research goals, intervention and research approaches, and improve inequities in alcohol use among immigrant Latino men.

**Figure 4.1 CBPR conceptual logic model: domains of participant engagement form the Vida PURA study**



**Table 4.1 Sample characteristics (N = 25)**

	Mean/N	(SD)/%
<b>Age</b>	47.8	(11.9)
<b>Age in years</b>		
18-34	4	16
35-49	8	32
50+	13	52
<b>Country of origin</b>		
Mexico	13	52
Central America	10	40
Other	2	8
<b>Years living in the United States</b>	19.2	(11.0)
<b>Marital Status</b>		
Single	14	56
Divorced/Widowed	5	20
Married/cohabitating	6	24
<b>Weekly Salary</b>		
\$200 or less	9	36
\$200-\$300	4	16
\$300-\$400	4	16
\$400 or more	8	32
<b>Educational Level</b>		
Primary or less	12	48
High school graduate or GED	7	28
Some college or more	6	24
<b>Hours of paid work in a typical week</b>	13.9	(10.4)

Table 4.2 Mapping CBPR logic model with themes, subthemes and select quotes

<b>Partnership Processes</b>
Individual Characteristics
<b><i>Participation was facilitated by the relevance of the study topic to participant's health and feelings that they were giving back and improving their lives</i></b>
<i>The relevance of the study topic to participants' health facilitated participation</i>
<ul style="list-style-type: none"> <li>• “I know I have a problem regarding alcoholic drinks...I thought that I could receive a <i>consejo</i> (advice) to stop doing what I was doing”</li> <li>• “[I participated in the study] to look for <i>apoyo</i> (support) to reduce my drinking.”</li> </ul>
<i>I want to improve my life and help my community</i>
<ul style="list-style-type: none"> <li>• “[I participated] to progresar (improve) [my life] because I have not done anything good... I haven't really worked...[I want to] salir adelante (get ahead).”</li> <li>• “The reason to [participate] is to change my life, to get ahead. And not only for me, but for other people that are alcoholics.”</li> </ul>
Relationships: research staff and participants
<b><i>Personal relationships enabled access to resources, facilitated participation, and willingness to engage</i></b>
<i>Promotores treated me with respect (respeto)</i>
<ul style="list-style-type: none"> <li>• “Well, [the research staff] simply want to <i>brindarnos una mano</i> (give us a hand). Not only uses us like study subjects, but also...if we have a problem, you can help us [too].”</li> <li>• “In order for me to allow someone to teach me, well first, I want to see how they approach me, because if they are <i>prepotente</i> (arrogant), I will not welcome them. I do not care who it is—even if it is the Pope or a pastor from a church... [arrogance] is like an obstacle [for me], I sort of put up a wall...if they want to impose their doctrine, even if it is good, but if they are arrogant, I put a stop to them.”</li> </ul>
<i>I like to be contacted in-person by the promotores (personalismo)</i>
<ul style="list-style-type: none"> <li>• “...it is better [to contact us] in-person...I don't like phone calls because in the first place, sometimes we don't have money to pay the [cell phone] and if you use a [prepaid] phone card...you run out of minutes sometimes.”</li> <li>• “The way [to contact us] is here, we come here, to this [day labor] center, every day. And if we do not come one day, we come the next day. Sometimes we don't show up for a month, sometimes we don't come for 15 days, but we are always here.”</li> </ul>
<i>Study staff provided access to resources outside the scope of the Vida PURA study aims</i>
<ul style="list-style-type: none"> <li>• “The PI ([remove for blinding]) wrote a letter of support for a study participant to use in their applications for low-income housing”</li> </ul>
<b>Intervention and Research</b>
Processes and Outputs
<b><i>Logistical practicalities and financial incentives motivated participation</i></b>
<i>The study time and location were convenient</i>
<ul style="list-style-type: none"> <li>• “...[The length of the study] was very good, it's because we come here only to look for work...[so] the time that we spent was perfect for those questions.”</li> </ul> <p>“...we sometimes don't get called for work, so we can come and participate.”</p>
<i>Financial incentive—I appreciate being compensated for my time</i>

- 
- “Well, [the financial incentive] did help me somewhat because es el tiempo malo (times are bad) and there is hardly any work. We need [the financial incentive] for food.”
  - “... We are happy because sometimes we don’t work, and they gave us that ayudita (little help) [financial incentive]...and even if they didn’t give us anything, well, there is still...the possibility to participate.”
- 

***Study design and requirements sometimes inhibited participation engagement***

---

- “...he is in a recovery center in Pasco WA, with limited access to phone... and [he’s] unsure when he is coming back to Seattle.”
-

## Chapter 5. CONCLUSION

### 5.1 SUMMARY OF FINDINGS

This dissertation focused on 1) identifying patterns and relationships of alcohol use, social stressors and alcohol-related consequences, 2) participant perceptions of a culturally adapted screening and brief intervention to reduce unhealthy alcohol use, and 3) engagement strategies to better inform interventions and future research aimed at reducing unhealthy alcohol use among Latino immigrant men.

In Chapter 2 (Aim 1), we found that higher levels of alcohol use and social stressors were associated with more alcohol-related consequences. In sum, this study suggests that alcohol use and social stressors such as perceived discrimination and acculturation stress may be important risk factors for alcohol-related consequences among heavy drinking Latino immigrant men. Therefore, it is important to consider factors related to social and cultural context of Latino immigrant men (Mulia et al., 2009) in order to better understand the impact of alcohol-related consequences.

In Chapter 3 (Aim 2), we used a mixed-methods approach to assess satisfaction and acceptability of a culturally-adapted brief intervention to reduce unhealthy alcohol use among Latino immigrant men. This study provides a strong foundation for understanding components of an intervention to reduce unhealthy alcohol use that may be more effective in this population. Findings suggest that participants had high levels of satisfaction with and acceptability of the brief intervention. The culturally adapted components of the brief intervention such as having bilingual and bicultural *promotores* using a tablet to deliver the intervention, and delivering the intervention in a community setting, contributed to positive perceptions of the brief intervention (Ayala & Elder, 2011; Barrera et al., 2017). However, they found it challenging to integrate the

personalized feedback with their own perception of their alcohol use, they wanted clearer advice, more intervention contacts, and described challenges reducing drinking that aligned with dependent drinking. Moreover, while the intervention was perceived as useful, they also believed that true change had to come from them.

