EXPLORING THE INTERSECTED INFLUENCES OF SOCIOCULTURAL NORMS AND THE SOCIAL CONTEXT ON ALCOHOL AND SUBSTANCE ABUSE IN HISPANIC MEN

By

Luis A. Valdez

A Dissertation Submitted to the Faculty of the

MEL & ENID ZUCKERMAN COLLEGE OF PUBLIC HEALTH

In Partial Fulfillment of the Requirements

For the Degree of

DOCTOR OF PHILOSOPHY

WITH A MAJOR IN HEALTH BEHAVIOR HEALTH PROMOTION

In the Gradate College

THE UNIVERSITY OF ARIZONA

2017

THE UNIVERISTY OF ARIZONA

GRADUATE COLLEGE

As members of the Dissertation Committee, we certify that we have read this dissertation prepared by Luis A. Valdez, titled *Exploring the Intersected Influences of Sociocultural Norms and the Social Context on Alcohol and Substance Abuse in Hispanic Men* and recommend that it be accepted as fulfilling the dissertation requirement for the Degree of Doctor of Philosophy.

_____ Date: May 31, 2017
David O. Garcia

_____ Date: May 31, 2017
Scott C. Carvajal

_____ Date: May 31, 2017
John Ruiz

_____Date: May 31, 2017
Eyal Oren

Final approval and acceptance of this dissertation is contingent upon the candidate's submission of the final copies of the dissertation to the Graduate College.

I hereby certify that I have read this dissertation prepared under my direction and recommend that it be accepted as fulfilling the dissertation requirement.

_____ Date: May 31, 2017
Dissertation Director: David O. Garcia

STATEMENT BY AUTHOR

This dissertation has been submitted in partial fulfillment of the requirements for an advanced degree at the University of Arizona and is deposited in the University Library to be made available to borrowers under rules of the Library.

Brief quotations from this dissertation are allowable without special permission, provided that an accurate acknowledgement of the source is made. Requests for permission for extended quotation from or reproduction of this manuscript in whole or in part may be granted by the head of the major department or the Dean of the Graduate College when in his or her judgment the proposed use of the material is in the interests of scholarship. In all other instances, however, permission must be obtained from the author.

_____

SIGNED: Luis A. Valdez

ACKNOWLEDGEMENTS

My mother has always said that I have been blessed, throughout my life, with great teachers. I have been very fortunate to have you all in my life; from the *Head Start* teacher who made sure we had a ride to get registered at Los Ranchitos Elementary, to Dr. Velez who promised me she would find a way to pay for grad school if I got in, I am forever grateful to all of you. Thank you to all of the MAS maestros who have fought diligently to get more kids like me the educational opportunities we deserve; Larry Lopez, you showed a pissed-off kid some love and direction, thank you. Julio, thank you for your love and guidance. All of my Tucson familia in the struggle, I apologize for the long absence and I promise this time away will not be in vain. Jacob, Tito, Fonz, and Nax, I love you brothers.

To my family, I am especially grateful. Mama y Papa, you left it all for the hope of a better life and a brighter future for your children, and I know it was hard. We spent a decade without being able to cross and see familia; missed Christmases and Quinceañeras experienced only through VHS. I am grateful for everything that you've done for my hermana and I and I hope that you believe it was all worth it. Mi apa, who's ingenuity and resourcefulness have shown me that you fix something instead replacing it; you do what you need to do with what you have; there's always a tool for the job, until there isn't, and then you make one; and you work hard, always, cold rain or blistering shine. Pa, thank you for sitting me down and making me promise you that I'd go to college no matter what it took. Mama, I thank you for your bravery, your resilience, and your love. Your optimism and persistence has shown me that where there's a will there is a way; it's never too late to start; and that I need to enjoy even the smallest pleasures. I am who I am today because of you. Estrella, you are a brilliant beautiful soul, we've been through it all, continue to reach for the stars, that's where you belong. Nana Licha, I never had the chance to tell you this but on really hard days I would long for one of your morning prayers. It looks like you've been praying pretty hard! We made it.

Jill and Cecilia, thank you for showing this scrappy brown kid that there was a place at the table for me and that there IS a way to get the hard work done. Jill, thank you for every single minute you let me spend in your office, I've always left with a fuller heart.

To my amazing committee, David Garcia, Scott Carvajal, John Ruiz, and Eyal Oren, it was probably not the job you signed up for but I think we've done alright, you've been amazing mentors. David, from day one you've taken me under your wing and have bet on me against all odds, I promise this won't be in vain.

My life partner, Libby. Your brilliance has taught me so much, you challenge me every single day to become a better version of myself, and you never allow me to settle for anything. You've held it down for us when things got tough because of this work and for that I am so very grateful.

Lastly, I would like to thank my dogs (seriously), Bessie and Kino should have an honorary doctorate, they've laid at my feet through thousands of hours of work sharing unconditional love and happiness at times when this work was so isolating. Here's to longer walks!

DEDICATION

… All you vatos, you are not forgotten …

C/S

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

ABSTRACT

BACKGROUND: Maladaptive patterns of alcohol consumption can lead to clinically significant impairment or distress and have been established as a partial cause of a wide variety of health conditions, including neuropsychiatric disorders, cardiovascular diseases, hepatic inflammations, certain cancers, and infectious diseases. In the United States, Hispanic and non-Hispanic white (NHW) men have comparable rates of moderate alcohol consumption, however, Hispanic men are more likely to consume higher volumes of alcohol and with more frequency and experience disproportionate levels of adverse health and social consequences of alcohol abuse when compared to NHW men. Further, Hispanic men face greater barriers than NHW men in accessing, engaging, and completing alcohol abuse treatment services despite the contrasting burden of alcohol-related consequences they face. **OBJECTIVES:** This dissertation is composed from three studies addressing the following aims to: 1) synthesize the culturally- and gender-responsive components of alcohol and substance abuse and dependence treatment programs designed for Hispanic males in the United States; 2) explore Hispanic male perspectives and opinions regarding alcohol use and abuse patterns that may lead to disparate rates of alcohol abuse in Hispanic males in the United States; and 3) examine U.S. Hispanic male perspectives regarding the barriers to alcohol abuse treatment-seeking related behaviors that lead to disparate treatment engagement and completion rates. **METHODS:** A systematic literature search was conducted for Aim 1 in which articles reporting on culturally- and/or gender-adapted alcohol and/or substance abuse interventions designed exclusively for Hispanic males were identified. Aim 2 and Aim 3 used semi-structured interviews to elicit Hispanic male perspectives of alcohol abuse and alcohol abuse treatment seeking behaviors. Separate thematic analyses were conducted as per the objectives of Aims 2 and 3. Data analysis was based on a deductive process

including a preliminary codebook that was supplemented with inductive codes that surfaced during iterative thematic analyses. **RESULTS:** Regarding Aim 1**,** literature searches yielded 2685 titles, resulting in 12 articles that fit the parameters of the review. The most scientifically rigorous findings suggest that cultural adaptations may outperform standard treatment for Hispanic men (n=6). Nevertheless, a fraction of the included interventions (n=4) did not improve outcomes compared to standard treatment. Considering the scarce number of publications, it is difficult to discern how much null findings reflect ineffective interventions or methodological limitations. Findings for Aim 2 indicate that there are intersected effects of *machismo*, a culture of normalized overconsumption, social context stressors, and poor coping strategies that may influence maladaptive relationships with alcohol use. Findings for Aim 3 suggest that treatment seeking behaviors are highly influenced by; a) structural factors related to treatment accessibility, and linguistic and cultural-responsiveness of available treatment, b) sociocultural factors related to difficulties problematizing alcohol abuse due to lack of knowledge and cultural normalization of consumption, and societal stigmatization of alcohol abuse treatment, and c) individual factors related to *machismo*-bound pride as well as lack of knowledge. **CONCLUSIONS:** Given the rapid expansion of the Hispanic population in the United States, and the parallel growth of alcohol abuse implications in this population, it is imperative that we learn where these problems may be rooted to better understand how to diminish the existing gaps. Collectively, these findings point to the need for treatment providers to disseminate accurate information about treatment availability and eligibility, and the treatment process. This work also illustrates the need to for consciousness building efforts targeting the Hispanic male community regarding the detrimental effects of alcohol-related problems and treatment, in order to diminish the stigma. Increased or redistributed funding for linguistically and culturally responsive programs is also

needed in communities with large Hispanic populations in order to meet the growing demand, particularly for the uninsured. Further research is needed to identify other potential barriers and recovery resources for this population and other Hispanic subgroups in other parts of the United States.

CHAPTER 1

INTRODUCTION

Maladaptive patterns of alcohol consumption can lead to clinically significant impairment or distress [1], and have been established as a partial cause of a wide variety of health conditions, including neuropsychiatric disorders, cardiovascular diseases, hepatic inflammations, certain cancers, and infectious diseases [2]. Hispanic and non-Hispanic white (NHW) men have comparable moderate alcohol consumption rates, however, Hispanic men are more likely to consume higher volumes of alcohol and with more frequency than NHW men [3]. Hispanic men also consistently have higher prevalence rates of alcohol abuse and dependence compared to NHW [4-8]. Consequently, Hispanic men experience disproportionate levels of adverse health consequences of alcohol abuse when compared to NHW men [9]. Findings from a study on alcohol-induced liver disease risk indicated that alcoholic steatosis, hepatitis, and cirrhosis vary significantly by ethnicity, but that Hispanic men present these conditions at significantly younger ages than NHW men [10]. Hispanic men also experience disparate rates of social consequences of alcohol use when compared to NHW [9]. Hispanic men have higher incidence rates of alcohol-related intimate partner violence [11, 12] and face disproportionate alcohol use related contact with the criminal justice system compared to NHW men [13].

The initiation, duration, and cessation of alcohol in men may be influenced by sociocultural and gender-bound behavior norms [14-17]. Adherence to behavioral traits perceived to be masculine, such as toughness, self-reliance, expressions of strength, and emotional disconnectedness can result in maladaptive coping behaviors that have adverse effects on physical and emotional wellbeing [18]. While these behaviors are endorsed by men from many cultural backgrounds, levels of adherence may be influenced by ethnically-bound cultural

norms [19]. The term *machismo* has been used to illustrate adherence to hyper-masculine traits. *Machismo* is characteristic of behaviors that can include power seeking, violence, aggressiveness, dominance, and competition, that can negatively influence health related behaviors [20], particularly those related to alcohol use [21]. Although stereotypical in nature, research suggests that some Hispanic men may closely adhere to problematic sets of exaggerated masculine ideologies [20, 22]. Nevertheless, Hispanic masculinity is more complex than a negative set of prescribed behaviors. *Caballerismo* (in reference to a *caballero* or gentleman) is a positive counterpart of machismo, and is used to describe behaviors that incorporate displays of honor, respect, dignity, social responsibility, care for family, and emotional connectedness that can have protective effects on alcohol and substance abuse-related health behaviors [20, 21].

However, the pathways by which these norms influence behaviors that lead to detrimental consumption outcomes are poorly understood [14-16, 23]. There may be important overlooked interactions of sociocultural norms and individual social context such as differential exposures to life stressors and access to social, educational, and economic resources [24]. Socioeconomic status (SES) measures, such as educational status, income, and occupation type are strong predictors of health behaviors and outcomes. People with relatively higher SES drink with more frequency than others, however, among drinkers, lower-SES groups drink larger quantities of alcohol [25]. Despite what is known, empirical evidence of the relationship between social context and conceptualizations of masculinity and their influence on alcohol consumption patterns in Hispanic men is scarce.

Hispanic men face greater barriers than NHW men in accessing, engaging, and completing alcohol abuse treatment services despite the contrasting burden of alcohol-related consequences they face [26-29]. When compared to NHW men, Hispanic men are less likely to

seek and receive treatment when needed [30], more likely to receive inadequate services, and report dissatisfaction with treatment [27]. According to the National Survey on Drug Use and Health [30], the following characteristics increase the likelihood of treatment access, engagement, and completion: 1) endorsing NHW race and ethnicity, 2) being female, 3) reporting an age of 40 or older, and 4) having more than a high school education. Further, limited research suggests that English-speaking, highly acculturated Hispanics can benefit from current treatment modalities [5]. Consequently, when compared to NHW men, some Hispanic men might face disproportionate challenges when undergoing conventional alcohol abuse treatment.

There is a persistent lack of knowledge about the mechanisms by which adherence to Hispanic gender-bound conceptualizations of masculinity (*machismo, caballerismo)* influence treatment-related behaviors and lead to adverse alcohol and abuse outcomes in this group [30-33]. Even less is known about how these individual and sociocultural factors interact with an individual's social context (i.e. neighborhood disadvantage, differential access to care, economic resources) to influence abuse patterns and treatment seeking behaviors among Hispanic males. Research suggests that Hispanic men are four times as likely to live in a poor neighborhood compared to NHW men [34]. Poor communities characterized by high rates of unemployment, high population density, and greater retail alcohol outlets can increase the risk of alcohol-related problems and [35] and decrease access to treatment [36]. Despite the gaps, efforts to expand knowledge about the specific mechanisms by which gendered, sociocultural, and structural correlates influence treatment-related behaviors and lead to adverse alcohol abuse outcomes in Hispanic men are still lacking [30-33].

Accordingly, the work within this dissertation aimed to a) synthesize the culturally- and gender-responsive components of alcohol and substance abuse and dependence treatment

programs designed for Hispanic males; b) explore Hispanic male perspectives and opinions regarding alcohol use and abuse patterns that may lead to disparate rates of alcohol abuse in Hispanic males; and c) examine Hispanic male perspectives regarding the barriers to alcohol abuse treatment-seeking related behaviors that lead to disparate treatment engagement and completion rates.

SPECIFIC AIMS

Aim 1: To synthesize the current evidence regarding alcohol and substance abuse treatment programs designed to improve behavioral, physical, and social outcomes from the misuse of alcohol and other substances in Hispanic men. This systematic review: a) summarizes the overall success of culturally- and gender responsive treatment programs; b) summarizes the culturally- and gender-responsive components of alcohol and substance abuse and dependence treatment programs designed for Hispanic men; c) assesses the extent to which gender and cultural adaptation strategies are present in each intervention and how these strategies relate to specific study outcomes; and d) identifies areas where more research is needed.

Aim 2: To assess the influence of the relationship between social contexts with conceptualizations of masculinity and sociocultural norms on alcohol and alcohol abuse-related behaviors in Hispanic men in Tucson, AZ: This qualitative inquiry is an exploration of Hispanic male perspectives and opinions regarding alcohol use and abuse patterns that may lead to disparate rates of alcohol abuse in Hispanic men.

Aim 3: To assess the influence of the interactions between social contexts with conceptualizations of masculinity and sociocultural norms on alcohol and alcohol abuse-related behaviors in Hispanic men in Tucson, AZ: This qualitative inquiry is an examination of Hispanic male perspectives and opinions regarding alcohol abuse treatment-seeking related behaviors that lead to disparate treatment engagement and completion rates.

ROLE OF THE AUTHOR IN THE PRESENT RESEARCH

This research was designed to broadly explore the need for culturally and gender responsive methods of alcohol and substance abuse treatment outreach and engagement for Hispanic males. This three-paper dissertation focused on the assessment of current presence of culturally and gender-responsive strategies for Hispanic male alcohol and substance abuse treatment as well as an assessment of the need for culturally and gender responsive treatment. Chapter 2 addresses Specific Aim 1, which was to synthesize the current evidence regarding alcohol and substance abuse treatment programs designed to improve behavioral, physical, and social outcomes from the misuse of alcohol and other substances in Hispanic men. This review was conceptualized by the author in careful consultation with his dissertation committee members, David O. Garcia, Scott Carvajal, John Ruiz, and Eyal Oren. All the literature selected for this review contained human participants and the author confirmed that all studies acquired the appropriate Human subjects review. The author wrote a manuscript describing the results of this review. Chapter 3 describes the qualitative data collection methods that were used to elicit the data for Aim 2 and Aim 3. Chapter 4 is a synthesis of the qualitative results illustrating the social and cultural context of alcohol abuse-related behaviors in Hispanic males, which are discussed in depth in Chapter 5. Chapter 6 is a synthesis of the qualitative results illustrating the structural, sociocultural, and individual barriers to treatment seeking and engagement for Hispanic males. The results described in Chapter 6 are discussed in depth in Chapter 7. This study was conceptualized by the author in consultation with his committee members. The author developed a qualitative data collection protocol and analysis plan. The author was responsible for all data analysis and interpretation. All of the data used in this study was collected by the author

or a trained student assistant and all procedures were approved by the University of Arizona Human Subjects Protection Program's institutional review board (Appendix D).

CHAPTER 2

A REVIEW OF THE LITERATURE REGARDING ALCOHOL AND SUBSTANCE ABUSE TREATMENT FOR HISPANIC MALES

The rapid growth of the Latino population in the United States coupled with the disparate burden of social, physical, and emotional problems related to alcohol and substance abuse have encouraged the development of culturally specific treatment models that attempt to address disparities in Latino alcohol and substance abuse treatment success [27, 37]. Consequently, there is an urgent need for a more comprehensive understanding of the effectiveness of culturally- and/or gender-adapted treatment for Latino men. The purpose of this review is to summarize the current evidence regarding alcohol and substance abuse treatment programs that aim to improve behavioral, physical, and social outcomes associated with the misuse of alcohol and other substances in Latino men. We aim to a) summarize the overall success of culturally- and gender-responsive treatment present in the current literature, b) summarize the culturally- and gender-responsive components of alcohol and substance abuse and dependence treatment programs designed for Latino men; c) assess the extent to which gender and cultural adaptation strategies are present in each intervention and how these strategies relate to specific study outcomes; and d) identify areas where more research is needed.

Literature Search Strategy and Risk of Bias Assessment

A predetermined protocol was used in accordance with published guidelines of systematic reviews (PRISMA) [38] and supplemented with methods previously used in a review with similar objectives [39]. The protocol for this review is registered in the PROSPERO database (registration number: 47153). A literature search was performed using: PubMed, MEDLINE, PsycINFO, Web of Science, Embase and Cochrane Library. Reference lists of identified articles were searched for additional articles not present in the database results. A Boolean search strategy was used in the search electronic databases [40]. Four comprehensive themes that built the final search were specified:

- To identify relevant terms related to the population of interest, the first Boolean search used the term "or" to explode and map the subject headings "Hispanic" or "Hispanic American" or "Latino" or "Spanish speaking" or "Latin American" or Hispanic American".
- To identify relevant terms related to alcohol abuse a second Boolean search used the term "or" to explode and map the subject headings "alcohol" or "alcoholism" or "alcohol abuse" or "alcohol dependence" or drinking" or "alcohol use disorder" or "problem drinking" or "binge drinking"
- To identify relevant terms related to substance abuse a second Boolean search used the term "or" to explode and map the subject headings "drug use" or "drug abuse" or "drug dependence" or "substance related disorders" or "addiction" or "illicit drugs" or "illegal drugs" or "drug dependence" or substance use" or "substance abuse".
- To identify relevant terms related to substance abuse a second Boolean search used the term "or" to explode and map the subject headings "treatment" or "intervention" or "program" or "inpatient" or "outpatient" or "evidence based" or "model" or "modalities" or "treatment

services" or "service" or "rehabilitation" or "substance abuse rehabilitation" or "drug rehabilitation"

These four comprehensive search themes were then combined using Boolean operator "AND" in varying combinations. A sample search strategy is included in **Table 1**.

Inclusion Criteria

(1) We sought articles reporting on alcohol and/or substance use, abuse, or dependence treatment in a randomized controlled trial (RCTs). Non-RCTs were also included as they too could provide information regarding all of the research questions, including effectiveness.
(2) All reported interventions must have been culturally- and/or gender-adapted, or have been designed specifically for Latino men in the United States. As such, articles had to explicitly describe specific adaptations to any phase of treatment (i.e. outreach, delivery, exit, etc.) designed to better engage Latino males in alcohol or substance abuse treatment.
(3) Studies conducted in adults (aged >18 years)
(4) Must include participation of Latino males
(5) Articles must have been published between January 1, 1978, and December 31st 2016. The former date correlates with the improvement of data collection based on the differentiation and recognition of race and Latino origin in National Health Interview Survey (NHIS).

Exclusion Criteria

(1) Articles that were inconsistent with the inclusion criteria or if they were anecdotal, solely theoretical/critical analysis without data, historical, or editorial in nature.
(2) Articles reporting on intervention that were designed for women, or included only the participation of women.
(3) Articles that included smoking cessation interventions.

Data Collection and Extraction

All titles and abstract of each citation that was identified though the search were inspected independently by two reviewers with use of the inclusion and exclusion criteria and to eliminate duplicates. All articles that were relevant upon revision of title and abstract were accessed and reviewed independently by the two reviewers. All disagreements were resolved by consensus and consultation with a third reviewer.