In Chapter 4 (Aim 3), our qualitative findings suggested several factors that facilitated Latino immigrant men's engagement in research, including the relevance of the study topic, alignment with participants' goals to improve their lives, their desire to give back to their communities, and respectful, personal relationships they had with study staff. By engaging Latino immigrant men in research, we have the potential to improve their health through shared knowledge between researchers and community members (Muhammad et al., 2015).

## 5.2 IMPLICATIONS FOR RESEARCH

Our studies lay the foundation for future research opportunities. First, we need to better understand how the social, economic, and political context as well as social stressors faced by Latino immigrant men impact their alcohol use and alcohol-related consequences. We also need to unpack the social stressors faced by Latino immigrant men. While there is some evidence suggesting positive associations between experiences of social stressors such as discrimination and acculturation stress and alcohol use and alcohol-related consequences (Gilbert & Zemore, 2016; Lee et al., 2013), there is a lot of variation on how these social stressors are identified amongst specific racial/ethnic groups. The evidence is inconsistent and many gaps remain. For example, if we are referring to discrimination, we need to understand the type and level of discrimination (Gilbert & Zemore, 2016). In addition to examining discrimination and acculturation stress as social stressors, future studies can investigate other social stressors

associated with being a Latino immigrant man such as housing, legal status, and family structure and their association with alcohol use and alcohol-related consequences.

Second, we need to better understand how alcohol use and social stressors interact in relation to alcohol-related consequences. We need other studies to investigate the joint effects of alcohol use and social stressors since this has not been done in this population. More specifically, we need to determine what mechanisms explain disparities in alcohol-related consequences among Latino immigrant men. We need longitudinal studies among large samples of Latino immigrant men, in order to understand the casual directionality, which would allow more opportunities to explore interactions and mechanisms between alcohol use, social stressors and alcohol-related consequences. We may want to explore mechanisms drawing from the stages of migration framework to determine the impact of social, economic, and political factors Latino immigrant men experience prior to migration, during migration and after migration (Drachman, 1992).

Third, Community Based Participatory Research (CBPR) offers strategies for engaging underserved populations in research to potentially reduce health disparities (Collins et al., 2018; Frohlich & Potvin, 2008; Michener et al., 2012; Wallerstein & Duran, 2006). By engaging Latino immigrant men in research, we have the potential to improve their health through shared knowledge between researchers and community members (Muhammad et al., 2015). Together with the community we can identify the best ways to culturally adapt effective interventions in a specific setting with a particular ethnic group. Future studies should further investigate how CBPR partnership processes can inform intervention and research approaches, and ultimately address Latino health disparities.

Finally, research is needed to test a refined intervention that builds on the findings from this study. Our findings can help improve future iterations of the culturally adapted brief intervention reduce unhealthy alcohol use. For example, brief interventions may be more effective if they use bilingual and bicultural *promotores* and the tablet to deliver the intervention, incorporate a greater number of intervention sessions, tailor the intervention content to provide explicit advice and include shared decision making around treatment options for high risk participants. The current brief intervention to reduce unhealthy alcohol use targets the individual level. However, in an effort to reduce unhealthy alcohol use and alcohol-related consequences, interventions should be multilevel, using a socio-ecological framework approach—they need to target Latino immigrant men at the individual, interpersonal, community, organizational, and policy levels. For example, interventions need to address immigration laws and policies that affect Latino immigrant men and in turn impact their alcohol use and alcohol-related consequences. Interventions are needed on two fronts—to reduce social stressors and to help decrease drinking by combatting the negative effects of social stressors.

### 5.3 IMPLICATIONS FOR POLICY & PRACTICE

In practice we need to use evidence-based interventions that provide culturally and linguistically appropriate treatments options to reduce unhealthy alcohol use for Latino immigrant men. Additionally, we need to implement these interventions or programs in nontraditional venues, such as day labor centers and in other community organizations that serve Latino immigrants. We also need staff or trained *promotores* from the community that are skilled at working with the target population because it is essential to building trust and engaging Latino immigrant men in research and potentially in long-term programs. Together, these strategies may help reduce unhealthy alcohol use among Latino immigrant men.

Furthermore, we need policies that address the current economic and political context of Latino immigrant men to help alleviate some of the burdens they experience as result of their individual characteristics (i.e. race/ethnicity, country of origin, immigration status and gender). One way to address their disadvantaged economic context is by advocating for policies that provide fair living wages and health insurance, which can increase economic opportunities and resources to address their health needs (e.g. reduce alcohol consumption). We also need immigration policies that address some of the immigration related stressors, such as discrimination and acculturation stress in this current anti-immigrant political climate. For example, we need policies that protect Latino immigrant men despite their legal status. Overall, by incorporating policies that positively impact their legal status and increase economic opportunity, Latino immigrant men would be less vulnerable to exploitation and may be less likely to experience discrimination or other social stressors related to their immigration status, which ultimately may help reduce alcohol use and alcohol-related consequences.

However, we should be thoughtful of the public health interventions and policies we incorporate because not all segments of the population may benefit from the interventions (Frohlich & Potvin, 2008). Despite having effective interventions, public health practitioners should also consider how sociocultural norms may differ or compromise the implementation of interventions among gender specific Latino sub-groups, so that we are not widening health disparities (Zemore et al., 2018). For example, if we are addressing unhealthy alcohol use among Latino immigrant men, we need to consider the gender specific cultural norms among this group and tailor the intervention accordingly prior to incorporating any programs or policies.

## 5.4 LIMITATIONS

There are several important limitations to this study. First all analyses were cross-sectional, and therefore we cannot make casual interpretation of any observed associations. Secondly, the findings were limited to our study sample recruited for a randomized controlled trial to reduce unhealthy alcohol use from a day labor center, and we cannot generalize to other Latinos recruited from different settings. Relatedly, participants in our study may be a more “research compliant” group because they have agreed to be contacted for future studies and therefore, they may have reported higher levels of acceptability compared to those who chose not to participate. Third, there may be bias due to participant recall or social desirability bias. Participants may underreport alcohol use due to the timeframe in which questions were asked (seasonal variability), forgetfulness as a result of heavy drinking, and the way the questions are asked (Sobell & Sobell, 2003). Participants who reported high levels of satisfaction may have been motivated out of desire to meet the expectations of the *promotores* or research team members. Other studies have shown a strong tendency towards social desirability in Latino populations, who value respect for authority figures and interpersonal relationships (Hopwood et al., 2009).

## 5.5 CONCLUSIONS

In summary, these three studies indicate that our sample of Latino immigrant men have unhealthy alcohol use patterns and experience higher alcohol-related consequences in part due to intersecting vulnerabilities related to their race/ethnicity, country of origin, immigration status, and gender. These men have stressful lives and they need help with reducing stress in multiple ways (economic, social, interpersonal) and finding ways to cope with stress without turning to

alcohol use. In order to truly break the cycle, we need to engage Latino immigrant men in research as partners to better understand their health needs and employ effective interventions to address these needs. We need interventions that go beyond addressing unhealthy alcohol use among Latino immigrant men and address social stressors within their specific context (social, economic, and political) to help reduce alcohol-related consequences. In practice and policy settings we can continue to employ evidence-based programs that serve the needs of these vulnerable populations and advocate for policies that protect the rights and provide a safe environment for Latino immigrant men.

## BIBLIOGRAPHY

- Abbastashakkori, C. T. (2003). *Handbook of Mixed Methods in Social and Behavioral Research*. Thousand Oaks, California Sage Publications.
- Agrawal, S., Sobell, L. C., & Sobell, M. B. (2009). The Timeline Followback: a scientifically and clinically useful tool for assessing substance use. In R. Belli, F. Stafford, & D. Alwin (Eds.), *Calendar and Time Diary: Methods in Life Course Research*. Thousand Oaks, CA: SAGE.
- Alcalá, H. E., Chen, J., Langellier, B. A., Roby, D. H., & Ortega, A. N. (2017). Impact of the Affordable Care Act on health care access and utilization among Latinos. *The Journal of the American Board of Family Medicine*, 30(1), 52-62.
- Alvidrez, J., Nápoles, A. M., Bernal, G., Lloyd, J., Cargill, V., Godette, D., . . . Farhat, T. (2019). Building the Evidence Base to Inform Planned Intervention Adaptations by Practitioners Serving Health Disparity Populations. *American Journal of Public Health*, 109(S1), S94-S101.
- Arvey, S. R., & Fernandez, M. E. (2012). Identifying the core elements of effective community health worker programs: a research agenda. *American Journal of Public Health*, 102(9), 1633-1637.
- Ayala, G. X., & Elder, J. P. (2011). Qualitative methods to ensure acceptability of behavioral and social interventions to the target population. *Journal of Public Health Dentistry*, 71, S69-S79.
- Babor, T. F., Higgins-Biddle, J. C., Saunders, J. B., & Monteiro, M. G. (2001). AUDIT: The alcohol use disorders identification test: Guidelines for use in primary care: Department of mental health and substance dependence. *World Health Organization*.
- Barrera, M., Berkel, C., & Castro, F. G. (2017). Directions for the advancement of culturally adapted preventive interventions: local adaptations, engagement, and sustainability. *Prevention Science*, 18(6), 640-648.
- Beech, B. M. (2004). *Race & research: Perspectives on minority participation in health studies*: American Public Health Association.
- Belone, L., Lucero, J. E., Duran, B., Tafoya, G., Baker, E. A., Chan, D., . . . Wallerstein, N. (2016). Community-based participatory research conceptual model: Community partner consultation and face validity. *Qualitative Health Research*, 26(1), 117-135.
- Bradley, K. A., Bobb, J. F., Ludman, E. J., Chavez, L. J., Saxon, A. J., Merrill, J. O., . . . Achtmeyer, C. E. (2018). Alcohol-related nurse care management in primary care: a randomized clinical trial. *JAMA internal medicine*, 178(5), 613-621.
- Bradley, K. A., DeBenedetti, A. F., Volk, R. J., Williams, E. C., Frank, D., & Kivlahan, D. R. (2007). AUDIT- C as a brief screen for alcohol misuse in primary care. *Alcoholism: Clinical and Experimental Research*, 31(7), 1208-1217.
- Brooke-Sumner, C., Petersen, I., Asher, L., Mall, S., Egbe, C. O., & Lund, C. (2015). Systematic review of feasibility and acceptability of psychosocial interventions for schizophrenia in low and middle income countries. *BMC psychiatry*, 15(1), 19.
- Bush, K., Kivlahan, D. R., McDonell, M. B., Fihn, S. D., & Bradley, K. A. (1998). The AUDIT alcohol consumption questions (AUDIT-C): an effective brief screening test for problem drinking. *Archives of Internal Medicine*, 158(16), 1789-1795.