Risk of Bias Assessment

Risk of bias was assessed using the Cochrane Collaboration's tool for assessing risk of bias [41]. This is a tool that addresses seven specific domains; sequence generation, allocation concealment, blinding of participants and personnel, blinding of outcome assessment, incomplete outcome data selective outcome reporting and "other issues" [41]. The tool is used to assign a judgement of "Low risk" of bias, "High risk" of bias, or "Unclear risk" of bias to each of the seven judgement domains.

TABLE 1. SAMPLE LITERATURE SEARCH STRATEGY (PubMed)

Terms	Search	Number of Articles
PubMed		
Population	(((((((("hispanic") OR "hispanic american") OR "latino") OR "mexican") OR "spanish speaking") OR "latin american") OR "hispanic american") OR "mexican american"	66112
Alcohol	(((((((("alcohol") OR "alcoholism") OR "alcohol abuse") OR "alcohol dependence") OR "drinking") OR "alcohol use disorder") OR "problem drinking") OR "binge drinking"	364607
Drugs	(((((((((("drug use") OR "drug abuse") OR "drug dependence") OR "substance related disorders") OR "addiction") OR "illicit drugs") OR "illegal drugs") OR "drug dependence") OR "substance use") OR "substance abuse"	186191
Treatment	((((((((((("treatment") OR "intervention") OR "program") OR "inpatient") OR "outpatient") OR "evidence based") OR "model") OR "modalities") OR "treatment services") OR "service") OR "rehabilitation") OR "substance abuse rehabilitation") OR "drug rehabilitation"	2647175
Pop+alcohol	(((((((((("hispanic") OR "hispanic american") OR "latino") OR "mexican") OR "spanish speaking") OR "latin american") OR "hispanic american") OR "mexican american")) AND (((((((("alcohol") OR "alcoholism") OR "alcohol abuse") OR "alcohol dependence") OR "drinking") OR "alcohol use disorder") OR "problem drinking") OR "binge drinking")	3544
Pop+drugs	(((((((((("hispanic") OR "hispanic american") OR "latino") OR "mexican") OR "spanish speaking") OR "latin american") OR "hispanic american") OR "mexican american")) AND ((((((((((("drug use") OR "drug abuse") OR "drug dependence") OR "substance related disorders") OR "addiction") OR "illicit drugs") OR "illegal drugs") OR "drug dependence") OR "substance use") OR "substance abuse")	3408
Pop+ (drugs OR alcohol)	((((((((((("alcohol") OR "alcoholism") OR "alcohol abuse") OR "alcohol dependence") OR "drinking") OR "alcohol use disorder") OR "problem drinking") OR "binge drinking")) OR ((((((((((("drug use") OR "drug abuse") OR "drug dependence") OR "substance related disorders") OR "addiction") OR "illicit drugs") OR "illegal drugs") OR "drug dependence") OR "substance use") OR "substance abuse"))) AND (((((((("hispanic") OR "hispanic american") OR "latino") OR "mexican") OR "spanish speaking") OR "latin american") OR "hispanic american") OR "mexican american")	5593
Pop+ (drugs OR alcohol) + treatment	((((((((((((("alcohol") OR "alcoholism") OR "alcohol abuse") OR "alcohol dependence") OR "drinking") OR "alcohol use disorder") OR "problem drinking") OR "binge drinking")) OR ((((((((((("drug use") OR "drug abuse") OR "drug dependence") OR "substance related disorders") OR "addiction") OR "illicit drugs") OR "illegal drugs") OR "drug dependence") OR "substance use") OR "substance abuse"))) AND (((((((("hispanic") OR "hispanic american") OR "latino") OR "mexican") OR "spanish speaking") OR "latin american") OR "hispanic american") OR "mexican american"))) AND ((((("treatment") OR "therapeutics") OR "intervention") OR "program")	1995
FINAL: all + language, human, age	((((((((((((("alcohol") OR "alcoholism") OR "alcohol abuse") OR "alcohol dependence") OR "drinking") OR "alcohol use disorder") OR "problem drinking") OR "binge drinking")) OR ((((((((((("drug use") OR "drug abuse") OR "drug dependence") OR "substance related disorders") OR "addiction") OR "illicit drugs") OR "illegal drugs") OR "drug dependence") OR "substance use") OR "substance abuse"))) AND (((((((("hispanic") OR "hispanic american") OR "latino") OR "mexican") OR "spanish speaking") OR "latin american") OR "hispanic american") OR "mexican american")) AND (Humans[Mesh] AND (young adult[MeSH] OR adult[MeSH:noexp] OR adult[MeSH] OR (middle age[MeSH] OR aged[MeSH]) OR middle age[MeSH] OR aged[MeSH] OR aged, 80 and over[MeSH])))) AND ((((((((((((("treatment") OR "intervention") OR "program") OR "inpatient") OR "outpatient") OR "evidence based") OR "model") OR "modalities") OR "treatment services") OR "service") OR "rehabilitation") OR "substance abuse rehabilitation") OR "drug rehabilitation") AND (Humans[Mesh] AND (young adult[MeSH] OR adult[MeSH:noexp] OR adult[MeSH] OR (middle age[MeSH] OR aged[MeSH]) OR middle age[MeSH] OR aged[MeSH] OR aged, 80 and over[MeSH])))	**1595 :FINAL**

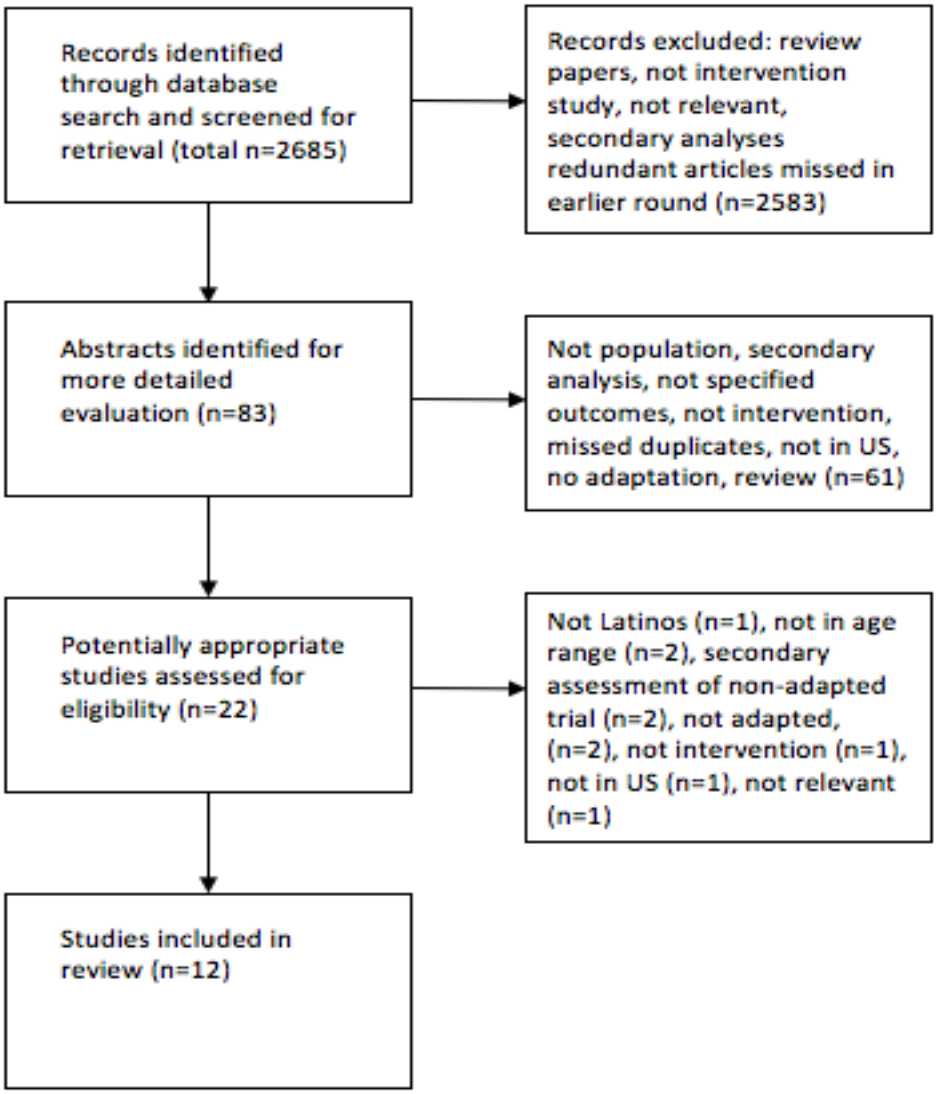
Appraisal of Cultural Adaptation

A deductive thematic analysis based on predetermined themes was used to evaluate the process and nature of the adaptations in each of the selected articles that met all inclusion and exclusion parameters. While there were a variety of frameworks that were considered for the analysis of cultural adaptation, the framework selected was one constructed by Bernal & Saez-Santiago [42]. The framework consists of eight elements used to culturally center interventions

including; (1) language, (2) persons, (3) metaphors, (4) content, (5) concepts, (6) goals, (7) methods, and (8) context [42]. For the purpose of this review, the eight elements are operationalized as described below: (1) *Language* is a carrier of culture; therefore, treatment delivered in the preferred language of a target population assumes at least a superficial integration of culture. (2) *Therapist matching* highlighted the importance of treatment provider positionality in client-therapist relationships. (3) *Inclusion of cultural symbols and adages* encompassed the inclusion of objects and symbols of the target population in the space where programs were delivered or the delivery of treatment in a culturally driven space (e.g., church, cultural center, neighborhood/community center, etc.). (4) *Inclusion of Cultural Knowledge in Treatment Content* included values, customs, and traditions shared by the populations receiving treatment within verbal communication (e.g., recruitment communication) and/or any distributed materials (e.g., flyers, informational pamphlets etc.). (5) *Treatment Conceptualization* considered the distinct ways in which different cultures and genders can define, manifest, and treat behavioral, and social problems and thus, treatment should be delivered in a way that is understood by the client. (6) *Treatment Goals* entailed that goals of treatment should be created with attention to the specific values, customs and traditions of a client's gender- and culturally-bound definitions of success. (7) *Treatment Methods* referred to the procedures to simplify the achievement of treatment goals and their consideration of cultural and or gender norms, which can include culturally- or gender-adapted recruitment methods (e.g., churches, or worksites). (8) *Treatment Context* referred to the consideration of a participant's broader social, economic, and political reality, encompassing the effects of social and cultural processes such as socio-economic status, acculturative stress, immigration status, and neighborhood effects on treatment. These adaptations included the reduction of practical barriers and improved access to treatment

(e.g., flexibility of scheduling sessions, delivery of treatment in convenient settings or over the phone, inclusion of family members). This framework was utilized to assess the degree of cultural adaptation upon selection of the final articles that fit review parameters. Two authors searched for the presence of each of the domains in all programs within selected articles and reported the results of this deductive thematic analysis.

FIGURE 1. FLOWCHART OF STUDIES INCLUDED IN THE REVIEW



Selected Studies

Search parameters produced 2685 titles. Initially, 2583 articles were excluded because they were; reviews, not intervention studies, not relevant, secondary analyses, or redundant articles. Thereafter 61 articles were excluded due to incorrect target population, secondary analyses, non-specified outcomes, not intervention, missed duplicates, non-adapted treatment, and not in the United States. A final discussion round excluded another 10 articles because the study sample was not Latino (n=1), not in the age range (n=2), articles were a secondary assessment of non-adapted trial (n=2), reported on not adapted program (n=2), not reporting on an intervention (n=1), not in U.S. (n=1), and not relevant to review parameters (n=1). A final total of 12 articles were included in the review; an inclusion/exclusion flowchart is shown in **Figure 1. Table 2** displays demographic data and salient study information for the articles that met the criteria. A total of five (41.6%) articles focused solely on alcohol [43-47], two (16.6%) programs were uniquely focused on cocaine and opiates [48, 49], and another five (41.6%) focused on a combination of alcohol and substance use [50-54]. The total sample size of the articles was 3447 ranging from 25-1175, and was approximately 67.7% Latino, and 77.8% male. Nine of the interventions were designed exclusively for Latinos, but only one [47] intervention was designed for Latino men. The mean age of the total 3025 participants for whom age was reported was 31.6 years. Two studies [50, 54] did not report mean age of treatment and control participants (n=475). Our assessment of risk of bias in reporting is presented in summary in **Table 3**. Only three of the selected studies [43, 45, 55] were reported with very low risk of bias meeting all reporting requirements delineated by the Cochrane Collaboration's tool for assessing

risk of bias [41]. Others were deficient largely due to lack of control groups rendering randomization, allocation concealment, and obsolete blinding procedures.

Cultural Adaptation

Table 4 illustrates how well the chosen articles met the criteria for each of the eight elements in our cultural adaptation appraisal. Overall, only three (25%) of the studies met every single criteria item [50, 51, 53]. The most salient adaptation was language, which was included by 10 (83.3%) of the reported studies [43, 44, 47, 48, 50-53, 56], largely ensuring that recruitment outreach materials, consent procedures, written information and program delivery were conveyed in the participants preferred language. Therapist matching was explored by nine (75.0%) studies [43, 44, 47, 48, 50-53, 56], which focused on participant-provider matching to ensure acceptability and credibility of the therapist. Less salient adaptations included treatment content and methods. Six (50%) of the studies considered the inclusion of cultural knowledge and content [45, 46, 48, 50, 51, 53], and Jason et al., [53] for example, reported that communication was centralized around the Latino-bound cultural concepts of *personalismo, simpatia,* and *respeto,* which are Latino cultural norms that have health-related implications because of their influence on behaviors. Culturally responsive methods were emphasized in six (50.0%) of the selected studies [45, 46, 50, 51, 56]. For example, Dansereau et al., [56] used *node-link mapping*, a visually engaging methodology that eliminates language and cultural barriers by changing the modality of the message that is being transmitted. Importantly, Carroll et al., [52] and Sparks et al., [54] reported minimal cultural adaptations and were primarily focused on language-based changes to treatment, while Lee et al., [45, 46] (2011 & 2013) did not

adapt for language at all, in aim of more comprehensive adaptations for cultural and social contexts.

Adapted Modalities

There were a variety of treatment modalities that were adapted for cultural responsiveness. The most prominent modalities were based on brief motivational interviewing (BMI) and motivational enhancement therapy (MET), which are brief-evidence based treatments that are often used to elicit or reinforce participants' motivation for change. For instance, Bernstein et al., [48] assessed the effectiveness of tailored, peer-matched BMI versus written advice in reducing cocaine and heroin use in a sample of n=1175 participants (23% Latino, 70.6% male). In this case, BMI were conducted by non-professional peers who were in recovery from cocaine and opioids or had been raised in a household dominated by substance use. Field et al., [43] conducted a trial comparing ethnically-matched BMI to treatment as usual in a Level One trauma unit following screening for alcohol related injury or problems in a sample of n=537 participants (100% Latino, 88.5% male). Carroll et al., [52] published a randomized controlled trial to assess MET versus treatment as usual on participant retention and frequency of substance use in Latino, Spanish-speaking substance users (n=405, 89% male) at five sites around the United States (Miami, FL, New York City, NY, Portland, OR, Greenley, CO, and Santa Fe, NM). Lee et al., [45, 46] (2011, and 2013) assessed treatment feasibility and acceptability [46] (n=25, 44% male) as well as effectiveness [45] (n=58, 53% male) of culturally adapted BMI tailored using a social-contextual framework in all Latino samples. Lee et al., [45, 46] (2011, 2013) considered the contextual reality of the participants to account for the mediating and moderating effects of societal influences of poverty, discrimination, historical trauma, and

employment status of their participants. Moore et al., [47] tested the feasibility, acceptability, and efficacy of a culturally–responsive intervention for Latino male day laborers (n= 29, 100% male). The intervention combined MET and strengths-based case management delivered by promotoras in Spanish to reduce heavy drinking. Promotoras were used because of their cultural positionality. For instance, these promotoras lived in the participants' community and therefore could have a better understanding of community social networks, health needs, and cultural values which allowed them to effectively disseminate health-related messages to participants. Lastly, related to MET and BMI was a Node-Link Mapping strategy used by Dansereau et al., [49] to bridge the communication gap between therapists and participants (n=320, 36% Latino, 62.7% male) clients. The primary components of this system were maps that represented the relationship between the thoughts, actions, and feelings (*nodes*) that led (*links)* to personal problems and their potential solutions (*nodes*) [57].

Residential-based treatments also were adapted to be culturally responsive as explored by Amodeo et a., [51], Jason et al., [53], and Waters et al., [50]. Firstly, Amodeo et al., [51] aimed to increase treatment completion through vocational training and strengthening client-counselor relationships for Latino (n=161, 68% male) participants. Counseling accounted for the influence of participants' social context including native culture, immigration status. Counseling strategies also included familial participation to increase familial understandings of addiction to diminish behaviors that may be detrimental (e.g., stigmatization) to recovery. Ethnic, as well as community pride, was fostered through involvement in cultural celebrations and service to neighborhood and local Latino communities. Jason et al., [53], also explored culturally adapted residential treatment aiming to 1) increase employment income; 2) decrease illegal activities; 3) decrease use of alcohol and other substances; and 4) increase adherence to psychiatric and other

medication in recovering Latinos (n=84, 75.6% male). Waters et al., [50] presented an analysis of Carnales Unidos Reformando Adictos, *Brothers United to Reform Addicts* (C.U.R.A), a *therapeutic community* tailored for Latino (n=434, 81% male) substance users emphasizing family, healthcare, and education. C.U.R.A was focused on self-awareness, self-respect, a renewed focus for vocational direction and educational attainment, as well as an emphasis on fostering ties to family, ethnic background, and culture. Regarding gender-specific considerations, authors argued for the need to account for gender-related cultural factors such as *machismo*, which can facilitate self-conceptualizations of strength and invulnerability which in turn impact influence participants' substance use, abuse, and treatment adherence.

The last two of the selected publications focused on primary care-based treatment [58], and a family-based counseling program [54]. In 1997, Burge et al. [58] published the results of an evaluation of two primary care interventions aimed at diminishing alcohol abuse among Mexican-American patients (n=175, 75% male). Participants were randomized into one of four treatment groups that included brief physician intervention, extended psychoeducation, both interventions combined, or no treatment. *Celebrando Familias* (Celebrating Families) reported by Sparks et al., [54], was the only family-based substance abuse counseling treatment program that met the study inclusion criteria, and included the participation of 36 Latino participants (16% men). *Celebrando Familias* was a culturally adapted program aimed at decreasing alcohol and substance use and increasing family resilience and parent's social/cognitive skills.

Effectiveness of Adapted Programs

Five articles reported on programs aiming to improve alcohol-related outcomes. Burge et al., [44] who explored the effectiveness of a primary case based treatment reported mean improvement in alcohol consumption frequency as well as Addiction Severity Index scores in the entire sample of study participants. No significant differences were observed between three different treatment groups and mean improvements in the control group. Findings from Repeated Measured ANCOVAs at 12- and 18-months post-enrollment suggested treatment effect improvements only for Addiction Severity Index scores (Family; $F=5.86$, $p=0.003$, and Medical: $p=0.047$) but not Drinks per week. Gender also had an effect over time on Addiction Severity Index scores (Family: $F=4.68$, $p=0.010$; Legal: $F=3.26$, $p=0.040$; and Psychiatric $F=3.00$, $p<0.050$). Authors reported that younger men sometimes resisted the treatment and did not reflect an understanding of the consequences of heavy drinking. Notably, 15 of the male participants (total n=131) were lost to follow-up to either death or imprisonment, four of whom died of gunshot wounds or stabbings. Field et al., [43] explored matched BMI- and reported reductions in alcohol volume per week particularly in foreign-born and less acculturated Latinos that received the BMI compared to treatment as usual ($p=0.01$). Lee et al., (2011)[46], found that culturally adapted BMI was a viable approach with Latino participants (44% male), reporting high levels of satisfaction with treatment, measured qualitatively and through Likert scales developed by the authors. Building on the previous study, Lee et al., (2013) [45] who reported on the effectiveness of culturally adapted BMI reported successful retention of participants at 2 months (86%) and 6 months (84%). There also were significant decreases in the number of heavy drinking days per month, and drinking consequences (measured using the Drinker's

Inventory of Consequences: DrInC) across both groups ($p<0.001$), as well as increased reductions in drinking consequences for the culturally adapted group at 2 months ($p=0.009$). Notably, the authors did not adapt for language citing the need for an investigation of the effects of adaptation separate from those of the effects of translating an intervention [46]. Moore et al., [47], who explored MET in a 100% sample of Latino men (n=29), reported favorable participant retention results citing that nearly all participants attended every counseling session and most (86%) completed the study. Additionally, Intervention participants drank less at 6 weeks (11 vs. 25 drinks/week) and had reduced improved Alcohol Use Disorders Identification Test scores (14 vs. 20), although no statistically significant differences were observed between groups at any time point ($p>0.05$).

A total of five programs were focused on improving a combination alcohol and substance abuse outcomes. Amodeo et al., [51], assessed the effectiveness of culturally adapted residential treatment and reported that while males represented over two thirds of the study sample, the only gender-specific adaptations were length of stay (4-6 months for men, 6-12 months for women; which was justified with evidence-based treatment length parameters). This study did not employ the use of a comparison group and no differences were reported between gender groups in either program completion or length of stay. Waters et al., [50] reported separately for two distinct program lengths. In 1998, only 51% of men and 56% of women completed a 28-day program, and 45% of men and 52% of women completed the six-month program. There was an improvement in women completing the long-term program in 1999, yielding 83% female completers; however only 51% of men completed treatment. Lastly, Jason et al., [53] reported on a residential program that yielded differences in mean income earned at follow-up between culturally adapted and non-adapted programs with mean income increases of $733 ($p<0.01$) and

$325 (p=0.02), respectively. Findings also showed that being less acculturated was associated with greater initial alcohol use, but greater decreases in alcohol use over time. Sparks et al., [54] reported on family-based counseling and found no differences in alcohol and substance abuse when compared to traditional non-adapted samples. However, there were reported improvements in family strengths, resilience, and parent social/cognitive skills in the intervention group for both bilingual and monolingual (Spanish only) families. Carroll et al, [52] also reported less than favorable findings in a language adapted MET. Authors-specified that while most participants in both groups were retained in their conditions after 28 days (MET=93%, TAU=91%), little over half remained in each group (57% vs. 52%) after an 84-day follow-up. Other than language, there were no culturally- or gender-specific adaptations to the program. Additionally, while nearly 89% of the sample was male, the authors did not report any gender-specific considerations in treatment.

Bernstein et al., [48], and Dansereau et al., [49] were focused on improvements in substance abuse related outcomes, primarily focused on cocaine and opiates. Bernstein et al., [48] reported high retention rates, with 82% of participants present at 6-month follow-up. Additionally, Latinos in the sample were significantly more likely to be abstinent from heroin and/or cocaine (OR = 2.39 95% CI 1.65, 4.46, $p<0.001$), and cocaine alone (OR = 4.32, 95% CI 2.69, 6.94, $p<0.001$) but not from opiates alone. However, while nearly 70% of the intervention sample was male, authors did not mention gender adaptations in treatment delivery and no significant differences effects were observed between genders. Finally, using repeated measures MANOVA of attendance Dansereau et al., [49] found that clients randomized to Node-Link Mapping treatment condition had better treatment outcomes, including decreased drug positive urines $F = 2.17$, $p<0.045$ and increased attendance to scheduled counseling sessions $F = 3.89$,

$p<0.0009$. This study also suggested that node-link mapping strategies were better received by Mexican Americans when compared to their NLW counterparts. Authors speculated that the use of mapping reduced cultural, racial, and class-driven communication barriers.

TABLE 2. BRIEF PARTICIPANT DEMOGRAPHICS, INTERVENTION TYPES, TREATMENT SUBSTANCE, OUTCOME MEASURES, STUDY DURATION, AND RELEVANT FINDINGS FOR SELECTED STUDIES.

Author, Year	Intervention/Control	Targeted Substance	Sample Size	% Latino in Intervention % Latino in Control	% Male Intervention % Male in Control	Mean Age Intervention/ Control	Primary Outcome Measures	Treatment Duration	Acculturation Level of Participants
Amodeo et al., 2007	Residential Treatment, individual, group, and family counseling, relapse prevention, case management and trauma recovery / control	Alcohol and Substance use (unspecified)	164	Intervention: 98.2% No control (87% Puerto Rican/None were of Mexican origin)	69%/no control	35.2/no control	Treatment Completion/ Length of stay	4-6 months	(Nativity) Not adequately reported
Relevant Findings	-Bivariate statistics indicated that only 10.6% of clients with a history of mental health treatment completed the program, only 7.4% of clients that had ever been diagnosed by a psychiatrist or psychologist completed the program. The program showed no significant differences in male/female (Female OR 1.17; CI .43, 3.23 p>0.05) program completion or length of stay (Female OR 0.76; CI .23, 2.49; p>0.05).								
Bernstein et al., 2004	Peer-Led Brief Motivational Interviewing/ Written advice	Cocaine and/or Heroin	1175	Intervention: 24.1% Control: 22.3%	69.4%/71.8%	37.8/38.1	Abstinence of cocaine and/or heroin at 6 months post-enrollment	Brief Motivational Interview	(Nativity) Intervention: 81.4% US Control 82.4% US
Relevant Findings	-Participants in the intervention group were more likely to be abstinent than those in the control group for cocaine alone (OR 1.51; CI 1.01, 2.24); p = 0.045), and heroin alone (OR 1.57; CI 1.00, 2.47; p = 0.50). Participants that used both drugs also achieved positive results (OR 1.51; CI 0.98, 2.26; p = 0.052). Latinos in the sample had significantly more likely to be abstinent from heroin and/or cocaine (OR = 2.39; CI 1.65, 4.46; p<0.001), and cocaine alone (OR = 4.32; CI 2.69, 6.94; p<0.001), but not from opiates alone.								
Burge et al., 1997	Physician Intervention, Psychoeducation, Both interventions/ No intervention	Alcohol Abuse	175	100% Latino (Mexican American)	75%	39.4	Alcohol consumption frequency and Addiction Severity Index (ASI) Scores	Brief physician education, 6-week patient psycho-educational group	Not Measured
Relevant Findings	Repeated Measured ANCOVAs at 12- and 18-months post-enrollment suggested treatment effect improvements for Addiction Severity Index scores (Family; F=5.86, p=0.003, and Medical: p=0.047) but not Drinks per week. Gender also had an effect over time on Addiction Severity Index scores (Family: F=4.68, p=0.010; Legal: F=3.26, p=0.040; and Psychiatric F=3.00, p<0.050).								

Author, Year	Intervention/Control	Targeted Substance	Sample Size	% Latino in Intervention % Latino in Control	% Male Intervention % Male in Control	Mean Age Intervention/ Control	Primary Outcome Measures	Treatment Duration	Acculturation Level of Participants
Carroll et al., 2009	Motivational Enhancement Therapy (MET)/ Counseling as Usual	Alcohol, Cocaine, Opioids, Marijuana	405	100%	88.4%	32.5	Treatment Retention and Frequency of Substance Use	3 therapy sessions within a 28-day time window	(Years living in US) *Mean* 14.1 years
Relevant Findings	-Findings show that most participants in both groups were retained in their conditions after 28 days (Motivational enhancement therapy=93%, care as usual=91%), however, after the 84-day follow-up period little over half remained in each group (57% vs. 52%). Contrary to study hypothesis, MET did not yield improved substance use reduction results over treatment as usual.								
Dansereau et al., 1996	Node-link mapping during substance abuse counseling/ Standard counseling	Opiates, Cocaine	320	36% (Mexican American)	62.7%	37.4	Opiate and cocaine Abstinence and Client participation measured by attendance	6 months or longer	Not Measured
Relevant Findings	-Participants in treatment condition had better treatment outcomes including decreased drug positive urines, increased attendance to scheduled counseling sessions, and had better therapist rated rapport, motivation, and self-confidence. Multivariate between group effects yielded positive results for treatment condition had better treatment outcomes, including decreased drug positive urines $F = 2.17$, $p<0.045$ and increased attendance to scheduled counseling sessions $F = 3.89$, $p<0.0009$.								
Field et al., 2010	Ethnic Matched Brief Motivational Intervention based on Brief Motivational Interviewing (BMI)/ Usual BMI	Alcohol	537	100% (Mostly Mexican American, exact number not reported)	88.5%	29.9	Drinking frequency and quantity. Volume per week, and maximum amount consumed, frequency of 5 or more drinks per occasion.	Brief Motivational Intervention / 6 month follow-up	Low 34.3% Medium 32.0% High 33.7% (Nativity) US born 45.8%
Relevant Findings	- Reductions in volume per week were seen in foreign-born Latinos that received BMI compared to those who did not ($p=0.01$). Less acculturated Latinos had reductions in drinking at both 6- and 12-month time points ($p_6 = 0.02$, $p_{12} = 0.004$). -Ethnic matching was more beneficial for foreign-born and less acculturated Latinos.								

Author, Year	Intervention/Control	Targeted Substance	Sample Size	% Latino in Intervention % Latino in Control	% Male Intervention % Male in Control	Mean Age Intervention/ Control	Primary Outcome Measures	Treatment Duration	Acculturation Level of Participants
Jason et al., 2013	Culturally adapted residential after care/ traditional residential aftercare	Alcohol, Opiates, Cocaine	84	100% (51% Puerto Rican, 31% Mexican)	75.6%/84.6%	35.8/37.4	Income from employment, illegal activity, Addiction Severity Alcohol and substance use frequency	(Undefined) 115 days or more	Not reported
Relevant Findings	-No significant differences in length of stay (115 vs. 100 days, p=0.40) -Being less acculturated was associated with greater initial alcohol use [b=27.63, t (160 days) = 3.93], p<0.01 -Treatment group had significantly higher increased income ($733, p<0.01 vs. $325, p=0.02)								
Lee et al., 2013	Culturally Adapted Motivational interviewing/ Standard motivational interviewing	Alcohol	58	100% (55% Dominican Republic and Puerto Rico)	53.8%/55.5%	36.4/33.5	Severity of Alcohol Problems (DrInC) Alcohol consumption frequency	Brief motivational interview 1.5 hours / 2 and 6 month follow-up	Moderately acculturated (3.12 SASH)
Relevant Findings	-Retention at 2 and 6 months was 86% and 84%, respectively. -Decreased heavy drinking days/month and drinking consequences across both groups (p<0.001) -Significantly decreased drinking consequences for treatment group at 2 months (p=0.009)								
Lee et al., 2011	Culturally Adapted motivational Interviewing/ Standard Motivational interviewing	Alcohol	25	100% (60% Caribbean)	44%	34	Treatment acceptability	Brief motivational interview 1.5 hours	Highly Acculturated
Relevant Findings	-Participants reported high levels of satisfaction with treatment (M=3.58 on a scale of 1-4) and treatment engagement (M=4.58 on a scale of 1-4).								

Author, Year	Intervention/Control	Targeted Substance	Sample Size	% Latino in Intervention % Latino in Control	% Male Intervention % Male in Control	Mean Age Intervention/ Control	Primary Outcome Measures	Treatment Duration	Acculturation Level of Participants
Moore et al., 2016	3-session culturally adapted intervention combining motivational enhancement therapy (MET) and strengths-based case management (SBCM)/Brief Feedback (BF)	Alcohol	29	100% (69% Mexican)	100%	42.6/43.0	Alcohol Frequency, Alcohol Volume, AUDIT scores	1-2 week intervals between 3 session intervention 45-55 minutes/ 6, 12, and 18 week follow-up	(Nativity) US Born: 6%
Relevant Findings	-Nearly all participants attended every counseling session and 86% completed treatment. -Intervention participants drank less (11 vs. 25 drinks/week) and had improved AUDIT scores (14 vs. 20) at 6 weeks								
Sparks et al., 2013	Culturally adapted "Celebrating Families" family-based substance abuse counseling program	Alcohol and substance use (unspecified)	41	100% (Unspecified)	16%	Unspecified	Alcohol and Substance use, Family resilience and strength Parent social/cognitive skills	16 weekly 90 minute sessions	Not reported
Relevant Findings	-No significant differences in alcohol and substance use were found in comparison to traditional "Celebrating Families" samples. Significant improvements in family strengths/resilience and parent social/cognitive skills in intervention group.								
Waters et al., 2002	Culturally adapted therapeutic community model	Alcohol and Substance (Unspecified)	434	100%	81%	Unspecified	Program completion	6 week or long term residential	Not Reported
Relevant Findings	-In 1998, only 51% of males and 56% of females completed a 28-day program, while 45% of men and 52% of women completed the long-term program. In 1999, 83% of women and only 51% of men completed long-term treatment.								

TABLE 3. SUMMARY OF RISK OF BIAS ASSESSMENT

Author (Year)	Random sequence generation	Allocation concealment	Blinding of participants and personnel	Blinding of outcome assessment	Incomplete outcome data	Selective reporting
Amodeo et al., 2007	**-**	**-**	**-**	**?**	**+**	**+**
Bernstein et al., 2004	**+**	**+**	**+**	**+**	**+**	**+**
Burge et al., 1997	**+**	**?**	**-**	**?**	**?**	**+**
Carroll et al., 2009	**+**	**+**	**+**	**-**	**+**	**+**
Dansereau et al., 1996	**+**	**+**	**+**	**-**	**+**	**+**
Field at al., 2010	**+**	**+**	**+**	**+**	**+**	**+**
Jason et al., 2013	**-**	**-**	**-**	**?**	**+**	**+**
Lee et al., 2013	**+**	**+**	**+**	**+**	**+**	**+**
Lee et al., 2011	**-**	**-**	**-**	**+**	**+**	**+**
Moore et al., 2016	**+**	**+**	**?**	**?**	**+**	**+**
Sparks et al., 2013	**-**	**-**	**-**	**-**	**-**	**?**
Waters et al., 2002	**-**	**-**	**-**	**-**	**?**	**?**

(+) = Low Risk of Bias; (-) = High Risk of Bias; (?) = Unclear Risk of Bias

TABLE 4. EIGHT ELEMENTS OF CULTURAL CONSIDERATION IN SELECTED ARTICLES

Author, Year	Language	Therapist Matching	Inclusion of Cultural Symbols and Sayings	Inclusion of Cultural Knowledge in Treatment Content	Treatment Conceptualization	Treatment Goals	Treatment Methods	Treatment Context
Amodeo et al, 2007	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**
Bernstein et al, 2004	**X**	**X**		**X**		**X**		
Burge et al, 1997	**X**	**X**						**X**
Carroll et al, 2009	**X**	**X**						
Dansereau et al, 1996	**X**	**X**	**X**		**X**	**X**	**X**	**X**
Field et al, 2010	**X**	**X**				**X**		**X**
Jason et al, 2013	**X**	**X**	**X**	**X**	**X**	**X**		**X**
Lee et al, 2013			**X**	**X**	**X**	**X**	**X**	**X**
Lee et al, 2011			**X**	**X**	**X**	**X**	**X**	**X**
Moore et al, 2016	**X**	**X**						**X**
Sparks et al, 2013	**X**				**X**			
Waters et al, 2002	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**

TABLE 5. THE EIGHT ELEMENTS OF CULTURAL ADAPTATION, THEIR APPLICATION, AND BRIEF EXAMPLES FROM SELECTED ARTICLES

Adaptation	Application	Example From Selected Article
Language	Treatment delivered in the native language of a target population assumes at least a superficial integration of culture	Staff was bilingual and bicultural and come from the countries and cultures of the program's clients [51].
Therapist Matching	Ethnic and gender matching of service providers enhances provider positionality in client-therapist relationships	Peer educators were non-professionals, who could meet the participant as an equal, and they are too in recovery from cocaine and/or heroin for at least three years or had grown up in a home dominated by substance [55].
Inclusion of Cultural Symbols and Sayings	Inclusion of objects and symbols of the target population in the space where programs were delivered or the delivery of treatment out of a culturally driven space (church, cultural center, neighborhood/community center, etc.).	Intervention was located at Casa Esperanza Inc., which was primarily serving substance users of Puerto Rican descent [51].
Inclusion of Cultural Knowledge in Treatment Content	Inclusion of values, customs, and traditions shared by the populations receiving treatment within communication (recruitment communication) and any materials (flyers, informational pamphlets etc.) received	Communication was centralized around *personalizmo, simpatia,* and *respeto* [53].
Treatment Conceptualization	Consideration of how different cultures and genders define, manifest, and treat physical, behavioral, and social problems may be very different.	Node link mapping takes into account the cultural conceptualization of treatment may be different for African and Mexican American populations. Authors attempted to circumvent the gaps in treatment conceptualization by using link-node mapping [56].
Treatment Goals	Goals of treatment should be created with attention to the specific values, customs and traditions of a client's gender- and culturally-bound definitions of success.	Key outcome variables were income from employment and illegal activities as well as use of prescribed medications for psychiatric or medical problems [53].
Treatment Methods	All program procedures to follow for the achievement of treatment goals and their consideration of cultural and or gender norms.	Node-link mapping, a visually engaging methodology, changes the understanding of the message that is being transmitted by the counselor because it eliminates language and cultural barriers [56].
Treatment Context	Consideration of a participant's broader social, economic, and political reality.	Therapists were trained to prove and discuss stressors, such as experiences of discrimination, the effects of low status employment, or missing family back home as influences of drinking behaviors [45].

DISCUSSION

The aim of this aim was to review current evidence regarding alcohol and substance abuse treatment programs that aim to improve behavioral, physical, and social outcomes associated with the misuse of alcohol and other substances in Latino men. The findings of the current study illuminate the shortage of targeted gender-bound factors considered in the recruitment, engagement, and treatment completion in culturally-responsive programs for Latino males. While 11 of the 12 chosen studies reported on relatively large male samples (44%+), a discrepancy exists in the degree of gender adaptations or gender-specific reported outcomes of these interventions. This presents a problem as there is evidence that suggests that gender-bound cultural norms influence the initiation and normalization of alcohol and substance abuse [16, 59]. The role of gender, sociocultural, and contextual factors may have compounded negative effects on substance abuse and treatment outcomes in Latino males. Consequently, this review indicates that evidence for gender-specific applications of culturally- and context-driven adapted substance abuse treatment is lacking.

Language was the most salient modality of adaptation in the selected articles. However, while language is often regarded as a carrier of culture, linguistic adaptation is considered a superficial, and incomplete, cultural adaptation [60]. Thus, adaptations for cultural responsiveness may need to include influential factors beyond language. For instance Carroll et al., [52] reported on the implementation of a non-adapted translated program that did not yield improved outcomes. Further, the demographic characteristics from this multisite intervention showed that participants were a heterogeneous Latino sample from diverse geographic and

cultural origins. While different Latinos may share a language and some cultural tenets, geographic and cultural origins may result in very different social contexts, e.g. a highly acculturated Puerto Rican woman is a very different Latina/o than a new Guatemalan male immigrant, even if they are both Spanish-speaking. Yet, these two individuals are typically subject to the same treatment modalities, assessed with the same treatment measures, and are expected to meet parallel treatment goals with a universally translated Spanish program. Conversely, Lee et al., [46] made arguments for deemphasizing language in their intervention, and instead tailored to fundamental cultural and social contexts that were vital to their program success. This illuminates the needs of a culturally and contextually diverse populations in the United States (i.e. Latino males) that may require an overhaul to already established treatment modalities.

The results of this review demonstrate some promising culturally adapted alcohol and substance abuse programs for Latino males. While four studies [44, 47, 51, 54] presented mixed findings regarding the improvement of their specified primary outcome, these studies presented positive changes in secondary outcomes. The most scientifically rigorous findings [43, 45, 48] suggested that culturally adapted treatments may outperform standard treatments, and in some cases, are even more efficacious for lower acculturated Latinos [61]. Nevertheless, some preliminary evidence also suggests that several of the included interventions did not significantly differ from standard treatments [52, 54]. It is unclear, however, to what extent unfavorable findings are related to the ineffectiveness of interventions, the outcomes under investigation, or to methodological shortcomings.

Strengths and Limitations

In this systematic review of literature, we sought to assess the influence of gender and cultural adaptation strategies present in studies for alcohol and substance abuse and how these strategies relate to specific study outcomes. Importantly, PRISMA guidelines were used to appraise, identify and evaluate gender and cultural adaptations of treatment programs for adult Latino men. This review adds valuable insight to the expanding literature on the matter for a high-risk and undeserved population. This review, however, is not without limitations. Perhaps the greatest limitation of this work is the subjective nature of the cultural adaptation appraisal process of the programs identified. While a clear and delineated coding protocol was set, the depth and complexity of cultural norms, intertwined with treatment methodologies were, at times, difficult to discern from the available published manuscripts. Second, the results of a review such as this are heavily dependent on the characteristics of the published studies that are included. The justification process, procedures, research design, and reporting strategy of each individual study influences the presented strength of evidence supporting each program. Further, due to the small number of available studies that fit within our parameters, we elected to include all studies regardless of the strength of inferences and sources of bias inherent to many designs. Finally, and perhaps most critically, there are likely culturally responsive and effective community-based treatment programs that are not described in the published literature. Consequently, the results of this review also reflect some limitations to the current state of published research in the field.