- Caetano, R., & Clark, C. L. (1998). Trends in Alcohol- Related Problems among Whites, Blacks, and Hispanics: 1984–1995. *Alcoholism: Clinical and Experimental Research*, 22(2), 534-538.
- Caetano, R., Ramisetty-Mikler, S., & Rodriguez, L. (2008). The Hispanic Americans Baseline Alcohol Survey (HABLAS): rates and predictors of alcohol abuse and dependence across Hispanic national groups. *J Stud Alcohol Drugs*, 69(3), 441-448. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/18432387>.
- Caetano, R., Ramisetty-Mikler, S., & Rodriguez, L. A. (2008). The Hispanic Americans Baseline Alcohol Survey (HABLAS): DUI rates, birthplace, and acculturation across Hispanic national groups. *Journal of studies on alcohol and drugs*, 69(2), 259-265.
- Caetano, R., Ramisetty-Mikler, S., & Rodriguez, L. A. (2008). The Hispanic Americans Baseline Alcohol Survey (HABLAS): rates and predictors of alcohol abuse and dependence across Hispanic national groups. *J Stud Alcohol Drugs*, 69(3), 441-448. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/18432387>.
- Caetano, R., Vaeth, P. A., Chartier, K. G., & Mills, B. A. (2014). Epidemiology of drinking, alcohol use disorders, and related problems in US ethnic minority groups. In *Handbook of clinical neurology* (Vol. 125, pp. 629-648): Elsevier.
- Calderon, J. L., Baker, R. S., Fabrega, H., Conde, J. G., Hays, R. D., Fleming, E., & Norris, K. (2006). An ethno-medical perspective on research participation: a qualitative pilot study. *MedGenMed*, 8(2), 23.
- Canino, G. (1994). Alcohol use and misuse among Hispanic women: Selected factors, processes, and studies. *International Journal of the Addictions*, 29(9), 1083-1100.
- Castro, F., Barrera, M., & Martinez, C. (2004). The cultural adaptation of prevention interventions: Resolving tensions between fidelity and fit. *Prevention Science*, 5(1), 41-45.
- Castro, F. G., Barrera, M., & Martinez, C. R. (2004). The cultural adaptation of prevention interventions: Resolving tensions between fidelity and fit. *Prevention Science*, 5(1), 41-45.
- Castro, F. G., & Yasui, M. (2017). Advances in EBI development for diverse populations: Towards a science of intervention adaptation. *Prevention Science*, 18(6), 623-629.
- Ceballos, R. M., Knerr, S., Scott, M. A., Hohl, S. D., Malen, R. C., Vilchis, H., & Thompson, B. (2014). Latino beliefs about biomedical research participation: A qualitative study on the US–Mexico border. *Journal of empirical research on human research ethics*, 9(4), 10-21.
- Cepeda, A., Valdez, A., Kaplan, C., & Hill, L. E. (2010). Patterns of substance use among hurricane Katrina evacuees in Houston, Texas. *Disasters*, 34(2), 426-446. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/19863564>  
<http://onlinelibrary.wiley.com/store/10.1111/j.1467-7717.2009.01136.x/asset/j.1467-7717.2009.01136.x.pdf?v=1&t=ie3eqbs6&s=2f7b98bfe58d81013facef4ca6f4aadfc9997583>. doi:10.1111/j.1467-7717.2009.01136.x
- Chavez, L. J., Williams, E. C., Lapham, G., & Bradley, K. A. (2012). Association between alcohol screening scores and alcohol-related risks among female Veterans Affairs patients. *Journal of studies on alcohol and drugs*, 73(3), 391-400.
- Chipungu, S. S., Hermann, J., Sambrano, S., Nistler, M., Sale, E., & Springer, J. F. (2000). Prevention programming for African American youth: A review of strategies in CSAP's national cross-site evaluation of high-risk youth programs. *Journal of Black Psychology*, 26(4), 360-385.

- Cockerham, W. C. (2007). *Social causes of health and disease: Polity*.
- Collins, S. E., Clifasefi, S. L., Stanton, J., Straits, K. J., Gil-Kashiwabara, E., Rodriguez Espinosa, P., . . . Miller, K. A. (2018). Community-based participatory research (CBPR): Towards equitable involvement of community in psychology research. *American Psychologist*.
- Cooper, L., Hill, M. N., & Powe, N. R. (2002). Designing and evaluating interventions to eliminate racial and ethnic disparities in health care. *Journal of General Internal Medicine*, 17(6), 477-486.
- Cooper, M. L., Frone, M. R., Russell, M., & Mudar, P. (1995). Drinking to regulate positive and negative emotions: a motivational model of alcohol use. *Journal of personality and social psychology*, 69(5), 990.
- Creswell, J. W. (2013). *Research design: Qualitative, quantitative, and mixed methods approaches*: Sage publications.
- Creswell, J. W. (2015). *A Concise Introduction to Mixed Methods Research* Thousand Oaks, CA: Sage.
- Creswell, J. W., & Plano Clark, V. L. (2011). *Designing and conducting mixed methods research* (2nd ed.). Thousand Oaks, CA: Sage.
- Dawson, D. A. (2000). Alcohol consumption, alcohol dependence, and all- cause mortality. *Alcoholism: Clinical and Experimental Research*, 24(1), 72-81.
- Documet, P. I., Macia, L., Thompson, A., Gonzalez, M., Boyzo, R., Fox, A. R., & Guadamuz, T. E. (2016). A male promotores network for Latinos: process evaluation from a community-based participatory project. *Health promotion practice*, 17(3), 332-342.
- Drachman, D. (1992). A stage-of-migration framework for service to immigrant populations. *Social work*, 37(1), 68-72.
- Du Bois, S. N., Johnson, S. E., & Mustanski, B. (2012). Examining racial and ethnic minority differences among YMSM during recruitment for an online HIV prevention intervention study. *AIDS and Behavior*, 16(6), 1430-1435.
- Dutta, M. J., Anaele, A., & Jones, C. (2013). Voices of hunger: Addressing health disparities through the culture-centered approach. *Journal of Communication*, 63(1), 159-180.
- Enriquez, L. E. (2015). Multigenerational punishment: Shared experiences of undocumented immigration status within mixed- status families. *Journal of Marriage and Family*, 77(4), 939-953.
- Field, C. A., Cabriales, J. A., Woolard, R. H., Tyroch, A. H., Caetano, R., & Castro, Y. (2015). Cultural adaptation of a brief motivational intervention for heavy drinking among Hispanics in a medical setting. *BMC public health*, 15(1), 724.
- Field, C. A., & Caetano, R. (2010). The effectiveness of brief intervention among injured patients with alcohol dependence: who benefits from brief interventions? *Drug and alcohol dependence*, 111(1), 13-20.
- Flippen, C. A., & Parrado, E. A. (2015). Perceived discrimination among Latino immigrants in new destinations: The case of Durham, North Carolina. *Sociological Perspectives*, 58(4), 666-685.
- Flores, G. (2000). Culture and the patient-physician relationship: achieving cultural competency in health care. *The Journal of pediatrics*, 136(1), 14-23.
- Frank, D., DeBenedetti, A. F., Volk, R. J., Williams, E. C., Kivlahan, D. R., & Bradley, K. A. (2008). Effectiveness of the AUDIT-C as a screening test for alcohol misuse in three race/ethnic groups. *Journal of General Internal Medicine*, 23(6), 781-787.