CHAPTER 3

UNDERSTANDING SOCIAL AND CULTURAL CONTEXTS OF ALCOHOL ABUSE AND TREATMENT SEEKING BEHAVIORS IN HISPANIC MALES: QUALITATIVE METHODS

While Chapter 2 provides a review of the culturally and gender adapted alcohol and substance abuse treatment for Hispanic males present in the literature, it is also important to understand the community perspectives of available treatment. As such Chapter 3 describes the methods used to assess Hispanic male opinions and perspectives regarding a) the factors that influence alcohol use and abuse in Hispanic males discussed in Chapters 4 and 5, and b) the factors that influence alcohol abuse treatment seeking behaviors in Hispanic males discussed in Chapters 6 and 7.

The need to include social context in health behavior research is acknowledged and growing [62, 63]. The intersection of individual level traits, like conceptualizations of masculinity, may have a significant interaction with the social context that can either worsen or buffer the influence of adverse social contexts. For example, negative traits of masculinity, like poor coping skills, violence, or careless consumption of alcohol and/or drugs [20] may be exacerbated by a disadvantaged social context. Conversely, positive masculine traits like *caballerismo* can manifest themselves in constructive ways that may buffer the negative influences of an unfavorable social context. The methods below were designed to explore the intersections of social context, gender, and cultural norms and their influence on alcohol abuse and treatment seeking in Hispanic men.

PARTICIPANTS

Recruitment occurred both actively and passively within the community. Participants were passively recruited via flyers at community health centers and neighborhood centers and actively via project-based tabling occurring at community agencies, local employers, and local outdoor marketplaces. Recruitment materials were formulated according to viable recruitment approaches designed for this population and were based in *fear appeal/ fear arousal*, and *humor-based engagement* [64]. All invitations to participate were distributed and conducted in both English and Spanish. Participants were informed verbally and in writing that their participation was voluntary. Participants were eligible if they were between the ages of 21-64 years, self-identified as Hispanic/Latino, self-identified as male, and reported to ever have consumed alcohol or drugs in their lifetime. A wide age range of particiapnts was included to ensure the collection of abroad range of perspective and opitions that may cahge with age and life stages of adulthood. However, an age parameter was set at 64 years due to the differences in health related behaviors that are a result of older age. Participant eligibility was determined by an initial telephone or in-person screening conducted by trained research staff. All men provided written informed consent prior to participation. All study materials were available in both English and Spanish. All study materials and protocols were approved by the University of Arizona's Human Subjects Protection Program Internal Review Board.

DATA COLLECTION

A semi-structured interview guide (**Table 4**) was used to elicit perspectives of alcohol use and masculinity. A bilingual Hispanic male member of the research team conducted all

interviews in the participant's preferred language (English or Spanish). Upon completion of the interview session, a member of the research team administered a voluntary questionnaire that included demographic questions; measures of masculinity (The Machismo/*Caballerismo* scale: TMCS)*;* a measure of acculturation (Brief Acculturation Scale for Hispanics: BASH), and measures of alcohol use and abuse. The BASH and the TMCS have been tested for validity and reliability in the target population [20, 65]. All interviews took place in a private and confidential environment located within the University of Arizona's Collaboratory for Metabolic Disease Prevention and Treatment.

TABLE 6. SEMI -STRUCTURED INTERVIEW GUIDE

Domain and questions
Definition of the problem
• How would you define alcohol abuse?
• What do you think are some of the biggest alcohol-related health problems Latino/Hispanic men in the United States face?
• How do you think alcohol abuse affects the Latino/Hispanic community?
• How do you think alcohol abuse affects Latino/Hispanic men?
Masculinity
• Think of someone you consider manly or a typical man. Describe that person, what makes that person manly?
• How does the idea of manhood influence a man's life?
• How does manhood differ for a Latino/Hispanic man compared to a man of another race?
• How is the idea of manhood influenced by Latino/Hispanic culture or traditions?
• How does the idea of manhood influence health-related behaviors?
Masculinity and Alcohol Consumption
• How does the idea of manhood influence alcohol consumption in Latino/Hispanic men?
• How do traditional ideas of manhood influence alcohol abuse in Latino/Hispanic men?
• How does this influence change with age?
Treatment Seeking Behaviors
• What do you think brings people to seek treatment for problems with alcohol?
• What may be some of the reasons why people who need treatment do not seek it?
• It is known that Hispanic/Latino men have a harder time gaining access to alcohol treatment, can you tell me why you think that might be?
• Now, even when men gain access, it is known that Latino/Hispanic males have a harder time successfully completing alcohol abuse treatment, can you tell me why you think that is?

Demographics Demographic measures included; age (in years), Hispanic heritage (Cuban, Mexican, Mexican-American, Puerto Rican, South/Central American, other), educational attainment (primary school, some high school, high school completion, some college, bachelors, graduate school), employment status (employed; *yes*, or *no*), annual income ($29,999, $30,000-$59,999, $60,000+), marital status (currently married or living with partner), time lived in the United States (in years).

Machismo/Caballerismo. The machismo caballerismo Scale is a 20-item self-report instrument designed to assess the extent to which men identify with two different constructs of machismo; *machismo* and *caballerismo*). The 10-item machismo subscale elicits traits of hyper-masculinity, aggressiveness, and chauvinism. A sample from this subscale is "Men are superior to women". The 10-item caballerismo scale elicits measures of emotional connectedness, nurturance of family, and ideals of respectful conduct. A sample from this subscale is "Family is more important than the individual". The scale uses a 7-point anchored scale of agreement with the statements, from 1 (*not at all*) to 7 (*very much so*) which indicate the participant's agreement with each statement. Higher scores (range 1 to 7) indicate stronger machismo or caballerismo beliefs calculated separately.

Alcohol Use. Past 12-month alcohol consumption frequency was assessed with a 9-point scale ranging from *every day* to *1-2 times this year.* Quantity during drinking episode was measured with a 10-point scale ranging from *1-drink* to *25 or more drinks* per occasion. Alcohol abuse was elicited by number of times in the last year the respondent consumed 5 or more drinks within a 2-hour period with a 9-point scale ranging from *1-2 times this last* year to *every day.*

Acculturation. The four-item BASH uses a self-report language use to indicate level of acculturation. The items measure language use 1) while reading and speaking, 2) at home, 3) while thinking, and 4) with friend. Responses are given in a 5-point scale ranging from 1=*only English*, 2- *more English than Spanish*, *3= both equally*, *4= more Spanish than English*, *5= only Spanish.* Scores range from 4-20 with higher scores indicating lower levels of acculturation.

DATA ANALYSIS

All interviews were audio-recorded and transcribed verbatim in their respective languages by trained staff. A thematic analysis was used to identify, analyze, and report patterns within the data [66]. Data analysis began with a deductive process for which the research team used a preliminary codebook developed based on the topics included in the interview guide. The codebook was then supplemented with broad themes and codes that emerged during iterative reading of the data transcripts. The codebook was finalized during a series of ongoing discussion and iterative reading of each transcript. Four transcripts were selected at random and were double coded to ensure fidelity of coding strategies; remaining transcripts were coded by a single member of the research team. The authors ensured that all salient themes were adequately saturated before recruitment completion. Saturation was derived by the diminishing of variation in the transcribed and subsequently coded data [67]. NVivo 13 (QSR International, Cambridge, MA) was used to facilitate data organization, management, and analysis. Analyses were completed according to the objectives of Aim 2 and Aim 3, separately. As such, Chapter 4 describes the demographic characteristics of the study participants. Chapter 4 also illustrates the qualitative results of the assessment of opinions and perspectives regarding alcohol use and

abuse patterns that may lead to disparate rates of alcohol abuse in Hispanic males. Chapter 5 describes barriers to alcohol abuse treatment seeking related behaviors that lead to disparate treatment engagement and completion rates in Hispanic males.

CHAPTER 4

UNDERSTANDING SOCIAL AND CULTURAL CONTEXTS OF ALCOHOL ABUSE IN HISPANIC MEN: SYNTHESIS OF AIM 2 RESULTS

Chapter 4 describes the demographic characteristics of study participants as well as perspectives and opinions regarding alcohol use and abuse patterns that may lead to disparate rates of alcohol abuse in Hispanic males.

PARTICIPANT CHARACTERISTICS

As illustrated in **Table 6,** a total of 20 Hispanic men participated in in-depth semi-structured interviews lasting an average of 43 minutes. Mean age of participants was 44. 6 (range: 23 to 64; *SD* = 11.3). Five (25%) participants were born in the United States, while 15 foreign-born participants reported living in the United States a mean of 29.8 years (range: 6 to 57; *SD* = 15.4). The majority (75%) were married or currently living with a partner. All participants were currently employed, and 50% reported an annual income below $29,999, while 40% reported an income between $30,000 and $59,000. Mean machismo scale and caballerismo scale scores were 2.7 (*SD* = 0.69) and 5.8 (*SD* = 0.66) respectively; meaning that the sample showed lower levels of *machismo* and higher levels of *caballerismo*. Mean BASH score was 2.6 (range: 1 to 4.75; SD= 1.1) and ranged from 1 to 4.75 suggesting acculturation was *moderate* for the sample. Current alcohol use was reported by 17 (85%) of the participants: 6 (35%) drank at least once a week, 5 (29%) were consuming between 9-15 drinks per drinking occasion, and 4 (23%) reported binge drinking at least once a month. Nine participants (45%) had a personal experience with alcohol abuse treatment.

TABLE 7. PARTICIPANT CHARACTERISTICS (N=20)

Characteristics		
	n/mean	%/SD (range)
Age (years)	44.6	11.3 (23-64)
Foreign Born	15	75%
Years in the US	29.8	15.4 (6-57)
Currently Married or live with Domestic Partner	15	75%
Employed	20	100%
Income		
<$29,999	10	50%
$30,000-59,999	8	40%
>$60,000	2	10%
BASH (Acculturation)	2.6	1.1 (1-4.75)
Machismo/Caballerismo Scale (TMCS)		
M-Scale (Machismo)	2.7	0.69
C-Scale (Caballerismo)	5.8	0.66
Consumption Measures		
Current Alcohol Use	17	85%
At Least Once a Week	6	35%
Binge Drink At Least Once a Month	4	23%
Experience with Treatment	9	45%

QUALITATIVE THEMES

The qualitative results of this study organized into four broad themes; a) *understandings of alcohol abuse*, b) *el Machismo es la raiz* (Machismo is the root), c) *nos gusta la parranda* (we like to party), and d) *nuestro aguante* (our endurance). Excerpt quotes extracted from the transcripts are included in **Table 7** to illustrate the following themes and subthemes in the direct words of the participants.

UNDERSTANDINGS OF ALCOHOL ABUSE:

Knowledge driven by familial experience and the known consequences of alcohol abuse

Defining Abuse from Experience

All of the participants reported either a personal experience with alcohol abuse or familial experience with alcohol abuse-related issues. When recounting drinking parameters, rather than mention a specified amount of drinking that would make someone surpass the limit from recreational drinking to alcohol abuse, participants defined the latter simply by the negative consequences that arise from alcohol misuse. Although not prompted to do so, participants shared personal and familial experiences with the consequences of alcohol use in order to illustrate what they knew about the implications of alcohol abuse. The men spoke about throwing up blood and having cirrhosis, losing work, ruining familial relationships and getting in trouble with the law (drinking and driving convictions). Participant definitions of alcohol abuse stemmed from their known consequences of abuse and were rarely defined by the quantities of alcohol consumed or known alcohol consumption parameters that would typically define abuse. However, when some participants were probed about their self-reported alcohol abuse, they did not define it as abuse, even when their personal consumption patterns exceeded that of moderate consumption (e.g. 6-12 beers on more than two occasions per week).

EL MACHISMO ES LA RAIZ (MACHISMO IS THE ROOT):

The intersection of a culture of normalization and *machismo*

Machismo Exists on a Spectrum

Traditional gender roles and machismo were identified as cultural values that were highly influential in the alcohol use patterns of Hispanic men. Participants were asked to describe the ideal characteristics of the typical man and responded that one should be hard working, socially responsible, level-headed, loving of their family, respectful of their spouses, caring for their elders, and good providers for their family. Nevertheless, their responses changed when asked to describe the traditional societal expectations of the typical Hispanic man. Participants shared that men are taught to be *machos,* that they must be strong, self-reliant, resilient, hard-working, in charge, good drinkers, have many women, and make money. Some men explained that while this was a very stereotypical view of Hispanic men, *machismo* perpetuates gender roles that are followed by most men to some degree. Further, participants mentioned that because of its ubiquity, it is much easier to emulate the *macho* because of the implied privileges that this carries. However, the men claimed that hyper-masculine ideals are more pervasive in rural and disadvantaged communities, perhaps due to the lack of education and exposure to more progressive ideals of expressing masculinity.

Tome, Para que se Haga Hombre (Drink, so you can become a man)

Some men reported they felt fortunate not to have been raised in a *macho* household, but acknowledged how pervasive *machismo* is in Hispanic culture. The men perceived that alcohol consumption, along with a multitude of health risk behaviors, are directly related to conceptualizations and expressions of masculinity. The men shared experiences of being handed beers when they were adolescents and being expected to drink in order to show their worth as men. Participants shared the competitive nature of expressing masculinity and needing to surpass their peers' expressed masculinity, which might result in men attempting to outdrink each other. Participants mentioned the need to build up tolerance at a young age to keep up with older men who drank a lot. Further, some men added that males who abstain from drinking are stigmatized as *santos* (saints), and looked to as lesser men in certain circles, which can make it very difficult to abstain or to drink moderately.

Si el Hombre Gana el Hombre Manda (If a man earns, a man orders):

The participants shared that it can sometimes be difficult for men to internalize the idea that they may have a problem with alcohol due to perceived gender and societal roles. Participants shared that many Hispanic men believe that as long as their family is provided for, that they perceive themselves as functional members of their families and society, even when alcohol abuse may be taking a toll on their familial relationships and on their health. Participants mentioned that because of this, there are very few ways to problematize alcohol abuse for Hispanic males. Participant added that some men do not realize they have a problem until they face the grave consequences of their alcohol abuse, such as a driving under the influence,

"D.U.I." conviction, a serious health problem, or job loss, which might prevent them from providing for their families.

NOS GUSTA LA PARRANDA (WE LIKE TO PARTY):

The intersection of cultural normalization and targeted marketing

Unas Ultras Pa La Sed (Ultras for our Thirst)

Participants added that much like in other cultures, alcohol is ever-present at family and social gatherings and that while the intentions for consumption begin as recreational, the overconsumption of alcohol is regularly encouraged. Participants shared that there is a culture-specific normalization of overconsumption that facilitates the crossing of the use/abuse boundary, particularly for men. Large quantities of alcohol are readily available at everything from child baptisms, first birthday parties, weddings, family reunions, and funerals. However, the men shared that while cultural expectations of Hispanic men to overconsume are pervasive, they are often exacerbated by external pressures. Participants added that that the alcohol industry takes advantage of these cultural vulnerabilities to sell alcohol to Hispanic men. While some men felt like cultural norms are innately welcoming of alcohol consumption, they claimed that alcohol abuse is influenced by external factors, including targeted marketing at the Hispanic community. The men shared that they felt like they feel bombarded by beer and liquor advertisements and that alcohol use is regularly encouraged in the music and television that they consume.

Lack of Knowledge Preserves Norms

There were beliefs that the existing normalization of alcohol abuse was influenced by a lack of knowledge of risky consumption parameters. Specifically, the men explained that most men are not aware of how damaging their own consumption may be to their health. Some men spoke about this relationship existing in a cycle, explaining that lack of knowledge increased the perpetuation of normalization which then suppresses negative perceptions of alcohol. The men shared that if Hispanic men understood the paths to the physical and social damage that alcohol abuse can cause, that maybe they would be more likely to develop a better relationship with alcohol.

NUESTRO AGUANTE (OUR RESILIENCE):

Maladaptive coping and dealing with systemic propagators of alcohol abuse

Maladaptive Coping Rooted in Machismo

Another perceived exacerbation of alcohol abuse was the idea that *machismo* precipitates maladaptive coping in some Hispanic men, which successively leads to alcohol abuse as an alternative coping strategy. Some participants shared that men are taught to be self-reliant, and to not express emotions, and as such never learn to handle complex emotions and how to cope in a constructive manner. Participants shared that alcohol use as a coping mechanism is taught and encouraged from a young age. The men explained that this causes coping strategies to be underdeveloped which leads to use of alcohol as a socially acceptable coping strategy.

Looking for a Future and Finding Alcohol Abuse

Several men recounted the story of when they came to the United States and how their drinking habits changed over time. They claimed that they used alcohol moderately back in Mexico and never perceived it to be a problem. However, they spoke about falling into social circles where alcohol abuse was highly encouraged when they migrated to the United States. Some of the men recounted stories about how upon first coming to the United States they lived away from their families in small homes or apartments they would share with groups of 4-8 men who they worked with. The men shared that upon leaving work they would all drink together into the late hours of the night and then go back to work the next morning, and explained that it was an escape for them. Some men elaborated that their strenuous work was related to their consumption patterns. They added that the compounded stress of working long and physically exhausting days in the hot sun while making very little money can lead a man to drink the physical pain away. The men mentioned that drinking helps cope with the stress of making little money and lack of opportunities for socioeconomic growth.

TABLE 8. SELECT QUOTES ILLUSTRATING PERSPECTIVES AND OPINIONS REGARDING INFLUENTIAL FACTORS OF ALCOHOL ABUSE IN HISPANIC MALES.

UNDERSTANDINGS OF ALCOHOL ABUSE
Defining Abuse from Experience
• " Fatty liver or whatever, or an alcoholic disease of some sort, so you have to cut down and realize that if you want to keep living, you have to stop drinking. People that drink also get sick a lot, if you are tired at getting sick all of the time, maybe you should stop drinking. So, all those little things. You know? You get sick, don't go work, you don't get paid, etc."
EL MACHISMO ES LA RAIZ (MACHISMO IS THE ROOT)
Machismo exists on a Spectrum
• "Many times, Latino men become very [self]-centric. The Latino-Hispanic culture is one that is very family oriented. But at the same time, it is very, men-centric in particular. Yes, this is my family… but you know what? I am the king of the castle and everyone takes care of me."
Tome, Para que se Haga Hombre (Drink so you can become a man)
• "They have told us, ' men do not cry'. I have seen fathers offer their young boys alcohol, two or three years old. I have seen it with my own eyes that they offer them a drink and they say 'drink so you can become a man'"**
Si el Hombre Gana el Hombre Manda (If the man earns, the man calls the shots)
• "Somebody doesn't realize that it could take years until they finally realize, 'Hey, I have health problems, I have this, I have that.' It's not until somebody has a health issue or law enforcement. You get pulled over for drunk driving or you get into some kind of trouble that leads to something where alcohol was involved in. So, then, you realize because it becomes an economic issue"
NOS GUSTA LA PARRANDA (WE LIKE TO PARTY)
Unas Ultras pa' la sed (Some [Michelob] Ultras for our Thirst)
• "Marketing agencies have seized on the opportunity that Hispanics are machos so you know, they use sex appeal too …there are agencies that tend to market their products or assume that you know, all Latinos are machos, womanizers and etc.
Lack of Knowledge Preserves Norms
• "I think that in our Hispanic culture, from the begining, since I was a boy everyone drank, it was something that was normal. And I think its the same, its because of the ignorance of the harm that it can cause. In my opinion, its due to lack of knowledge, lack of conscience. **
NUESTRO AGUANTE (OUR RESILIENCE)
Maladaptive Coping Rooted in Machismo
• "Yeah, even Hispanic males, when they do bond and talk to each other and a guy has a problem, what do you tell them? "Oh go have a couple of drinks and you know, you will be better, you'll be fine." Is that the advice, you know? You know, a couple of years later, you find out that the person is an alcoholic."
Looking for a Future and Finding Alcohol Abuse
• "I work construction so… you know… it feels good to have freakin' a few beers after work… I had a long day being out in the sun. So I want to say that kinda… it kinda just progresses"
**These quotes have been translated from Spanish*

CHAPTER 5

ALCOHOL ABUSE IN HISPANIC MEN: UNDERSTANGING THE INTERSECTED INFLUENCE OF LACK OF KNOWLEDGE, MACHISMO, AND MALADAPTIVE COPING

The purpose of Aim 2 was to explore Hispanic male perspectives and opinions regarding alcohol use and abuse patterns that may lead to elevated rates of alcohol abuse in Hispanic males. Our findings show that alcohol abuse patterns in Hispanic males are influenced by a) an intersection between alcohol-related social norms and learned expressions of masculinity, b) a lack of knowledge of the alcohol-related health risks that further perpetuates the normalization of alcohol abuse, and c) expressions of masculinity and maladaptive coping mechanisms that may lead to alcohol abuse as an escape.

Our findings bring to light an intersection between the cultural normalization of alcohol abuse and machismo-driven expressions of masculinity. Some men may be exposed to environments where alcohol abuse is highly normalized and encouraged. This situation is compounded by machismo-driven expressions of masculinity which can drive men to express their masculinities in non-constructive ways, including the recreational (e.g., social gatherings) and non-recreational (e.g., drinking to alleviate stress after work) overconsumption of alcohol. Social and familial alcohol consumption norms are exacerbated by machismo-driven expressions of masculinity to generate an environment that encourages recreational overconsumption of alcohol and perpetuates the normalization of alcohol abuse as a norm for Hispanic males. Our findings are congruent with research suggesting the presence of strong social pressures exerted on Hispanic men to engage in social drinking with other men makes abstinence an unrealistic goal [68]. In similar work with Puerto Rican men, Abad and Suarez [69] suggested that men use alcohol in adherence to the expectations of men to trying to live up to the macho image. The

ability to consume large amounts of alcohol is intrinsically considered a favorable macho trait. The normalization of overconsumption compounded by the overconsumption as an encouraged expression of masculinity can create an environment where the expectation to overconsume alcohol is inescapable.

Complicating the influence rooted in the expectations of masculine ideals were our findings showing that Hispanic men feel especially targeted by alcohol and liquor marketing, which capitalizes on the existing alcohol-related vulnerabilities. There is congruent evidence suggesting that some segments of the population are differentially exposed to a wide variety of alcohol and liquor marketing, especially in the United States [70]. Studies suggest that African American, Hispanic, and American Indian communities are specifically targeted by complex focused marketing strategies [71]. Targeted strategies can create positive beliefs about drinking, as well as expand environments where alcohol use is socially acceptable and encouraged [71, 72]. These factors can influence the initiation of drinking, increase overall consumption and frequency of alcohol abuse [73]. Further, the themes of hyper-masculinity and nationalism motivate a large proportion of the advertising selling alcohol to Hispanic men. Researchers argue that alcohol marketing strategies use symbols comprising flags, national colors, cultural artifacts, architecture, pottery maps of home countries and widespread use of the Spanish language as a significant attempt to refigure Hispanic culture into a culture of consumption [74]. As such, while the men in our sample reported existing within a culture where there are high expectations for men to drink excessively, there is evidence of how the alcohol industry in the United States and abroad plays a significant role in manipulating normed alcohol use patterns and expectations, which can have detrimental consequences for Hispanic male consumers.

Our findings suggest that the normalization of problem alcohol use may be rooted in lack of comprehensive knowledge regarding the parameters of healthful alcohol consumption. There may be a cyclical relationship between lack of knowledge and alcohol use, which further perpetuates the normalization of alcohol abuse. Research suggests that increased knowledge of alcohol-related health risks decreases the frequency of alcohol abuse incidence [75], particularly when the attainment of knowledge is responsive to individual consumption patterns. There is support for social norm marketing campaigns to reduce alcohol consumption; however, most of the empirical data on the matter is focused largely on NHW and college-aged populations [76]. An increase in individual knowledge of the alcohol quantity parameters of moderate use, abuse, and dependence, may better equip men to gauge their own consumption patterns and how they may be affected in the long term, which can result in an increase in protective behaviors.

Finally, participants explained that alcohol misuse may be rooted in an inability to cope in a healthful manner. Participants suggested that maladaptive coping may be entrenched in culturally acceptable expressions of masculinity and in the lack of learned healthy coping behaviors. Hispanic men's coping strategies may be underdeveloped due to persistent suppression of male expression of emotions that exists in Hispanic culture; as such alcohol is considered an acceptable and encouraged coping mechanism for Hispanic men. For instance, an interview-based study found that lack of choices for work, lack of opportunities for social advancement, fear of being deported and grieving the distance from family members, were important determinants of suffering that often drove Hispanic men to drink [77]. As such, there has been building interest in the intersected influences of the social context of Hispanics including levels of perceived discrimination, socioeconomic disadvantage, historical trauma, context of migration, and immigration status. Research indicates that Hispanic migrant workers

in the United States engage in heavy alcohol use and binge drinking at higher rates than their NHW counterparts; a trend that has been attributed to instability and unsafe work environments [78]. Material deprivation, crowded housing, as well as home and neighborhood disrepair have been linked to higher rates of alcohol abuse [79, 80]. Evidence suggests that the stress of living in spaces defined by deprivation can be psychologically distressing and can lead people to consume alcohol as a means of escape [79].

STRENGTHS and LIMITATIONS

Collaboratively exploring these topics along with Hispanic males provided opportunities to survey, confirm, question, and complicate the conceptualization of Hispanic male identities. This type of in-depth inquiry provides an opportunity to men to embrace a wider range of gender-bound expressions. The opportunity to explore Hispanic male identity has the potential to cast a positive light on constructive qualities of masculinity and *caballerismo,* such as being nurturing and socially responsible, that may promote deeper connections between masculinity and positive health behaviors. The knowledge shared by the men in our sample can be used as a valuable insight to better inform alcohol abuse prevention and treatment strategies with this population. Careful consideration of the sociocultural intersections mentioned above might allow practitioners and researchers alike to have a better grasp on the sociocultural nuances that may influence alcohol consumptions patterns in this population. However, this study had several limitations that need to be acknowledged. In part, limitations arise from the transferability of the data generated in this study. Additionally, participants might have felt embarrassed fully disclosing their opinions and perspectives with the member of the research team that conducted

the study. Further, while issues of masculinity were discussed, our work examined gender as a binary measure. As such, our work is not representative of a full spectrum of masculinity and gender expressions and their influence on alcohol use patterns, particularly the lived experiences of the Hispanic Lesbian Gay Bisexual Transgender Questoning (LGBT) community. Despite these limitations, our study offers valuable insight about an important segment of the Hispanic, cisgender, heterosexual male population in southern Arizona.

CHAPTER 6

BARRIERS TO ALCOHOL ABUSE TREATMENT FOR HISPANIC MEN: A SYNTHESIS OF AIM 3 FINDINGS

Chapter 6 describes Hispanic male perspectives regarding the barriers to alcohol abuse treatment-seeking related behaviors that may lead to disparate treatment engagement and completion rates for Hispanic males. Participants mentioned a variety of hindrances to seeking and accessing treatment. Barriers are grouped into three nested themes: structural barriers, sociocultural barriers, and individual barriers. Excerpt quotes extracted from the transcripts are included in **Table 8** to illustrate the following themes and subthemes in the direct words of the participants.

STRUCTURAL BARRIERS

Good Treatment Is Expensive, Okay Treatment Does Not Work, and Free Treatment is a Nightmare

In general, the men believed that alcohol abuse treatment was unobtainable to them and to the Hispanic community for a variety of reasons, the most impactful of which was the inability to afford the treatment they perceived to be effective. There was a shared belief that adequate, and consequently, successful treatment, was reserved only for those who could afford it. Some participants shared personal and familial frustration with seeking treatment and being turned away because they could not pay or were not insured. Further, the men explained that it would be impossible for most men they knew to enter treatment simply because they could not afford to

take time off work given they are the primary bread winners and work jobs that do not pay very well.

The men discussed that the treatment that was accessible to them without medical insurance, at a sliding scale, or free of charge was inadequate. While participants explained that they were aware that accessible treatment programs may exist, they explained that these programs are not easily found, are difficult to navigate, are overburdened, and ill equipped to treat Hispanic patients. Participants explained that accessible programs have long queues that can take months.

Linguistic and Cultural Disconnects

The presence of linguistic and cultural barriers associated with free treatment also were discussed. The men reported difficulties finding affordable services that were available in Spanish, adding that when help is offered in Spanish there are long waits and not enough linguistically- competent staff to meet the needs of the Hispanic community. For those men that had accessed treatment, they spoke about how they did not feel comfortable receiving treatment because they felt misunderstood. Additionally, they reported that because the providers did not adequately speak the language, that they could not wholly understand their experiences. Importantly, participants reported that misunderstandings due to cultural incompetency can cause dissatisfaction with treatment providers, claiming that they feel providers are too invasive, and ask too many personal and uncomfortable questions upon initiation of treatment. Participants added that one bad experience can drive Hispanic men to deprecate treatment forever.

SOCIOCULTURAL BARRIERS

Normalization Makes It Difficult to Problematize

There were a variety of sociocultural hindrances to treatment seeking that were reported. The most common barrier presented was the perceived cultural normalization of alcohol overconsumption. The men reported that the ubiquity of overconsumption begets a culture of normalization in which alcohol abuse is not readily perceived as a problem. Problem drinking is seen as a phase of youth, and an inescapable habit for Hispanic men. Thus, early signs of problems with alcohol are easily overlooked by family and individuals alike. The men discussed that because alcohol use is not perceived to be a problem, that treatment is not perceived to be necessary until they face grave consequences of their alcohol abuse, such as serious health problems, loss of family, or driving while drinking convictions.

Los Consejos del Compadre (A Buddy's Advice)

The normalization of alcohol abuse compounded by macho-driven self-reliance generates a peer-to-peer environment that can exacerbate problems with alcohol and deter individuals from treatment. Participants mentioned that most men will reach out to their closest drinking companions for advice when problems with alcohol consumption arise. If a man is having problems becoming violent when he is drunk, then friends suggest he take up smoking marihuana to stay calm; if he is experiencing blackouts men suggest that he use cocaine to stay alert; if he is having trouble keeping up with work in the mornings after drinking, he is encouraged to have a beer in the morning to curb his hangover. The men shared that the topic of

seeking treatment is scarcely mentioned, adding that most men who have not had experiences with treatment would not be aware of where to go or who to ask for help.

Negative Community Perceptions of Known Treatment

The men shared alcohol abuse treatment is taboo in their community. The men shared that while the community knows they can seek help at places like Alcoholics Anonymous (AA), or a church, there is a generalized sentiment that only people with grave problems should seek help there. As such there is a stigma that envelops peer-to-peer programs or church-based assistance with alcohol-related issues. This stigma is rooted in two myths; a) men that voluntarily seek help at AA must also have behavioral health issues, or b) a prevalent belief that alcoholism is a behavioral flaw and that one only seeks care when they are fundamentally incapable of remedying the problem on their own.

INDIVIDUAL BARRIERS

El Orgullo Mata (Pride Kills)

The greatest individual barrier discussed by participants was *machismo*-driven pride. It was mentioned that in order to seek treatment men have to admit a loss of control, a vulnerability to alcohol, and a consequential loss of self-reliance. Participants added that an admission of loss of control is perceived as emasculating. As such, men are often too proud to admit they need help even when their health is at risk and when their lives are falling apart. Participants added

that pride keeps most men that need help away from treatment and in a self-imposed cyclical battle with alcohol that ebbs and flows with periods of abuse and periods of abstinence.

Lack of understanding of treatment purpose and goals

The men reported that alcohol-related treatment is considered something to be fearful of. They perceive that "real" treatment (i.e. not AA or church) will involve hospitalization. The general perception of conventional treatment was that it was based on the medical model; that one would need to be hospitalized for effective treatment, which would take a large amount of time and resources.

Getting past the Orgullo (Pride)

When prompted about what motivates Hispanic men to seek help with alcohol-abuse related problems, participant responses could be compartmentalized under one overarching theme: *getting past their pride.* Participants explained that due to the intersected barriers, Hispanic men must experience a pivotal, potentially life changing event that outweighs their pervasive pride and self-reliance. Importantly the consequences that override normalization and may drive men to seek help were largely related to a man's ability to provide for their family such as losing their driving privileges due to a driving under the influence (D.U.I.) conviction, a serious health problem, or job loss. The men explained that when a man loses their ability to provide for their family that is when they may realize they need to seek help. The only health-related concerns that could drive Hispanic men to seek help would be the experience of grave

alcohol-related health conditions, although the men rarely specified anything other than cirrhosis of the liver.

TABLE 9. SELECT QUOTES ILLUSTRATING PERSPECTIVES AND OPINIONS REGARDING INFLUENTIAL FACTORS OF ALCOHOL ABUSE TREATMENT SEEKING BEHAVIORS IN HISPANIC MALES.

STRUCTURAL BARRIERS
Good Treatment Is Expensive, Okay Treatment Does Not Work, and Free Treatment is a Nightmare
• "I think that some of the reasons why some men don't get treatment is because they simply can't they fear because they are undocumented, or they do not have insurance, or it is too expensive. I imagine that there are programs that can help but, well, I do not know, I guess there is a lack of informaiton." **
Linguistic and Cultural Disconnects
• "The problem is that if the psychologist does no understand the cultural aspects, well they're going to focus only on the education that they have received. Maybe a lot of the things they do will not help, although some things might … Sometimes language is a barrier, not everybody speaks perfect English. Most of these programs are in English." **
SOCIOCULTURAL BARRIERS
Normalization Makes it Difficult to Problematize
• Well its in our lifestyle, for example, since your're a young man you see it, right? You see that your father drinks excessively, uncles, you understand? All of the people that surround you"**
Los Consejos del Compadre
• "I guess if it was a friend of mine I really wouldn't know where you could go to get help. I would say, "Yeah, you know, to AA or just stop drinking, just don't drink anymore." It's not that easy of course but really, I don't know where somebody could go."
Negative Community Perceptions of Known Treatment
• "The help is not really there, I would be good with the help but it's just not 100%, there are too many holes. If somebody like yourself wanted to try to reach out to somebody, I would say to go on but how would you be accepted, you know? How can you be accepted if they don't even know you?"
INDIVIDUAL BARRIERS
El Orgullo Mata (Pride Kills)
• "I think there is too much machismo in the Hispanic culture that they don't look for help. They don't look for that at all. They try to deal with it I guess or they don't deal with it and they keep on with it. I don't know the percentage of people in the Hispanic that are abusers of alcohol. I'm sure it is up there. I just think there is too much machismo for them to look for help in our culture."
Lack of Understanding of Treatment Purpose and Goals
• "Because you hear it from one person, you expect to get the same treatments. 'the doctor gave me pills so that the beer won't hit me as hard, or pills so that when I drink it tastes bad' and then everyone expects that type of treatment. **
Getting Past the Orgullo (Pride)
• "Well what I meant by that is that a shock to the body usually a house scare that will change a man from drinking to stop drinking when you do that. That's why I say a shock to the body, when I say by incident it can be maybe DUI or car accident where alcohol is a contributing factor, of course."
***These quotes were translated from Spanish*

CHAPTER 7

SYSTEMIC, SOCIOCULTURAL, AND INDIVIDUAL BARRIERS TO ALCOHOL ABUSE TREATMENT SEEKING FOR HISPANIC MEN: THE COMPOUNDED INFLUENCE OF LACK OF ACCESS, INADEQUATE SERVICES, AND MACHISMO

The purpose of this Aim 3 was to examine Hispanic male perspectives regarding the influential factors of alcohol abuse treatment-related behaviors that can lead to disparate treatment engagement and completion rates. Findings suggest that treatment seeking behaviors are highly influenced by; a) structural factors related to treatment accessibility, and linguistic and cultural-responsiveness of available treatment, b) sociocultural factors related to difficulties problematizing alcohol abuse due to lack of knowledge and cultural normalization of consumption, and societal stigmatization of alcohol abuse treatment, and c) individual factors related to *machismo*-bound pride as well as lack of knowledge.

Findings indicate that there are complex and compounded effects of the socioeconomic status of Hispanic males that beget not only decreased access to adequate services but increased likelihood of having alcohol-related health and social problems. Primary structural hindrances to treatment cited by the participants were the high costs of effective treatment, the inability to afford it, and the lack of insurance to subsidize it. Research shows that lack of insurance can be a significant barrier to treatment for Hispanics that may be a function of ethnicity, immigration status, and citizenship status [81]. Lack of economic resources has been found to have detrimental effects to service access and completion that affects minority populations, particularly Hispanics and African Americans, at increased rates when compare to NHW [36]. Participants disapproved of free or sliding scale treatment experiences as there was a perceived inadequacy of the available treatment. Participant cited long waits, overburdened staff, lack of individualized attention, and inefficient communication with providers. Congruent research

suggests that barriers to treatment can arise from difficulty navigating admission systems, poor rapport at intake, overbooked staff, and overburdened treatment facilities [82] as well as the reluctance of some programs to admit undocumented immigrants [83].

It is not difficult to see how socioeconomic factors may affect treatment seeking behaviors or even incite fatalism treatment altogether. This illustrates the need to consider structural barriers to health for Hispanic men. The men that find themselves in socioeconomically disadvantaged positions may be more likely to engage in high risk behaviors to cope with stressors and be less likely to access adequate treatment. As such, it is evident that treatment programs should consider the social context of Hispanic men as part of comprehensive treatment plans wherein breaking the cycle of poverty becomes a focused outcome of alcohol abuse treatment. Interventions are needed to assist treatment seeking Hispanic men in improving their socioeconomic situation, possibly thought effective job placement, continuing education, or job and skills training.

Participants also highlighted discrepancies in the adequacy of the treatment available to them. Successful treatment was perceived to be out of their reach and that of most of the Hispanic community. This is congruent with literature indicating that Hispanics consistently report dissatisfaction with treatment when compared to NHW [81]. In the sample, dissatisfaction with treatment was centered in; 1) deprecation created by poor experiences with treatment, begetting distrust of sliding-scale and free treatment, and 2) the language- and culturally-based inadequacy of viable communication between patient and provider. Research suggests there is a scarcity of Spanish-speaking treatment providers, resulting in a lack of culturally and linguistically appropriate services that continues to be a major barrier to seeking and using alcohol abuse treatment [83, 84]. Regardless of cultural underpinnings, the failing of effective

communication requiring successful transfer and understanding of information can have dire effects in every phase of treatment from outreach to completion [85]. Individuals who seek alcohol abuse services need to be able to inform themselves about where services are offered and learn to navigate the delivery system to access services. Successfully finding and engaging with treatment is dependent on effective communication. As such, it is imperative that treatment efforts comprehensively consider the preferred language of clientele from outreach to completion.

Beyond language, health provider considerations of the sociocultural environment and social context of individuals are imperative to patient-provider communication and understanding. For instance, immersive work completed by Holmes [86], found that social and economic structures in healthcare drive professionals from seeing the social and cultural determinants that result in individual health outcomes of their clients, a phenomenon which, in part, can be attributed to the economic, pay-per-client, structure of care. Consequently, Holmes posits that rushed, confusing, and blaming interactions with providers can lead individuals to frown on service provision and discount treatment. This was parallel to the data indicating that one bad experience with treatment can drive men to deprecate treatment forever, which is problematic given that men may find themselves temporarily willing to enter treatment and they are inexplicitly turned away before intake. As such, it is imperative for treatment programs working with this population to consider the effects of each client's social context. For instance, Lee, Lopez [45], assessed the effectiveness of a culturally adapted brief motivational interview intervention (n=53, 54% male) to decrease heavy drinking in which interviewers were highly trained to consider contextual reality of participants accounting for the influences of poverty, perceived discrimination, historical trauma, and employment status. The authors found that

improved communication between providers and participants had a statistically significant influence in participants' drinking patterns at a 8 week follow-up.

Findings also suggest that there is considerable community stigma regarding peer to peer support and church-based treatment programs. Participants attributed this stigma primarily to ignorance about the problems that arise from alcohol abuse, ignorance of behavioral health issues that may be intersected with these problems, and unfamiliarity with the benefits of alcohol abuse treatment. Research shows that stigmatization of alcoholism itself keeps people from seeking treatment [87, 88]; a stigma that exists at higher rates among Hispanics [89]. This is parallel to the data highlighting the difficulty Hispanic men experience with admission of vulnerability to alcohol. Participants attributed both the community-based stigma and self-stigmatization to a lack of understanding of alcohol abuse and alcoholism as something that can be attributed to factors other than behavioral flaws. These findings illustrate a critical need for community-based education on the health and social consequences related to alcohol abuse in the Hispanic community with an emphasis on men. In addition to lowering community stigma, information regarding complex origins of alcohol abuse can emphasize the early symptoms of alcoholism and the benefits of treatment can make Hispanic men aware of when they may need to seek help. While evidence shows that individual, community, and structural consciousness building decreases abuse and treatment stigma, the research base is severely limited [90]. An effort to build community consciousness about alcohol, early signs of alcohol abuse and dependence would allow families and individuals to take action at an earlier time in the alcohol abuse trajectory which may result in increased treatment success. The American Psychiatric Association also indicates that the symptoms of an alcohol use disorder are mild, and are often not seen as signs of trouble and posits that when the symptoms are not known the trajectory is

often ignored and results in an alcohol use disorder [91]. However, practical knowledge of the low and high risk drinking parameters may influence both drinking patterns and cues to action toward seeking treatment among Hispanic males.

STRENGTHS and LIMITATIONS

These findings have the potential to build upon currently available treatment avenues using specified community-based suggestions for improving treatment outreach and participant engagement that can positively impact treatment outcomes for Hispanic males. Conversely, there are several limitations in the study that should be considered. The results of this work need to be approached with caution as the racial and ethnic homogeneity of the sample limits the generalizability of the findings. Participants were all of Mexican origin and therefore have distinct sociocultural and contextual factors that influence the aforementioned behaviors. Further, while the participants were all self-identified males, a heteronormative lens was used for data collection and analysis that limits the analysis away from consideration from barriers to treatment experienced by queer, bisexual, and trans self-identified men.