- Frohlich, K. L., & Potvin, L. (2008). Transcending the Known in Public Health Practice. *American Journal of Public Health*, 98(2), 216-221. Retrieved from <https://ajph.aphapublications.org/doi/abs/10.2105/AJPH.2007.114777>. doi:10.2105/ajph.2007.114777
- Galvan, F. H., & Caetano, R. (2003). Alcohol use and related problems among ethnic minorities in the United States. *Alcohol Research & Health*, 27(1), 87-95.
- García, V. (2008). Problem drinking among transnational Mexican migrants: exploring migrant status and situational factors. *Human organization*, 67(1), 12-24.
- George, S., Duran, N., & Norris, K. (2014). A systematic review of barriers and facilitators to minority research participation among African Americans, Latinos, Asian Americans, and Pacific Islanders. *American Journal of Public Health*, 104(2), e16-e31.
- Gerrard, M., Stock, M. L., Roberts, M. E., Gibbons, F. X., O'Hara, R. E., Weng, C.-Y., & Wills, T. A. (2012). Coping with racial discrimination: The role of substance use. *Psychology of Addictive Behaviors*, 26(3), 550.
- Gilbert, P. A., Perreira, K., Eng, E., & Rhodes, S. D. (2014). Social stressors and alcohol use among immigrant sexual and gender minority Latinos in a nontraditional settlement state. *Substance use & misuse*, 49(11), 1365-1375.
- Gilbert, P. A., & Zemore, S. E. (2016). Discrimination and drinking: A systematic review of the evidence. *Social science & medicine*, 161, 178-194.
- Guerrero, E. G., Marsh, J. C., Khachikian, T., Amaro, H., & Vega, W. A. (2013). Disparities in Latino substance use, service use, and treatment: Implications for culturally and evidence-based interventions under health care reform. *Drug and alcohol dependence*, 133(3), 805-813.
- Herd, D. (1994). Predicting drinking problems among black and white men: results from a national survey. *Journal of studies on alcohol*, 55(1), 61-71.
- Hill, C. M., Williams, E. C., & Ornelas, I. J. (2019). Help Wanted: Mental Health and Social Stressors Among Latino Day Laborers. *American journal of men's health*, 13(2), 1557988319838424.
- Hilton, M. E. (1987). Demographic characteristics and the frequency of heavy drinking as predictors of self-reported drinking problems. *British journal of addiction*, 82(8), 913-925.
- Hopwood, C. J., Flato, C. G., Ambwani, S., Garland, B. H., & Morey, L. C. (2009). A comparison of Latino and Anglo socially desirable responding. *J Clin Psychol*, 65(7), 769-780.
- Hovey, J. D., & Magaña, C. (2000). Acculturative stress, anxiety, and depression among Mexican immigrant farmworkers in the Midwest United States. *Journal of immigrant health*, 2(3), 119-131.
- Israel, B. A., Schulz, A. J., Parker, E. A., & Becker, A. B. (1998). Review of community-based research: assessing partnership approaches to improve public health. *Annual review of public health*, 19(1), 173-202.
- Kaner, E. F., Beyer, F., Dickinson, H., Pienaar, E., Campbell, F., Schlesinger, C., . . . Burnand, B. (2007). Effectiveness of brief alcohol interventions in primary care populations. *Cochrane Database Syst Rev*, 2.
- Kastelic, S., Wallerstein, N., Duran, B., & Oetzel, J. (2018). Socio-Ecologic framework for CBPR: Development and testing of a model In N. Wallerstein, B. Duran, J. Oetzel, & M.