CHAPTER 8

CONCLUSIONS & FUTURE DIRECTIONS

DISSERTATION CONCLUSIONS

As a whole, this work provides an important addition to the knowledge base concerning the challenges of current alcohol and substance abuse treatment for Hispanic males. This dissertation contributes a review of the current literature regarding culturally and gender-adapted alcohol and substance abuse treatment for Hispanic males. This work also adds valuable community insight into some of the factors that influence both alcohol abuse- related behaviors, as well as alcohol abuse treatment-seeking related behaviors in Hispanic males.

In recent years, there has been an expanding call to adapt substance abuse treatment programs to ensure considerations of client cultural norms, social contexts, and cultural orientations. Such factors exacerbate well-identified disparities in Hispanic substance abuse, treatment, and long term cessation. The review of the current literature (Aim 1) was an attempt to systematically synthesize a critical but limited body of literature. Although publications were scarce and findings were generally mixed, cultural-tailored work did show promise. However, given the present growth rate of the Hispanic population and the current epidemic nature of substance abuse in the United States., it is imperative that viable and effective methods to diminish the disparate burden of alcohol and substance abuse in this population be identified. As such an in-depth exploration of the most crucial factors impacting both abuse-related behaviors as well as treatment seeking in Hispanic men is imperative.

The qualitative findings of the assessment of social and cultural contexts of alcohol use in Hispanic men indicate that there are intersected effects of machismo, a culture of normalized

overconsumption, social context stressors, and poor coping strategies that may influence maladaptive relationships with alcohol. Findings of the assessment of factors influencing treatment seeking behaviors suggest that there is a dire need for treatment providers to disseminate accurate information about treatment availability and eligibility, and the treatment process, while taking into consideration the influences of Hispanic male's sociocultural norms and social context-based barriers to access. There is an urgency to reformulate the way that treatment outreach and engagement for Hispanic males is approached in order to improve treatment outcomes. This work also elucidated the need to for consciousness-building efforts targeting the Hispanic male community regarding the detrimental effects of alcohol-related problems and treatment, in order to diminish the stigma. Increased or redistributed funding for linguistically and culturally responsive programs is also needed in communities with large Hispanic populations in order to meet the growing demand, particularly for the uninsured.

FUTURE DIRECTIONS

In general, the findings of this dissertation provide valuable insight that can be used to better inform both alcohol abuse prevention and treatment strategies to diminish the disparate alcohol abuse related outcomes in Hispanic males. First, while the evidence compiled in Aim 1 was generally mixed, culturally adapted programs for Hispanic males show promise, particularly when care is taken to comprehensively consider the intersected effects of cultural, contextual, and gender-based factors that influence alcohol abuse. However, the evidence is scarce and more work needs to be done to expand upon the dearth of empirical evidence of the impact of cultural adaptations of programs for Hispanic males.

Further, findings from this dissertation illustrate a critical need for community-based education on the health and social consequences related to alcohol abuse in the Hispanic community with an emphasis on men. In addition to lowering community stigma, information regarding complex origins of alcohol abuse can provide clarity to the early symptoms of alcoholism and the benefits of treatment can make Hispanic men aware of when they may need to seek help. These findings suggest that there is a detrimental relationship between lack of knowledge of alcohol-related risks, lack of community knowledge of the origins of alcohol abuse, as well as social- and self-stigmatization that may hinder men from seeking help when needed. While evidence shows that individual, community, and structural consciousness building decreases abuse and treatment stigma, the research base is severely limited and there is a needed expansion of the empirical evidence on the matter [90]. An effort to build community consciousness about alcohol, early signs of alcohol abuse and dependence would allow families and individuals to take action at an earlier time in the alcohol abuse trajectory, which may result in increased treatment success. The American Psychiatric Association also indicates that the symptoms of an alcohol use disorder are mild, and are often not seen as signs of trouble and posits that when the symptoms are not known the trajectory is often ignored and result in an alcohol use disorder [91]. However, practical knowledge of the low and high risk drinking parameters may influence both drinking patterns and cues to action toward seeking treatment among Hispanic males. Research suggests that increased knowledge of alcohol-related health risks decreases the frequency of alcohol abuse incidence [75], particularly when the attainment of knowledge is responsive to individual consumption patterns. Wide reaching media campaigns and individual interventions alike that increase knowledge of the alcohol quantity parameters of moderate use, abuse, and dependence, may better equip men and whole communities to gauge

consumption patterns and the long term effects of abuse, which can result in an increase in protective behaviors.

Future efforts should also consider the impact of sociocultural and gender-bound norms that impact consumption and treatment seeking. Evidence implies that attention to gender-bound norms, like positive masculinity, may positively affect health outcomes [20]. The concept of positive masculinity rests on the potential for masculinity to be expressed in constructive ways that have positive impacts on physical, emotional, and social, wellbeing [92, 93]. The related Hispanic-bound cultural tenet of *Caballerismo* (in reference to a *caballero,* or gentleman), is comprised of culturally- and gender- bound attributes related to the importance of family, social responsibility, and emotional connectedness. A positive masculinity- or *caballerismo*-centered approach may be a viable supplement to peer-led and/or peer supported treatment modalities. Moreover, research suggests that positive male role models, particularly those older than the client, may play a large role in promoting health and adaptive masculine identities than can positively influence treatment outcomes [94].

Nevertheless, future directions for study with this population should consider the value that exist within the knowledge held by the communities themselves when attempting to create treatments that better serve them. As such, research with this population could benefit from the use of mutually-beneficial, community-based participatory action research to; a) further develop the understanding of sociocultural and systemic structural determinants of substance use, and b) determine the formulation of community-driven and community asset-based strategies aimed at

diminishing substance abuse treatment disparities. These methods are increasingly adopted to diminish prevention and treatment disparities in NHW populations [95] and with minority youth [96-99]. Alternatively, viable culturally responsive methods could be used to supplement tailored evidence based programs. For instance, culturally adapted cognitive behavioral therapy programs can be delivered in a preferred language, by matched therapists, in culturally and contextually responsive environments and supplemented by traditional healing practices that may be seen as valuable ways of healing the individual and the community. Examples of methodologies that have been adapted in such ways have been utilized with Native American communities that synergize evidence-based programs and traditional forms of healing [100, 101].

REFERENCES

1. Substance Abuse and Mental Health Services Administration (SAMHSA), *APPENDIX F: DSM-IV-TR Diagnostic Criteria for Alcohol Abuse and Dependence 59.* 2007.
2. WHO, *Global status report on alcohol and health-2014*. 2014, World Health Organization.
3. National Center for Health Statistics. Research, *Health, United States*. 2012: US Department of Health, Education, and Welfare, Public Health Service, Health Resources Administration, National Center for Health Statistics.
4. Caetano, R., et al., *Sociodemographic predictors of pattern and volume of alcohol consumption across Hispanics, Blacks, and Whites: 10-year trend (1992–2002).* Alcoholism: Clinical and Experimental Research, 2010. **34**(10): p. 1782-1792.
5. SAMHSA, *Results fom the 2013 National Survey on Drug USe and Health: Summary of National Findings*, in *NSDUH Series H-48*. 2014, Substance Abuse and Mental Health Services Administration: Rockville, MD.
6. Flores, Y.N., et al., *Risk factors for chronic liver disease in Blacks, Mexican Americans, and Whites in the United States: results from NHANES IV, 1999-2004.* Am J Gastroenterol, 2008. **103**(9): p. 2231-8.
7. Chartier, K. and R. Caetano, *Ethnicity and Health Disparities in Alcohol Research.* Alcohol Research & Health, 2010. **33**(1-2): p. 152-160.
8. Center for Behavoral Health Statistics and Quality, *Behavioral health trends in the United States: results from the 2014 National Survey on Drug Use and Health*. 2015.

9. Caetano, R., *Alcohol-related health disparities and treatment- related epidemiological findings among Whites, Blacks, and Hispanics in the United States.* Alcoholism: Clinical and Experimental Research, 2003. **27**(8): p. 1337-1339.

10. Levy, R.E., et al., *Ethnic differences in presentation and severity of alcoholic liver disease.* Alcoholism: Clinical and Experimental Research, 2015. **39**(3): p. 566-574.

11. Caetano, R., et al., *Alcohol use and alcohol-related problems among Latinos in the United States.* Health issues in the Latino community, 2001: p. 383-412.

12. Morales-Aleman, M.M., et al., *Intimate Partner Violence and Human Immunodeficiency Virus Risk Among Black and Hispanic Women.* American Journal of Preventive Medicine, 2014. **47**(6): p. 689-702.

13. Iguchi, M.Y., et al., *Elements of well-being affected by criminalizing the drug user.* Public Health Reports, 2002. **117**(Suppl 1): p. S146.

14. Castro, F.G. and E.H. Alarcón, *Integrating cultural variables into drug abuse prevention and treatment with racial/ethnic minorities.* Journal of Drug Issues, 2002. **32**(3): p. 783-810.

15. Prado, G., et al., *Drug use/abuse prevalence, etiology, prevention, and treatment in Hispanic adolescents: A cultural perspective.* Journal of Drug Issues, 2008. **38**(1): p. 5-36.

16. Guerrero, E.G., et al., *Gender disparities in utilization and outcome of comprehensive substance abuse treatment among racial/ethnic groups.* Journal of substance abuse treatment, 2014. **46**(5): p. 584-591.

17. Zemore, S.E., *Re-examining whether and why acculturation relates to drinking outcomes in a rigorous, national survey of Latinos.* Alcoholism-Clinical and Experimental Research, 2005. **29**(12): p. 2144-2153.

18. Courtenay, W.H., *Constructions of masculinity and their influence on men's well-being: a theory of gender and health.* Social science & medicine, 2000. **50**(10): p. 1385-1401.

19. Englar-Carlson, M., *Masculine norms and the therapy process.* 2006.

20. Arciniega, G.M., et al., *Toward a fuller conception of Machismo: Development of a traditional Machismo and Caballerismo Scale.* Journal of Counseling Psychology, 2008. **55**(1): p. 19.

21. Liang, C.T., J. Salcedo, and H.A. Miller, *Perceived racism, masculinity ideologies, and gender role conflict among Latino men.* Psychology of Men & Masculinity, 2011. **12**(3): p. 201.

22. Torres, J.B., V.S.H. Solberg, and A.H. Carlstrom, *The myth of sameness among Latino men and their machismo.* American Journal of Orthopsychiatry, 2002. **72**(2): p. 163.

23. Bernal, G., et al., *Handbook of racial and ethnic minority psychology*. 2002: Sage Publications.

24. Krieger, N. and N. Moss, *Measuring social inequalities in health: Report of a National Institutes of Health conference.* Public Health Rep, 1995. **119**: p. 302-305.

25. Huckle, T., R.Q. You, and S. Casswell, *Socio-economic status predicts drinking patterns but not alcohol-related consequences independently.* Addiction, 2010. **105**(7): p. 1192-1202.

26. Campbell, C.I. and J.A. Alexander, *Culturally competent treatment practices and ancillary service use in outpatient substance abuse treatment.* Journal of Substance Abuse Treatment, 2002. **22**(3): p. 109-119.

27. Guerrero, E.G., et al., *Disparities in Latino substance use, service use, and treatment: Implications for culturally and evidence-based interventions under health care reform.* Drug and Alcohol Dependence, 2013. **133**(3): p. 805-813.

28. Marsh, J.C., et al., *Need-service matching in substance abuse treatment: Racial/ethnic differences.* Evaluation and Program Planning, 2009. **32**(1): p. 43-51.

29. Wells, K., et al., *Ethnic disparities in unmet need for alcoholism, drug abuse, and mental health care.* American Journal of Psychiatry, 2001. **158**(12): p. 2027-2032.

30. National Survey on Drug Use and Health (NSDUH), *The NSDUH Report: Need for and Receipt of Substance Use Treatment among Hispanics.* Substance Abuse and Mental Health Services Administration, Center for Behavioral Health Statistics and Quality, 2012.

31. Vega, W.A., et al., *Illicit drug use among Mexicans and Mexican Americans in California: the effects of gender and acculturation.* Addiction, 1998. **93**(12): p. 1839-1850.

32. Ojeda, L. and C.T.H. Liang, *Ethnocultural and Gendered Determinants of Coping Among Mexican American Adolescent Men.* Psychology of Men & Masculinity, 2014. **15**(3): p. 296-304.

33. Kissinger, P., et al., *Prevalence, patterns and predictors of substance use among Latino migrant men in a new receiving community.* Drug and Alcohol Dependence, 2013. **133**(3): p. 814-824.

34. Jones-Webb, R., et al., *Alcohol-related problems among black, Hispanic and white men: the contribution of neighborhood poverty.* Journal of studies on alcohol, 1997. **58**(5): p. 539-545.

35. Singer, M. and E. Toledo. *Oppression illness: critical health theory and intervention with chemically dependent women at risk of AIDS*. in *annual meeting of the Society for Applied Anthropology, Cancun, Mexico*. 1994.

36. Jacobson, J.O., P.L. Robinson, and R.N. Bluthenthal, *Racial disparities in completion rates from publicly funded alcohol treatment: economic resources explain more than demographics and addiction severity.* Health Services Research, 2007. **42**(2): p. 773-794.

37. Amaro, H., et al., *Needs and scientific opportunities for research on substance abuse treatment among Hispanic adults.* Drug and Alcohol Dependence, 2006. **84**: p. S64-S75.

38. Moher, D., et al., *Preferred reporting items for systematic reviews and meta-analyses: the PRISMA statement.* Annals of internal medicine, 2009. **151**(4): p. 264-269.

39. Chowdhary, N., et al., *The methods and outcomes of cultural adaptations of psychological treatments for depressive disorders: a systematic review.* Psychological medicine, 2014. **44**(06): p. 1131-1146.

40. Santos, C.M.d.C., C.A.d.M. Pimenta, and M.R.C. Nobre, *The PICO strategy for the research question construction and evidence search.* Revista latino-americana de enfermagem, 2007. **15**(3): p. 508-511.

41. Higgins, J.P., et al., *The Cochrane Collaboration's tool for assessing risk of bias in randomised trials.* Bmj, 2011. **343**: p. d5928.

42. Bernal, G. and E. Sáez-Santiago, *Culturally centered psychosocial interventions.* Journal of Community Psychology, 2006. **34**(2): p. 121-132.

43. Field, C. and R. Caetano, *The role of ethnic matching between patient and provider on the effectiveness of brief alcohol interventions with Hispanics.* Alcohol Clin Exp Res, 2010. **34**(2): p. 262-71.

44. Burge, S.K., et al., *An evaluation of two primary care interventions for alcohol abuse among Mexican-American patients.* Addiction, 1997. **92**(12): p. 1705-16.

45. Lee, C.S., et al., *Culturally adapted motivational interviewing for Latino heavy drinkers: results from a randomized clinical trial.* J Ethn Subst Abuse, 2013. **12**(4): p. 356-73.

46. Lee, C.S., et al., *A cultural adaptation of motivational interviewing to address heavy drinking among Hispanics.* Cultur Divers Ethnic Minor Psychol, 2011. **17**(3): p. 317-24.

47. Moore, A.A., et al., *Development and Preliminary Testing of a Promotora - Delivered, Spanish Language, Counseling Intervention for Heavy Drinking among Male, Latino Day Laborers.* Journal of Substance Abuse Treatment, 2016. **62**: p. 96-101.

48. Bernstein, J., et al., *Brief motivational intervention at a clinic visit reduces cocaine and heroin use.* Drug Alcohol Depend, 2005. **77**(1): p. 49-59.

49. Dansereau, D.F., et al., *Ethnicity and the effects of mapping-enhanced drug abuse counseling.* Addict Behav, 1996. **21**(3): p. 363-76.

50. Waters, J.A., et al., *The Story of CURA, a Hispanic/Latino Drug Therapeutic Community.* Journal of Ethnicity in Substance Abuse, 2002. **1**(1): p. 113-134.

51. Amodeo, M., et al., *Client retention in residential drug treatment for Latinos.* Eval Program Plann, 2008. **31**(1): p. 102-12.

52. Carroll, K.M., et al., *A multisite randomized effectiveness trial of motivational enhancement therapy for Spanish-speaking substance users.* J Consult Clin Psychol, 2009. **77**(5): p. 993-9.

53. Jason, L.A., et al., *Evaluating a bilingual voluntary community-based healthcare organization.* J Ethn Subst Abuse, 2013. **12**(4): p. 321-38.

54. Sparks, S.N., R. Tisch, and M. Gardner, *Family-centered interventions for substance abuse in Hispanic communities.* J Ethn Subst Abuse, 2013. **12**(1): p. 68-81.

55. Bernstein, J., et al., *Brief motivational intervention at a clinic visit reduces cocaine and heroin use.* Drug Alcohol Depend, 2004. **77**(1): p. 49-59.

56. Dansereau, D.F., et al., *Ethnicity and the effects of mapping-enhanced drug abuse counseling.* Addictive Behaviors, 1996. **21**(3): p. 363-376.

57. Dansereau, D.F., G.W. Joe, and D.D. Simpson, *Node-link mapping: A visual representation strategy for enhancing drug abuse counseling.* Journal of Counseling Psychology, 1993. **40**(4): p. 385.

58. Burge, S.K., et al., *An evaluation of two primary care interventions for alcohol abuse among Mexican-American patients.* Addiction, 1998. **92**(12): p. 1705-16.

59. Bolland, K.A., et al., *Trajectories of adolescent alcohol use by gender and early initiation status.* Youth & Society, 2016. **48**(1): p. 3-32.

60. Resnicow, K., et al., *Cultural sensitivity in public health: defined and demystified.* Ethnicity & disease, 1998. **9**(1): p. 10-21.

61. Field, C.A., et al., *Ethnic differences in drinking outcomes following a brief alcohol intervention in the trauma care setting.* Addiction, 2010. **105**(1): p. 62-73.

62. Hall, G.C.N., *Psychotherapy research with ethnic minorities: empirical, ethical, and conceptual issues.* Journal of consulting and clinical psychology, 2001. **69**(3): p. 502.

63. Lakes, K., S.R. López, and L.C. Garro, *Cultural competence and psychotherapy: Applying anthropologically informed conceptions of culture.* Psychotherapy: Theory, Research, Practice, Training, 2006. **43**(4): p. 380.

64. Lee, M.J. and M.A. Ferguson, *Effects of anti-tobacco advertisements based on risk-taking tendencies: Realistic fear vs. vulgar humor.* Journalism & Mass Communication Quarterly, 2002. **79**(4): p. 945-963.

65. Mills, S.D., et al., *Psychometric evaluation of the brief acculturation scale for Hispanics.* Hispanic journal of behavioral sciences, 2014. **36**(2): p. 164-174.

66. Braun, V. and V. Clarke, *Using thematic analysis in psychology.* Qualitative research in psychology, 2006. **3**(2): p. 77-101.

67. Patton, M.Q., *Enhancing the quality and credibility of qualitative analysis.* Health Serv Res, 1999. **34**(5 Pt 2): p. 1189-208.

68. Panitz, D.R., et al., *The role of machismo and the Hispanic family in the etiology and treatment of alcoholism in Hispanic American males.* American Journal of Family Therapy, 1983. **11**(1): p. 31-44.

69. Abad, V. and J. Suarez. *Machismo Alcoholism: Cross-Cultural Aspects of Alcoholism among Puerto Ricans*. in *Proceedings of the Fourth Annual Alcoholism Conference, NIAAA*. 1975.

70. Sudhinaraset, M., C. Wigglesworth, and D.T. Takeuchi, *Social and cultural contexts of alcohol use: Influences in a social–ecological framework.* Alcohol research: current reviews, 2016. **38**(1): p. 35.

71. Alaniz, M.L. and C. Wilkes, *Pro-drinking messages and message environments for young adults: the case of alcohol industry advertising in African American, Latino, and Native American communities.* Journal of Public Health Policy, 1998: p. 447-472.

72. McKee, P., et al., *Malt liquor marketing in inner cities: the role of neighborhood racial composition.* Journal of ethnicity in substance abuse, 2011. **10**(1): p. 24-38.

73. Tanski, S.E., et al., *Cued recall of alcohol advertising on television and underage drinking behavior.* JAMA pediatrics, 2015. **169**(3): p. 264-271.

74. Alaniz, M.L. and C. Wilkes, *Reinterpreting Latino culture in the commodity form: The case of alcohol advertising in the Mexican American community.* Hispanic Journal of Behavioral Sciences, 1995. **17**(4): p. 430-451.

75. Bertholet, N., et al., *Reduction of alcohol consumption by brief alcohol intervention in primary care: systematic review and meta-analysis.* Archives of internal medicine, 2005. **165**(9): p. 986-995.