- Minkler (Eds.), *Community-Based Participatory Research for Health: Advancing Social and Health Equity* (3rd ed., pp. 77-106). San Francisco, CA: Jossey-Bass.
- King, N. (1998). Template analysis In G. Symon & C. Cassell (Eds.), *Qualitative Methods and Analysis in Organizational Research* (pp. 118-134). London Sage Publications
- Kissinger, P., Althoff, M., Burton, N., Schmidt, N., Hembly, J., Salinas, O., & Shedlin, M. (2013). Prevalence, patterns and predictors of substance use among Latino migrant men in a new receiving community. *Drug and alcohol dependence, 133*(3), 814-824.
- Kulis, S., Marsiglia, F. F., Lingard, E. C., Nieri, T., & Nagoshi, J. (2008). Gender identity and substance use among students in two high schools in Monterrey, Mexico. *Drug and alcohol dependence, 95*(3), 258-268.
- Lazarus, R. S., & Folkman, S. (1984). *Stress, appraisal, and coping*: Springer publishing company.
- Lee, C. S., Colby, S. M., Rohsenow, D. J., López, S. R., Hernández, L., & Caetano, R. (2013). Acculturation Stress and Drinking Problems Among Urban Heavy Drinking Latinos in the Northeast. *Journal of Ethnicity in Substance Abuse, 12*(4), 308-320. Retrieved from <https://doi.org/10.1080/15332640.2013.830942>. doi:10.1080/15332640.2013.830942
- Maiter, S., Simich, L., Jacobson, N., & Wise, J. (2008). Reciprocity: An ethic for community-based participatory action research. *Action research, 6*(3), 305-325.
- Martin, J. K., Tuch, S. A., & Roman, P. M. (2003). Problem drinking patterns among African Americans: the impacts of reports of discrimination, perceptions of prejudice, and "risky" coping strategies. *Journal of health and social behavior, 408-425*.
- Meyer, I. H. (1995). Minority stress and mental health in gay men. *Journal of health and social behavior, 38-56*.
- Meyers, H. F., Lewis, T. T., & Parker-Dominguez, T. (2003). Stress, coping and minority health. *Handbook of racial and ethnic minority psychology, 377-400*.
- Michener, L., Cook, J., Ahmed, S. M., Yonas, M. A., Coyne-Beasley, T., & Aguilar-Gaxiola, S. (2012). Aligning the goals of community-engaged research: why and how academic health centers can successfully engage with communities to improve health. *Academic Medicine, 87*(3), 285.
- Midanik, L. T., Tam, T. W., Greenfield, T. K., & Caetano, R. (1996). Risk functions for alcohol- related problems in a 1988 US national sample. *Addiction, 91*(10), 1427-1437.
- Miller, W. R., & Rollnick, S. (2012). *Motivational interviewing: Helping people change*: Guilford press.
- Miller, W. R., Tonigan, J. S., & Longabaugh, R. (1995). The drinker inventory of consequences (DrInC): An instrument for assessing adverse consequences of alcohol abuse. Test manual (Volume 4, Project MATCH Monograph Series). In. Rockville, MD: National Institute on Alcohol Abuse and Alcoholism.
- Mills, J., Burton, N., Schmidt, N., Salinas, O., Hembly, J., Aran, A., . . . Kissinger, P. (2013). Sex and drug risk behavior pre-and post-emigration among Latino migrant men in post-Hurricane Katrina New Orleans. *Journal of Immigrant and Minority Health, 15*(3), 606-613.
- Morey, B. N. (2018). Mechanisms by which anti-immigrant stigma exacerbates racial/ethnic health disparities. *American Journal of Public Health, 108*(4), 460-463.
- Muhammad, M., Wallerstein, N., Sussman, A. L., Avila, M., Belone, L., & Duran, B. (2015). Reflections on researcher identity and power: The impact of positionality on community

- based participatory research (CBPR) processes and outcomes. *Critical Sociology*, 41(7-8), 1045-1063.
- Mulia, N., Ye, Y., Greenfield, T. K., & Zemore, S. E. (2009). Disparities in alcohol-related problems among White, Black, and Hispanic Americans. *Alcoholism: Clinical and Experimental Research*, 33(4), 654-662.
- Naimi, T. S., Brewer, R. D., Mokdad, A., Denny, C., Serdula, M. K., & Marks, J. S. (2003). Binge drinking among US adults. *Jama*, 289(1), 70-75.
- Nápoles, A. M., Santoyo-Olsson, J., & Stewart, A. L. (2013). Peer reviewed: Methods for translating evidence-based behavioral interventions for health-disparity communities. *Preventing chronic disease*, 10.
- Negi, N. J. (2013). Battling discrimination and social isolation: Psychological distress among Latino day laborers. *American Journal of Community Psychology*, 51(1-2), 164-174.
- NIAAA, N. I. o. A. A. a. A. *Drinking levels defined*. Retrieved from <https://www.niaaa.nih.gov/alcohol-health/overview-alcohol-consumption/alcohol-facts-and-statistics>. Accessed March 10, 2017.
- Nilsen, P. (2010). Brief alcohol intervention—where to from here? Challenges remain for research and practice. *Addiction*, 105(6), 954-959.
- O'donnell, A., Anderson, P., Newbury-Birch, D., Schulte, B., Schmidt, C., Reimer, J., & Kaner, E. (2013). The impact of brief alcohol interventions in primary healthcare: a systematic review of reviews. *Alcohol and alcoholism*, 49(1), 66-78.
- Ojeda, L., Flores, L. Y., Meza, R. R., & Morales, A. (2011). Culturally competent qualitative research with Latino immigrants. *Hispanic Journal of Behavioral Sciences*, 33(2), 184-203.
- Orford, J., Hodgson, R., Copello, A., John, B., Smith, M., Black, R., . . . Kerr, C. (2006). The clients' perspective on change during treatment for an alcohol problem: qualitative analysis of follow-up interviews in the UK alcohol treatment trial. *Addiction*, 101(1), 60-68.
- Organista, K. C., Arreola, S. G., & Neilands, T. B. (2016). La desesperación in Latino migrant day laborers and its role in alcohol and substance-related sexual risk. *SSM-Population Health*, 2, 32-42.
- Organista, K. C., & Kubo, A. (2005). Pilot survey of HIV risk and contextual problems and issues in Mexican/Latino migrant day laborers. *Journal of Immigrant and Minority Health*, 7(4), 269-281.
- Organista, K. C., Ngo, S., Neilands, T. B., & Kral, A. H. (2017). Living Conditions and Psychological Distress in Latino Migrant Day Laborers: The Role of Cultural and Community Protective Factors. *American Journal of Community Psychology*, 59(1-2), 94-105.
- Ornelas, I. J. (2013). R34 Aims research strategy In: University of Washington
- Ornelas, I. J., Allen, C., Vaughan, C., Williams, E. C., & Negi, N. (2015). Vida PURA: A cultural adaptation of screening and brief intervention to reduce unhealthy drinking among Latino day laborers. *Substance abuse*, 36(3), 264-271.
- Ornelas, I. J., Doyle, S. R., Torres, V. N., Serrano, S. E., Duran, B. M., & Donovan, D. M. (2019). Vida PURA: Results from a pilot randomized trial of a culturally adapted screening and brief intervention to reduce unhealthy alcohol use among Latino day laborer. *Translational Behavioral Medicine*.

- Ornelas, I. J., Eng, E., & Perreira, K. M. (2011). Perceived barriers to opportunity and their relation to substance use among Latino immigrant men. *Journal of behavioral medicine*, 34(3), 182-191.
- Ornelas, I. J., Martinez, J., Mariscal, N., & Thompson, B. (2011). Developing A Measure Of Perceived Discrimination For Latinos: Results From Qualitative Interviews And Cognitive Interviews. *Annals of Behavioral Medicine*, 41(1), s249.
- Ornelas, I. J., Torres, V. N., & Serrano, S. E. (2016). Patterns of Unhealthy Alcohol Use among Latino Day Laborers. *Health Behavior and Policy Review*, 3(4), 361-370.
- Ortega, A. N., Fang, H., Perez, V. H., Rizzo, J. A., Carter-Pokras, O., Wallace, S. P., & Gelberg, L. (2007). Health care access, use of services, and experiences among undocumented Mexicans and other Latinos. *Archives of Internal Medicine*, 167(21), 2354-2360.
- Oslin, D. W., Lynch, K. G., Maisto, S. A., Lantinga, L. J., McKay, J. R., Possemato, K., . . . Wierzbicki, M. (2014). A randomized clinical trial of alcohol care management delivered in Department of Veterans Affairs primary care clinics versus specialty addiction treatment. *Journal of General Internal Medicine*, 29(1), 162-168.
- Park, P. (1983). Social-class factors in alcoholism. In *The biology of alcoholism* (pp. 365-404): Springer.
- Pérez- Escamilla, R., Garcia, J., & Song, D. (2010). Health care access among Hispanic immigrants: ¿Alguien está escuchando?[Is anybody listening?]. *NAPA bulletin*, 34(1), 47-67.
- Platt, L., Melendez-Torres, G., O'Donnell, A., Bradley, J., Newbury-Birch, D., Kaner, E., & Ashton, C. (2016). How effective are brief interventions in reducing alcohol consumption: do the setting, practitioner group and content matter? Findings from a systematic review and metaregression analysis. *BMJ open*, 6(8), e011473.
- Pohorecky, L. A. (1991). Stress and alcohol interaction: an update of human research. *Alcoholism: Clinical and Experimental Research*, 15(3), 438-459.
- Portes, A., & Zhou, M. (1993). The new second generation: Segmented assimilation and its variants. *The annals of the American academy of political and social science*, 530(1), 74-96.
- Ramos, R., Cherpitel, C. J., Alvarez, J., Beltran, O., Woolard, R., Villalobos, S., . . . Bernstein, E. (2018). Preparing Mexican-Origin Community Health Advocates (Promotores) to Conduct SBIRT for Problem Drinking in the Emergency Room. *Pedagogy in Health Promotion*, 2373379918756425.
- Rehm, J., Room, R., Graham, K., Monteiro, M., Gmel, G., & Sempos, C. T. (2003). The relationship of average volume of alcohol consumption and patterns of drinking to burden of disease: an overview. *Addiction*, 98(9), 1209-1228.
- Rosenthal, E. L., Brownstein, J. N., Rush, C. H., Hirsch, G. R., Willaert, A. M., Scott, J. R., . . . Fox, D. J. (2010). Community health workers: part of the solution. *Health affairs*, 29(7), 1338-1342.
- Rubinsky, A. D., Dawson, D. A., Williams, E. C., Kivlahan, D. R., & Bradley, K. A. (2013). AUDIT- C Scores as a Scaled Marker of Mean Daily Drinking, Alcohol Use Disorder Severity, and Probability of Alcohol Dependence in a US General Population Sample of Drinkers. *Alcoholism: Clinical and Experimental Research*, 37(8), 1380-1390.
- Saitz, R. (2005). Unhealthy alcohol use. *New England Journal of Medicine*, 352(6), 596-607.
- Santiago-Rivera, A. L., Arredondo, P., & Gallardo-Cooper, M. (2002). *Counseling Latinos and la familia: A practical guide* (Vol. 17): Sage Publications.

- Sekhon, M., Cartwright, M., & Francis, J. J. (2017). Acceptability of healthcare interventions: an overview of reviews and development of a theoretical framework. *BMC health services research, 17*(1), 88.
- Shariff-Marco, S., Gee, G. C., Breen, N., Willis, G., Reeve, B. B., Grant, D., . . . Williams, D. R. (2009). A mixed-methods approach to developing a self-reported racial/ethnic discrimination measure for use in multiethnic health surveys. *Ethnicity & disease, 19*(4), 447.
- Shi, L., Lebrun, L. A., & Tsai, J. (2009). The influence of English proficiency on access to care. *Ethnicity & health, 14*(6), 625-642.
- Shield, K. D., Parry, C., & Rehm, J. (2014). Chronic diseases and conditions related to alcohol use. *Alcohol research: current reviews, 35*(2), 155.
- Singer, M., & Marxuach-Rodriguez, L. (1996). Applying anthropology to the prevention of AIDS: The Latino gay men's health project. *Human organization, 141-148*.
- Skaff, M. M., Chesla, C. A., de los Santos Mycue, V., & Fisher, L. (2002). Lessons in cultural competence: Adapting research methodology for Latino participants. *Journal of Community Psychology, 30*(3), 305-323.
- Sobell, L. C., Agrawal, S., Annis, H., Ayala-Velazquez, H., Echeverria, L., Leo, G. I., . . . Thomas, S. (2001). Cross-cultural evaluation of two drinking assessment instruments: alcohol timeline followback and inventory of drinking situations. *Substance use & misuse, 36*(3), 313-331.
- Sobell, L. C., & Sobell, M. B. (2003). Alcohol consumption measures In J. P. Allen & V. Wilson (Eds.), *Assessing Alcohol Problems* (pp. 79-99).
- Sobell, L. C., & Sobell, M. B. (2007). Alcohol Timeline Followback (TLFB). In A. Rush Jr, M. First, & D. Blacker (Eds.), *Handbook of Psychiatric Measures*.
- Stockwell, T., Daly, A., Phillips, M., Masters, L., Midford, R., Gahegan, M., & Philp, A. (1996). Total versus hazardous per capita alcohol consumption as predictors of acute and chronic alcohol-related harm. *Contemporary Drug Problems, 23*(3), 441-464.
- Tashakkori, A., & Teddlie, C. (2003). *Handbook on mixed methods in the behavioral and social sciences*. In: Thousand Oaks, CA: Sage Publications.
- Vaeth, P. A., Caetano, R., Ramisetty-Mikler, S., & Rodriguez, L. A. (2009). Hispanic Americans Baseline Alcohol Survey (HABLAS): alcohol-related problems across Hispanic national groups. *Journal of studies on alcohol and drugs, 70*(6), 991-999.
- Vaeth, P. A., Wang- Schweig, M., & Caetano, R. (2017). Drinking, alcohol use disorder, and treatment access and utilization among US racial/ethnic groups. *Alcoholism: clinical and experimental research, 41*(1), 6-19.
- Valenzuela, A., Theodore, N., Melendez, E., & Gonzalez, A. L. (2006). *On the Corner: Day Labor in the United States*. Retrieved from
- Valenzuela Jr, A. (2003). Day labor work. *Annual Review of Sociology, 29*(1), 307-333.
- Vasquez, E. P., Gonzalez-Guarda, R. M., & De Santis, J. P. (2011). Acculturation, depression, self-esteem, and substance abuse among Hispanic men. *Issues in mental health nursing, 32*(2), 90-97.
- Velasco-Mondragon, E., Jimenez, A., Palladino-Davis, A. G., Davis, D., & Escamilla-Cejudo, J. A. (2016). Hispanic health in the USA: a scoping review of the literature. *Public health reviews, 37*(1), 31.
- Volpicelli, J. R. (1987). Uncontrollable events and alcohol drinking. *British journal of addiction, 82*(4), 381-392.