76. DeJong, W., et al., *A multisite randomized trial of social norms marketing campaigns to reduce college student drinking.* Journal of studies on alcohol, 2006. **67**(6): p. 868-879.

77. Holmes, S.M., *An ethnographic study of the social context of migrant health in the United States.* PLoS Med, 2006. **3**(10): p. e448.

78. Arcury, T.A., et al., *Alcohol consumption and risk for dependence among male Latino migrant farmworkers compared to Latino nonfarmworkers in North Carolina.* Alcoholism: Clinical and Experimental Research, 2016. **40**(2): p. 377-384.

79. Hill, T.D. and R.J. Angel, *Neighborhood disorder, psychological distress, and heavy drinking.* Social Science & Medicine, 2005. **61**(5): p. 965-975.

80. Pollack, C.E., et al., *Neighbourhood deprivation and alcohol consumption: does the availability of alcohol play a role?* International journal of epidemiology, 2005. **34**(4): p. 772-780.

81. Alegría, M., et al., *Improving drug treatment services for Hispanics: Research gaps and scientific opportunities.* Drug and Alcohol Dependence, 2006. **84**: p. S76-S84.

82. Festinger, D.S., et al., *Pretreatment dropout as a function of treatment delay and client variables.* Addictive Behaviors, 1995. **20**(1): p. 111-115.

83. Pagano, A., *Barriers to drug abuse treatment for Latino migrants: treatment providers' perspectives.* J Ethn Subst Abuse, 2014. **13**(3): p. 273-87.

84. Amaro, H. and M. Aguiar, *Programa mamá/mom's project: a community-based outreach model for addicted women.* A Hispanic-Latino Family Approach to Substance Abuse Prevention, 1998: p. 125.

85. Baker, D.W., R. Hayes, and J.P. Fortier, *Interpreter use and satisfaction with interpersonal aspects of care for Spanish-speaking patients.* Medical care, 1998. **36**(10): p. 1461-1470.

86. Holmes, S.M., *The clinical gaze in the practice of migrant health: Mexican migrants in the United States.* Social science & medicine, 2012. **74**(6): p. 873-881.

87. Keyes, K., et al., *Stigma and treatment for alcohol disorders in the United States.* American Journal of Epidemiology, 2010. **172**(12): p. 1364-1372.

88. Fortney, J., et al., *Factors associated with perceived stigma for alcohol use and treatment among at-risk drinkers.* The Journal of Behavioral Health Services and Research, 2004. **31**(4): p. 418-429.

89. Smith, S.M., et al., *Examining perceived alcoholism stigma effect on racial-ethnic disparities in treatment and quality of life among alcoholics.* Journal of Studies on Alcohol and Drugs, 2010. **71**(2): p. 231-236.

90. Livingston, J.D., et al., *The effectiveness of interventions for reducing stigma related to substance use disorders: a systematic review.* Addiction, 2012. **107**(1): p. 39-50.

91. Association, A.P., *Diagnostic and statistical manual of mental disorders (DSM-5®).* 2013: American Psychiatric Pub.

92. Lomas, T., *Critical positive masculinity.* Masculinities & Social Change, 2013. **2**(2): p. 167-193.

93. Englar-Carlson, M. and M.S. Kiselica, *Affirming the strengths in men: A positive masculinity approach to assisting male clients.* Journal of Counseling & Development, 2013. **91**(4): p. 399-409.

94. Roberts-Douglass, K. and H. Curtis-Boles, *Exploring positive masculinity development in African American men: A retrospective study.* Psychology of Men & Masculinity, 2013. **14**(1): p. 7.

95. Borkman, T.J., A. Stunz, and L.A. Kaskutas, *Developing an Experiential Definition of Recovery: Participatory Research With Recovering Substance Abusers From Multiple Pathways.* Substance use & misuse, 2016: p. 1-14.

96. Gosin, M., et al., *Participatory action research: Creating an effective prevention curriculum for adolescents in the Southwestern US.* Health Education Research, 2003. **18**(3): p. 363-379.

97. McIntyre, A., *Constructing meaning about violence, school, and community: Participatory action research with urban youth.* The Urban Review, 2000. **32**(2): p. 123-154.

98. Romero, A., et al., *Preventing New Liquor Licenses Through Youth–Community Participatory Action Research,* in *Youth-Community Partnerships for Adolescent Alcohol Prevention*. 2016, Springer. p. 211-236.

99. Romero, A., et al., *Integrating Research into Prevention Strategies Using Participatory Action Research,* in *Youth-Community Partnerships for Adolescent Alcohol Prevention*. 2016, Springer. p. 45-62.

100. Kesler, D.O., et al., *Assimilating traditional healing into preventive medicine residency curriculum.* American journal of preventive medicine, 2015. **49**(5): p. S263-S269.

101. Gurung, R.A., *A multicultural approach to health psychology.* American Journal of Lifestyle Medicine, 2013. **7**(1): p. 4-12.

APPENDIX A

MANUSCRIPT 1 AS SUBMITTED TO "*SUBSTANCE USE & ABUSE"*

TITLE

Gender and Cultural Adaptations for Diversity: A Systematic Review of Alcohol and Substance Abuse Interventions for Latino Males

AUTHORS NAMES:

Luis A. Valdez, PhD, MPH[1]
Melissa Flores, MS[2]
John Ruiz, PhD[3]
Eyal Oren, PhD[4]
Scott Carvajal, PhD[1]
David O. Garcia, PhD[1]

Author's Affiliation:

[1]University of Arizona
Mel and Enid Zuckerman College of Public Health
Department of Health Promotion Sciences
Tucson, AZ, United States

[2]University of Arizona
Norton School of Family and Consumer Sciences
Family Studies and Human Development
Tucson, AZ, United States

[3]University of Arizona
College of Science
Department of Psychology
Tucson, AZ, United States

[4]University of Arizona
Mel and Enid Zuckerman College of Public Health
Department of Biostatistics and Epidemiology
Tucson, AZ, United States

Corresponding Author:

Luis Valdez, PhD, MPH
UA Collaboratory for Metabolic
Disease Prevention & Treatment
University of Arizona
3950 S. Country Club, Suite 330
Tucson, AZ 85714
Tel: (520) 626-4745
Email: jolitrac@email.arizona.edu

ABSTRACT:

Background: Latino men are disproportionately affected by the consequences of alcohol and substance abuse when compared to non-Latino white men. Latino men also face greater barriers to accessing, engaging, and completing alcohol and substance abuse treatment services. Culturally-adapted interventions are promoted to overcome these barriers. However, the effectiveness of these efforts is unclear. **Objectives:** The purpose of this review was to summarize the published evidence regarding gender- and culturally-adapted alcohol and substance abuse treatment that aims to improve physical, behavioral, and social outcomes in Latino men. **Methods:** A systematic literature search was conducted for articles reporting on culturally- and/or gender-adapted alcohol and/or substance abuse interventions designed exclusively for Latino adults, including a Latino population sample of at least 10% and any proportion of Latino male participants. A thematic analysis based on predetermined themes was used to evaluate the nature of adaptations. **Results:** Searches yielded 2685 titles, resulting in 12 articles that fit review parameters. The most scientifically rigorous findings suggest culturally adapted interventions may outperform standard treatment. Nevertheless, a fraction of the interventions did not improve outcomes compared to standard treatment. Considering the scarce number of publications, it is difficult to discern if null findings reflect ineffective interventions or methodological limitations. **Conclusions:** While studies are limited and findings are mixed, culturally-tailored work shows promise. The growth rate of the Latino population and the current epidemic nature of substance abuse in the United Sates generate urgency to identify methods to diminish the disparate burden of alcohol and substance abuse in Latinos.

KEYWORDS: Latino Health, Men's Health, Substance Abuse, Alcohol Abuse, Cultural Responsiveness, Cultural Adaptations

FUNDING AND COMPLIANCE WITH ETHICAL STANDARDS:
The authors of this manuscript did not receive a specific grant, or resources in any form, from any funding agency in the public, commercial, or not-for-profit sectors to complete this study.

INTRODUCTION

Yearly data from the National Survey on Drug Use and Health (NSDUH) indicate that Latinos and non-Latino whites (NLW) have comparable prevalence rates of alcohol and substance use (Caetano, Baruah, Ramisetty-Mikler, & Ebama, 2010; CSBHSQ, 2015; SAMHSA, 2014). However, Latinos consistently face a greater burden of alcohol and substance abuse and dependence when compared to NLW (Caetano et al., 2010; Chartier & Caetano, 2010; Flores et al., 2008a; SAMHSA, 2014). Latinos also experience disproportionate levels of adverse consequences of alcohol and substance abuse (Caetano, 2003). For instance, findings reported by Mulia et al., (2009) suggest that Latinos are more likely than NLW to report health, legal, and workplace problems, irrespective of levels of consumption. Latino men, in particular, have higher incidence rates of alcohol and substance abuse-related intimate partner violence (Caetano, Galvan, Aguirre-Molina, & Molina, 2001; Morales-Aleman et al., 2014), higher liver cirrhosis mortality rates (Flores et al., 2008b), and face disproportionate alcohol and substance use related contact with the criminal justice system (Iguchi et al., 2002).

Despite the disparate burden of alcohol and substance abuse, Latino men face greater barriers than NLW men in accessing, engaging, and completing alcohol and substance abuse treatment (Campbell & Alexander, 2002; Guerrero, Marsh, Khachikian, Amaro, & Vega, 2013; Marsh, Cao, Guerrero, & Shin, 2009). When compared to NLW men, Latino men are less likely to seek and receive treatment when needed (NSDUH, 2012.), and more likely to receive inadequate services and report dissatisfaction with treatment (Guerrero et al., 2013). Further, evidence suggests that Latino men may face

disproportionate challenges when undergoing conventional substance abuse treatment models (NSDUH, 2012.; Sparks, Tisch, & Gardner, 2013). For example, issues such as the social, political, and economic contexts of countries of origin, historical trauma, receptivity of host communities after migration, language and cultural barriers, discrimination, and acculturative stress may decrease the likelihood of successful treatment completion (Lee et al., 2011).

The rapid growth of the Latino population in the United States coupled with the disparate burden of social, physical, and emotional problems related to alcohol and substance abuse have encouraged the development of culturally specific treatment models that attempt to address disparities in Latino alcohol and substance abuse treatment success (Amaro, Arévalo, Gonzalez, Szapocznik, & Iguchi, 2006; Guerrero et al., 2013). Consequently, there is an urgent need for a more comprehensive understanding of the effectiveness of culturally- and/or gender-adapted treatment for Latino men. The purpose of this review is to summarize the current evidence regarding alcohol and substance abuse treatment programs that aim to improve behavioral, physical, and social outcomes associated with the misuse of alcohol and other substances in Latino men. We aim to a) summarize the overall success of culturally- and gender- responsive treatment present in the current literature, b) summarize the culturally- and gender-responsive components of alcohol and substance abuse and dependence treatment programs designed for Latino men; c) assess the extent to which gender and cultural adaptation strategies are present in each intervention and how

these strategies relate to specific study outcomes; and d) identify areas where more research is needed.

METHODS

We used a predetermined protocol in accordance with published guidelines of systematic reviews (PRISMA) (Moher, Liberati, Tetzlaff, & Altman, 2009). The protocol for this review is registered in the PROSPERO database (registration number: 47153).

Identification of Studies

A literature search was performed using: PubMed, MEDLINE, PsycINFO, Web of Science, Embase and Cochrane Library. Reference lists of identified articles were searched for additional articles not present in the database results. A Boolean search strategy was used in the search electronic databases (Santos, Pimenta, & Nobre, 2007). Four comprehensive themes that built the final search were specified:

- To identify relevant terms related to the population of interest, the first Boolean search used the term “or” to explode and map the subject headings “Hispanic” or “Hispanic American” or “Latino” or “Spanish speaking” or “Latin American” or Hispanic American”.
- To identify relevant terms related to alcohol abuse a second Boolean search used the term “or” to explode and map the subject headings “alcohol” or “alcoholism” or “alcohol abuse” or “alcohol dependence” or drinking" or “alcohol use disorder” or “problem drinking” or “binge drinking”

- To identify relevant terms related to substance abuse a second Boolean search used the term “or” to explode and map the subject headings “drug use” or “drug abuse” or “drug dependence” or “substance related disorders” or “addiction” or “illicit drugs” or “illegal drugs” or “drug dependence” or substance use” or “substance abuse”.
- To identify relevant terms related to substance abuse a second Boolean search used the term “or” to explode and map the subject headings “treatment” or “intervention” or “program” or “inpatient” or “outpatient” or “evidence based” or “model” or “modalities” or “treatment services” or “service” or “rehabilitation” or “substance abuse rehabilitation” or “drug rehabilitation”

These four comprehensive search themes were then combined using Boolean operator “AND” in varying combinations. A sample search strategy is included in **Table 1**.

Inclusion Criteria

(1) We sought articles reporting on alcohol and/or substance use, abuse, or dependence treatment in a randomized controlled trial (RCTs). Non-RCTs were also included as they too could provide information regarding all of the research questions, including effectiveness.

(2) All reported interventions must have been culturally- and/or gender-adapted, or have been designed specifically for Latino men in the United States. As such, articles had to explicitly describe specific adaptations to any phase of treatment

(i.e. outreach, delivery, exit, etc.) designed to better engage Latino males in alcohol or substance abuse treatment.

(3) Studies conducted in adults (aged >18 years)

(4) Must include participation of Latino males

(5) Articles must have been published between January 1, 1978, and December 31st 2016. The former date correlates with the improvement of data collection based on the differentiation and recognition of race and Latino origin in National Health Interview Survey (NHIS).

Exclusion Criteria

(1) Articles that were inconsistent with the inclusion criteria or if they were anecdotal, solely theoretical/critical analysis without data, historical, or editorial in nature.

(2) Articles reporting on intervention that were designed for women, or included only the participation of women.

(3) Articles that included smoking cessation interventions.

Data Collection and Extraction

All titles and abstract of each citation that was identified though the search were inspected independently by two reviewers with use of the inclusion and exclusion criteria and to eliminate duplicates. All articles that were relevant upon revision of title and abstract were accessed and reviewed independently by the two reviewers. All disagreements were resolved by consensus and consultation with a third reviewer.

Risk of Bias Assessment

Risk of bias was assessed using the Cochrane Collaboration's tool for assessing risk of bias (Higgins et al., 2011). This is a tool that addresses seven specific domains; sequence generation, allocation concealment, blinding of participants and personnel, blinding of outcome assessment, incomplete outcome data selective outcome reporting and "other issues" (Higgins et al., 2011). The tool is used to assign a judgement of "Low risk" of bias, "High risk" of bias, or "Unclear risk" of bias to each of the seven judgement domains.

Appraisal of Cultural Adaptation

A deductive thematic analysis based on predetermined themes was used to evaluate the process and nature of the adaptations in each of the selected articles that met all inclusion and exclusion parameters. While there were a variety of frameworks that were considered for the analysis of cultural adaptation, the framework selected was one constructed by Bernal & Saez-Santiago (2006). The framework consists of eight elements used to culturally center interventions including; (1) language, (2) persons, (3) metaphors, (4) content, (5) concepts, (6) goals, (7) methods, and (8) context (Bernal & Sáez-Santiago, 2006). For the purpose of this review, the eight elements as operationalized are described below: (1) *Language* is a carrier of culture; therefore, treatment delivered in the preferred language of a target population assumes at least a superficial integration of culture. (2) *Therapist matching* highlighted the importance of treatment provider positionality in client-therapist relationships. (3) *Inclusion of cultural symbols and adages* encompassed the inclusion of objects and symbols of the target

population in the space where programs were delivered or the delivery of treatment in a culturally driven space (e.g., church, cultural center, neighborhood/community center, etc.). (4) *Inclusion of Cultural Knowledge in Treatment Content* included values, customs, and traditions shared by the populations receiving treatment within verbal communication (e.g., recruitment communication) and/or any distributed materials (e.g., flyers, informational pamphlets etc.). (5) *Treatment Conceptualization* considered the distinct ways in which different cultures and genders can define, manifest, and treat behavioral, and social problems and thus, treatment should be delivered in a way that is understood by the client. (6) *Treatment Goals* entailed that goals of treatment should be created with attention to the specific values, customs and traditions of a client's gender- and culturally-bound definitions of success. (7) *Treatment Methods* referred to the procedures to simplify the achievement of treatment goals and their consideration of cultural and or gender norms, which can include culturally- or gender-adapted recruitment methods (e.g., churches, or worksites). (8) *Treatment Context* referred to the consideration of a participant's broader social, economic, and political reality, encompassing the effects of social and cultural processes such as socio-economic status, acculturative stress, immigration status, and neighborhood effects on treatment. These adaptations included the reduction of practical barriers and improved access to treatment (e.g., flexibility of scheduling sessions, delivery of treatment in convenient settings or over the phone, inclusion of family members). This framework was utilized to assess the degree of cultural adaptation upon selection of the final articles that fit review parameters. Two authors (XX and XX) searched for the presence of each of the

domains in all programs within selected articles and reported the results of this deductive thematic analysis.

RESULTS

Selected Studies

Search parameters produced 2685 titles. Initially, 2583 articles were excluded because they were; reviews, not intervention studies, not relevant, secondary analyses, or redundant articles. Thereafter 61 articles were excluded due to incorrect target population, secondary analyses, non-specified outcomes, not intervention, missed duplicates, non-adapted treatment, and not in the United States. A final discussion round excluded another 10 articles because the study sample was not Latino (n=1), not in the age range (n=2), articles were a secondary assessment of non-adapted trial (n=2), reported on not adapted program (n=2), not reporting on an intervention (n=1), not in U.S. (n=1), and not relevant to review parameters (n=1). A final total of 12 articles were included in the review; an inclusion/exclusion flowchart is shown in **Figure 1.** **Table 2** displays demographic data and salient study information for the articles that met the criteria. A total of five (41.6%) articles focused solely on alcohol (Burge et al., 1997; C. Field & Caetano, 2010; Lee et al., 2013; Lee et al., 2011; Moore et al., 2016), two (16.6%) programs were uniquely focused on cocaine and opiates (Bernstein et al., 2004; D. F. Dansereau, G. W. Joe, S. M. Dees, & D. D. Simpson, 1996), and another five (41.6%) focused on a combination of alcohol and substance use (Amodeo, Chassler, Oettinger, Labiosa, & Lundgren, 2008; Carroll et al., 2009; Jason et al., 2013; Sparks et al., 2013; Waters, Fazio, Hernandez, & Segarra, 2002). The total sample size

of the articles was 3447 ranging from 25-1175, and was approximately 67.7% Latino, and 77.8% male. Nine of the interventions were designed exclusively for Latinos, but only one (Moore et al., 2016) intervention was designed for Latino men. The mean age of the total 3025 participants for whom age was reported was 31.6 years. Two studies (Sparks et al., 2013; Waters et al., 2002) did not report mean age of treatment and control participants (n=475). Our assessment of risk of bias in reporting is presented in summary in **Table 3**. Only three of the selected studies (Bernstein et al., 2004; Field & Caetano, 2010; Lee et al., 2013) were reported with very low risk of bias meeting all reporting requirements delineated by the Cochrane Collaboration's tool for assessing risk of bias (Higgins et al., 2011). Others were deficient largely due to lack of control groups rendering randomization, allocation concealment, and obsolete blinding procedures.

Cultural Adaptation

Table 4 illustrates how well the chosen articles met the criteria for each of the eight elements in our cultural adaptation appraisal. Overall, only three (25%) of the studies met every single criteria item (Amodeo et al., 2008; Jason et al., 2013; Waters et al., 2002). The most salient adaptation was language, which was included by 10 (83.3%) of the reported studies (Amodeo et al., 2008; Bernstein et al., 2004; Burge et al., 1997; Carroll et al., 2009; Dansereau, Joe, Dees, & Simpson, 1996; Field & Caetano, 2010; Jason et al., 2013; Moore et al., 2016; Waters et al., 2002), largely ensuring that recruitment outreach materials, consent procedures, written information and program delivery were conveyed in the participants preferred language. Therapist

matching was explored by nine (75.0%) studies (Amodeo et al., 2008; Bernstein et al., 2004; Burge et al., 1997; Carroll et al., 2009; Dansereau et al., 1996; Field & Caetano, 2010; Jason et al., 2013; Moore et al., 2016; Waters et al., 2002), which focused on participant-provider matching to ensure acceptability and credibility of the therapist. Less salient adaptations included treatment content and methods. Six (50%) of the studies considered the inclusion of cultural knowledge and content (Amodeo et al., 2008; Bernstein et al., 2004; Jason et al., 2013; Lee et al., 2013; Lee et al., 2011; Waters et al., 2002), and Jason et al. (2013) for example, reported that communication was centralized around the Latino-bound cultural concepts of *personalismo, simpatia,* and *respeto,* which are Latino cultural norms that have health-related implications because of their influence on behaviors. Culturally responsive methods were emphasized in six (50.0%) of the selected studies (Amodeo et al., 2008; Dansereau et al., 1996; Lee et al., 2013; Lee et al., 2011; Waters et al., 2002). For example, Dansereau et al. (1996) used *node-link mapping*, a visually engaging methodology that eliminates language and cultural barriers by changing the modality of the message that is being transmitted. Importantly, Carroll et al., (2009) and Sparks et al., (2013) reported minimal cultural adaptations and were primarily focused on language-based changes to treatment, while Lee et al., (2011 & 2013) did not adapt for language at all, in aim of more comprehensive adaptations for cultural and social contexts.