- Wallerstein, N., & Duran, B. (2006). Using community-based participatory research to address health disparities. *Health promotion practice*, 7(3), 312-323.
- Wallerstein, N., Duran, B., Oetzel, J., & Minkler, M. (Eds.). (2018). *On community-based participatory research* (3rd ed.). San Francisco, CA: Jossey-bass.
- Wendler, D., Kington, R., Madans, J., Van Wye, G., Christ-Schmidt, H., Pratt, L. A., . . . Emanuel, E. (2005). Are racial and ethnic minorities less willing to participate in health research? *PLoS medicine*, 3(2), e19.
- Whitlock, E. P., Polen, M. R., Green, C. A., Orleans, T., & Klein, J. (2004). Behavioral counseling interventions in primary care to reduce risky/harmful alcohol use by adults: a summary of the evidence for the US Preventive Services Task Force. *Annals of internal medicine*, 140(7), 557-568.
- Wilkins, J., Gorelick, D., Nademanee, K., & Taylor, A. (2000). Alcohol and stress: Social and psychological aspects. *Encyclopedia of Stress, Three-Volume Set, 1*, 136.
- Williams, D. R., & Medlock, M. M. (2017). Health effects of dramatic societal events—ramifications of the recent presidential election. In: Mass Medical Soc.
- Wills, T. A., & Shiffman, S. (1985). Coping and substance use: A conceptual framework. *Coping and substance use*, 3-24.
- Worby, P. A., & Organista, K. C. (2007). Alcohol use and problem drinking among male Mexican and Central American im/migrant laborers a review of the literature. *Hispanic Journal of Behavioral Sciences*, 29(4), 413-455.
- Worby, P. A., Organista, K. C., Kral, A. H., Quesada, J., Arreola, S., & Khoury, S. (2014). Structural vulnerability and problem drinking among Latino migrant day laborers in the San Francisco Bay Area. *Journal of health care for the poor and underserved*, 25(3), 1291-1307.
- Wray, T. B., Pantalone, D. W., Kahler, C. W., Monti, P. M., & Mayer, K. H. (2016). The role of discrimination in alcohol-related problems in samples of heavy drinking HIV-negative and positive men who have sex with men (MSM). *Drug and alcohol dependence*, 166, 226-234.
- Zemore, S. E., Karriker-Jaffe, K. J., & Mulia, N. (2013). Temporal trends and changing racial/ethnic disparities in alcohol problems: results from the 2000 to 2010 National Alcohol Surveys. *Journal of addiction research & therapy*, 4.
- Zemore, S. E., Karriker-Jaffe, K. J., Mulia, N., Kerr, W. C., Ehlers, C. L., Cook, W. K., . . . Greenfield, T. K. (2018). The future of research on alcohol-related disparities across US racial/ethnic groups: A plan of attack. *Journal of studies on alcohol and drugs*, 79(1), 7-21.

## VITA

Vanessa N. Torres received her Bachelor of Arts in Environmental Economics & Policy and Spanish Literature from the University of California, Berkeley in 2009 and she received a Master of Public Health in Health Promotion & Behavioral Science from San Diego State University in 2014. She is anticipated to receive her PhD in Health Services from the University of Washington School of Public Health in August 2019, with an emphasis in Health Behavior and Social Determinants of Health. Prior to the PhD program, Vanessa earned the Gates Millennium Scholarship, which provided funding during her entire educational career. While a PhD student, Vanessa was a recipient of a diversity supplement from the National Institute on Alcohol Abuse and Alcoholism (NIAAA), a pre-doctoral fellow in the Biobehavioral Cancer Prevention Training and Control Program, and a graduate research assistant in the ALMA and Vida PURA studies (PI: India Ornelas). Vanessa received the University of Washington Latino Scholars Graduate School Fellowship, the Interdisciplinary Research Training Institute on Hispanic Drug Abuse Fellowship, and the Graduate Opportunities and Minority Achievement Program Dissertation Fellowship from the University of Washington. Vanessa's research interests are to engage underserved communities (e.g. Latino immigrants) to gain a better understanding of their health needs and address health disparities. She will continue her research career as an Agency for Health Care Research and Quality (AHRQ) T32 postdoctoral fellow at University of California, Los Angeles, in the Los Angeles Health Services Research Training Program (LAAHSRTP), department of Health Policy and Management. She will also be employed by RAND Corporation as a member of the Adjunct Staff working with the Behavioral & Policy Sciences (BPS) Department.