Adapted Modalities

There were a variety of treatment modalities that were adapted for cultural responsiveness. The most prominent modalities were based on brief motivational interviewing (BMI) and motivational enhancement therapy (MET), which are brief-evidence based treatments that are often used to elicit or reinforce participants' motivation for change. For instance, Bernstein et al. (2004) assessed the effectiveness of tailored, peer-matched BMI versus written advice in reducing cocaine and heroin use in a sample of n=1175 participants (23% Latino, 70.6% male). In this case, BMI were conducted by non-professional peers who were in recovery from cocaine and opioids or had been raised in a household dominated by substance use. Field and Caetano (2010) conducted a trial comparing ethnically-matched BMI to treatment as usual in a Level One trauma unit following screening for alcohol related injury or problems in a sample of n=537 participants (100% Latino, 88.5% male). Carroll et al (2009) published a randomized controlled trial to assess MET versus treatment as usual on participant retention and frequency of substance use in Latino, Spanish-speaking substance users (n=405, 89% male) at five sites around the United States (Miami, FL, New York City, NY, Portland, OR, Greenley, CO, and Santa Fe, NM). Lee et al., (2011, and 2013) assessed treatment feasibility and acceptability (2011) (n=25, 44% male) as well as effectiveness (2013) (n=58, 53% male) of culturally adapted BMI tailored using a social-contextual framework in all Latino samples. Lee et al., (2011, 2013) considered the contextual reality of the participants to account for the mediating and moderating effects of societal influences of poverty, discrimination, historical trauma, and employment status of their participants. Moore et al. (2016) tested the feasibility, acceptability, and

efficacy of a culturally–responsive intervention for Latino male day laborers (n= 29, 100% male). The intervention combined MET and strengths-based case management delivered by promotoras in Spanish to reduce heavy drinking. Promotoras were used because of their cultural positionality. For instance, these promotoras lived in the participants' community and therefore could have a better understanding of community social networks, health needs, and cultural values—which allowed them to effectively disseminate health-related messages to participants. Lastly, related to MET and BMI was a Node-Link Mapping strategy used by Dansereau et al. (1996) to bridge the communication gap between therapists and participants (n=320, 36% Latino, 62.7% male) clients. The primary components of this system were maps that represented the relationship between the thoughts, actions, and feelings (*nodes*) that led (*links)* to personal problems and their potential solutions (*nodes*) (Dansereau, Joe, & Simpson, 1993).

Residential-based treatments also were adapted to be culturally responsive as explored by Amodeo et al. (2008), Jason et al. (2013), and Waters et al. (2002). Firstly, Amodeo et al. (2008) aimed to increase treatment completion through vocational training and strengthening client-counselor relationships for Latino (n=161, 68% male) participants. Counseling accounted for the influence of participants' social context including native culture, immigration status. Counseling strategies also included familial participation to increase familial understandings of addiction to diminish behaviors that may be detrimental (e.g., stigmatization) to recovery. Ethnic, as well as community pride, was fostered through involvement in cultural celebrations and service to neighborhood and local Latino communities. Jason et al. (2013), also explored culturally

adapted residential treatment aiming to 1) increase employment income; 2) decrease illegal activities; 3) decrease use of alcohol and other substances; and 4) increase adherence to psychiatric and other medication in recovering Latinos (n=84, 75.6% male). Waters et al. (2002) presented an analysis of Carnales Unidos Reformando Adictos, *Brothers United to Reform Addicts* (C.U.R.A), a *therapeutic community* tailored for Latino (n=434, 81% male) substance users emphasizing family, healthcare, and education. C.U.R.A was focused on self-awareness, self-respect, a renewed focus for vocational direction and educational attainment, as well as an emphasis on fostering ties to family, ethnic background, and culture. Regarding gender-specific considerations, authors argued for the need to account for gender-related cultural factors such as *machismo*, which can facilitate self-conceptualizations of strength and invulnerability which in turn impact influence participants' substance use, abuse, and treatment adherence.

The last two of the selected publications focused on primary care-based treatment (Burge et al., 1997), and a family-based counseling program (Sparks, et al., 2013). In 1997, Burge et al. published the results of an evaluation of two primary care interventions aimed at diminishing alcohol abuse among Mexican-American patients (n=175, 75% male). Participants were randomized into one of four treatment groups that included brief physician intervention, extended psychoeducation, both interventions combined, or no treatment. *Celebrando Familias* (Celebrating Families) reported by Sparks et al. (2013), was the only family-based substance abuse counseling treatment program that met the study inclusion criteria, and included the participation of 36 Latino participants (16% men). *Celebrando Familias* was a culturally adapted program aimed

at decreasing alcohol and substance use and increasing family resilience and parent's social/cognitive skills.

Effectiveness of Adapted Programs

Five articles reported on programs aiming to improve alcohol-related outcomes. Burge et al. (1997) who explored the effectiveness of a primary case based treatment reported mean improvement in alcohol consumption frequency as well as Addiction Severity Index scores in the entire sample of study participants. No significant differences were observed between three different treatment groups and mean improvements in the control group. Findings from Repeated Measured ANCOVAs at 12- and 18-months post-enrollment suggested treatment effect improvements only for Addiction Severity Index scores (Family; $F=5.86$, $p=0.003$, and Medical: $p=0.047$) but not Drinks per week. Gender also had an effect over time on Addiction Severity Index scores (Family: $F=4.68$, $p=0.010$; Legal: $F=3.26$, $p=0.040$; and Psychiatric $F=3.00$, $p<0.050$). Authors reported that younger men sometimes resisted the treatment and did not reflect an understanding of the consequences of heavy drinking. Notably, 15 of the male participants (total n=131) were lost to follow-up to either death or imprisonment, four of whom died of gunshot wounds or stabbings. Field and Caetano (2010) explored matched BMI- and reported reductions in alcohol volume per week particularly in foreign-born and less acculturated Latinos that received the BMI compared to treatment as usual ($p=0.01$). Lee et al. (2011), found that culturally adapted BMI was a viable approach with Latino participants (44% male), reporting high levels of satisfaction with

treatment, measured qualitatively and through Likert scales developed by the authors. Building on the previous study, Lee et al. (2013) who reported on the effectiveness of culturally adapted BMI reported successful retention of participants at 2 months (86%) and 6 months (84%). There also were significant decreases in the number of heavy drinking days per month, and drinking consequences (measured using the Drinker's Inventory of Consequences: DrInC) across both groups ($p<0.001$), as well as increased reductions in drinking consequences for the culturally adapted group at 2 months ($p=0.009$). Notably, the authors did not adapt for language citing the need for an investigation of the effects of adaptation separate from those of the effects of translating an intervention (Lee et al., 2011). Moore et al. (2016), who explored MET in a 100% sample of Latino men (n=29), reported favorable participant retention results citing that nearly all participants attended every counseling session and most (86%) completed the study. Additionally, Intervention participants drank less at 6 weeks (11 vs. 25 drinks/week) and had reduced improved Alcohol Use Disorders Identification Test scores (14 vs. 20), although no statistically significant differences were observed between groups at any time point ($p>0.05$).

A total of five programs were focused on improving a combination alcohol and substance abuse outcomes. Amodeo et al. (2008), assessed the effectiveness of culturally adapted residential treatment and reported that while males represented over two thirds of the study sample, the only gender-specific adaptations were length of stay (4-6 months for men, 6-12 months for women; which was justified with evidence-based treatment length parameters). This study did not employ the use of a comparison group and no differences were reported between gender groups in either program completion

or length of stay. Waters et al. (2002) reported separately for two distinct program lengths. In 1998, only 51% of men and 56% of women completed a 28-day program, and 45% of men and 52% of women completed the six-month program. There was an improvement in women completing the long-term program in 1999, yielding 83% female completers; however only 51% of men completed treatment. Lastly, Jason et al. (2013) reported on a residential program that yielded differences in mean income earned at follow-up between culturally adapted and non-adapted programs with mean income increases of $733 ($p<0.01$) and $325 ($p=0.02$), respectively. Findings also showed that being less acculturated was associated with greater initial alcohol use, but greater decreases in alcohol use over time. Sparks et al. (2013) reported on family-based counseling and found no differences in alcohol and substance abuse when compared to traditional non-adapted samples. However, there were reported improvements in family strengths, resilience, and parent social/cognitive skills in the intervention group for both bilingual and monolingual (Spanish only) families. Carroll et al (2009) also reported less than favorable findings in a language adapted MET. Authors-specified that while most participants in both groups were retained in their conditions after 28 days (MET=93%, TAU=91%), little over half remained in each group (57% vs. 52%) after an 84-day follow-up. Other than language, there were no culturally- or gender-specific adaptations to the program. Additionally, while nearly 89% of the sample was male, the authors did not report any gender-specific considerations in treatment.

Bernstein et al. (2004), and Dansereau et al. (1996) were focused on improvements in substance abuse related outcomes, primarily focused on cocaine and opiates. Bernstein et al. (2004) reported high retention rates, with 82% of participants

present at 6-month follow-up. Additionally, Latinos in the sample were significantly more likely to be abstinent from heroin and/or cocaine (OR = 2.39 95% CI 1.65, 4.46, $p<0.001$), and cocaine alone (OR = 4.32, 95% CI 2.69, 6.94, $p<0.001$) but not from opiates alone. However, while nearly 70% of the intervention sample was male, authors did not mention gender adaptations in treatment delivery and no significant differences effects were observed between genders. Finally, using repeated measures MANOVA of attendance Dansereau et al. (1996) found that clients randomized to Node-Link Mapping treatment condition had better treatment outcomes, including decreased drug positive urines $F = 2.17$, $p<0.045$ and increased attendance to scheduled counseling sessions $F = 3.89$, $p<0.0009$. This study also suggested that node-link mapping strategies were better received by Mexican Americans when compared to their NLW counterparts. Authors speculated that the use of mapping reduced cultural, racial, and class-driven communication barriers.

DISCUSSION

The aim of this article was to review current evidence regarding alcohol and substance abuse treatment programs that aim to improve behavioral, physical, and social outcomes associated with the misuse of alcohol and other substances in Latino men. The findings of the current study illuminate the shortage of targeted gender-bound factors considered in the recruitment, engagement, and treatment completion in culturally-responsive programs for Latino males. While 11 of the 12 chosen studies reported on relatively large male samples (44%+), a discrepancy exists in the degree of gender adaptations or gender-specific reported outcomes of these interventions. This

presents a problem as there is evidence that suggests that gender-bound cultural norms influence the initiation and normalization of alcohol and substance abuse (Bolland et al., 2016; Guerrero, Marsh, Cao, Shin, & Andrews, 2014). The role of gender, sociocultural, and contextual factors may have compounded negative effects on substance abuse and treatment outcomes in Latino males. Consequently, this review indicates that evidence for gender-specific applications of culturally- and context-driven adapted substance abuse treatment is lacking.

Language was the most salient modality of adaptation in the selected articles. However, while language is often regarded as a carrier of culture, linguistic adaptation is considered a superficial, and incomplete, cultural adaptation (Resnicow, Baranowski, Ahluwalia, & Braithwaite, 1998). Thus, adaptations for cultural responsiveness may need to include influential factors beyond language. For instance Carroll et al. (2009) reported on the implementation of a non-adapted translated program that did not yield improved outcomes. Further, the demographic characteristics from this multisite intervention showed that participants were a heterogeneous Latino sample from diverse geographic and cultural origins. While different Latinos may share a language and some cultural tenets, geographic and cultural origins may result in very different social contexts, e.g. a highly acculturated Puerto Rican woman is a very different Latina/o than a new Guatemalan male immigrant, even if they are both Spanish-speaking. Yet, these two individuals are typically subject to the same treatment modalities, assessed with the same treatment measures, and are expected to meet parallel treatment goals with a universally translated Spanish program. Conversely, Lee et al. (2011, 2013) made arguments for deemphasizing language in their intervention, and instead tailored to

fundamental cultural and social contexts that were vital to their program success. This illuminates the needs of a culturally and contextually diverse populations in the United States (i.e. Latino males) that may require an overhaul to already established treatment modalities.

The results of this review demonstrate some promising culturally adapted alcohol and substance abuse programs for Latino males. While four studies (Amodeo et al., 2008; Burge et al., 1997; Moore et al., 2016; Sparks et al., 2013) presented mixed findings regarding the improvement of their specified primary outcome, these studies presented positive changes in secondary outcomes. The most scientifically rigorous findings (Bernstein et al., 2004; Field & Caetano, 2010; Lee et al., 2013) suggested that culturally adapted treatments may outperform standard treatments, and in some cases, are even more efficacious for lower acculturated Latinos (Field, Caetano, Harris, Frankowski, & Roudsari, 2010). Nevertheless, some preliminary evidence also suggests that several of the included interventions did not significantly differ from standard treatments (Carroll et al., 2009; Sparks et al., 2013). It is unclear, however, to what extent unfavorable findings are related to the ineffectiveness of interventions, the outcomes under investigation, or to methodological shortcomings.

Implications for future research

Future treatment programs should consider the intersecting effects of cultural, contextual, *and* gender-based factors. Evidence implies that attention to gender-bound norms, like positive masculinity, may improve health outcomes (Arciniega, Anderson,

Tovar-Blank, & Tracey, 2008). The concept of positive masculinity rests on the potential for masculinity to be expressed in constructive ways that have positive impacts on physical, emotional, and social, wellbeing (Englar-Carlson & Kiselica, 2013; Lomas, 2013). The related Latino-bound cultural tenet of *Caballerismo* (in reference to a *caballero,* or gentleman)*,* is comprised of culturally- and gender- bound attributes related to the importance of family, social responsibility, and emotional connectedness. A positive masculinity- or *caballerismo*-centered approach may be a viable supplement to peer-led and/or peer supported treatment modalities. Moreover, research suggests that positive male role models, particularly those older than the client, may play a large role in promoting health and adaptive masculine identities than can improve influence treatment outcomes (Roberts-Douglass & Curtis-Boles, 2013).

Further, it is imperative that future research directions are inclusive of community-based perspectives that may help better assess substance and alcohol abuse problems and better formulate programs to diminish disparities. For instance, community-based participatory action research (CBPR) can be utilized to; a) further develop the understanding of sociocultural and systemic structural determinants of substance use, and b) determine the formulation of community-driven and community asset-based strategies aimed at diminishing substance abuse treatment disparities. These methods are increasingly adopted to diminish prevention and treatment disparities in NLW populations (Borkman, Stunz, & Kaskutas, 2016) and with minority youth (Gosin, Dustman, Drapeau, & Harthun, 2003; McIntyre, 2000; Romero, Caporale, et al., 2016; Romero, Meza, et al., 2016). Alternatively, viable culturally responsive methods could be used to supplement tailored evidence based programs. For instance, culturally

adapted cognitive behavioral therapy programs can be delivered in a preferred language, by matched therapists, in culturally and contextually responsive environments and supplemented by traditional healing practices that may be seen as valuable ways of healing the individual and the community. Examples of methodologies that have been adapted in such ways have been utilized with Native American communities that synergize evidence-based programs and traditional forms of healing (Gurung, 2013; Kesler, Hopkins, Torres, & Prasad, 2015).

Strengths and Limitations

In this systematic review of literature, we sought to assess the influence of gender and cultural adaptation strategies present in studies for alcohol and substance abuse and how these strategies relate to specific study outcomes. Importantly, we used PRISMA guidelines to appraise, identify and evaluate gender and cultural adaptations of treatment programs for adult Latino men. We believe this review adds valuable insight to the expanding literature on the matter for a high-risk and undeserved population. This review, however, is not without limitations. Perhaps the greatest limitation of this work is the subjective nature of the cultural adaptation appraisal process of the programs identified. While a clear and delineated coding protocol was set, the depth and complexity of cultural norms, intertwined with treatment methodologies were, at times, difficult to discern from the available published manuscripts. Second, the results of a review such as this are heavily dependent on the characteristics of the published studies that are included. The justification process, procedures, research design, and reporting strategy of each individual study influences the presented strength of evidence

supporting each program. Further, due to the small number of available studies that fit within our parameters, we elected to include all studies regardless of the strength of inferences and sources of bias inherent to many designs. Finally, and perhaps most critically, there are likely culturally responsive and effective community-based treatment programs that are not described in the published literature. Consequently, the results of this review also reflect some limitations to the current state of published research in the field.

Conclusion

In recent years, there has been an expanding call to adapt alcohol and substance abuse treatment programs to ensure considerations of client cultural and gender norms, social contexts, and cultural orientations. Such factors exacerbate well-identified disparities in Latino men substance abuse, treatment, and long term cessation. This review of the current literature was an attempt to systematically synthesize a critical but limited body of literature. Overall the results of this review provide evidence of some promising culturally and gender adapted substance abuse treatment programs for Latino men. However, given the present growth rate of the Latino population and the current epidemic nature of substance abuse in the U.S., it is imperative that we continue to identify viable and effective methods to diminish the disparate burden of alcohol and substance abuse in this population.

REFERENCES

Amaro, H., Arévalo, S., Gonzalez, G., Szapocznik, J., & Iguchi, M. Y. (2006). Needs and scientific opportunities for research on substance abuse treatment among Hispanic adults. *Drug Alcohol Depend, 84*, S64-S75.

Amodeo, M., Chassler, D., Oettinger, C., Labiosa, W., & Lundgren, L. M. (2008). Client retention in residential drug treatment for Latinos. *Eval Program Plann, 31*(1), 102-112. doi:10.1016/j.evalprogplan.2007.05.008 10.1016/j.evalprogplan.2007.05.008. Epub 2007 Jul 4.

Arciniega, G. M., Anderson, T. C., Tovar-Blank, Z. G., & Tracey, T. J. G. (2008). Toward a fuller conception of machismo: Development of a traditional machismo and caballerismo scale. *Journal of Counseling Psychology, 55*(1), 19-33. doi:10.1037/0022-0167.55.1.19

Bernal, G., & Sáez-Santiago, E. (2006). Culturally centered psychosocial interventions. *Journal of Community Psychology, 34*(2), 121-132.

Bernstein, J., Bernstein, E., Tassiopoulos, K., Heeren, T., Levenson, S., & Hingson, R. (2004). Brief motivational intervention at a clinic visit reduces cocaine and heroin use. *Drug Alcohol Depend, 77*(1), 49-59. doi:10.1016/j.drugalcdep.2004.07.006

Bolland, K. A., Bolland, J. M., Tomek, S., Devereaux, R. S., Mrug, S., & Wimberly, J. C. (2016). Trajectories of adolescent alcohol use by gender and early initiation status. *Youth & Society, 48*(1), 3-32.

Borkman, T. J., Stunz, A., & Kaskutas, L. A. (2016). Developing an Experiential Definition of Recovery: Participatory Research With Recovering Substance Abusers From Multiple Pathways. *Subst Use Misuse*, 1-14.

Burge, S. K., Amodei, N., Elkin, B., Catala, S., Andrew, S. R., Lane, P. A., & Seale, J. P. (1997). An evaluation of two primary care interventions for alcohol abuse among Mexican-American patients. *Addiction, 92*(12), 1705-1716.

Caetano, Baruah, J., Ramisetty-Mikler, S., & Ebama, M. S. (2010). Sociodemographic predictors of pattern and volume of alcohol consumption across Hispanics, Blacks, and Whites: 10-year trend (1992–2002). *Alcoholism: Clinical and Experimental Research, 34*(10), 1782-1792.

Caetano, R. (2003). Alcohol-related health disparities and treatment- related epidemiological findings among Whites, Blacks, and Hispanics in the United States. *Alcoholism: Clinical and Experimental Research, 27*(8), 1337-1339. doi:10.1097/01.ALC.0000080342.05229.86

Caetano, R., Galvan, F. H., Aguirre-Molina, M., & Molina, C. (2001). Alcohol use and alcohol-related problems among Latinos in the United States. *Health issues in the Latino community*, 383-412.

Campbell, C. I., & Alexander, J. A. (2002). Culturally competent treatment practices and ancillary service use in outpatient substance abuse treatment. *Journal of Substance Abuse Treatment, 22*(3), 109-119.

Carroll, K. M., Martino, S., Ball, S. A., Nich, C., Frankforter, T., Anez, L. M., . . . Farentinos, C. (2009). A multisite randomized effectiveness trial of motivational enhancement therapy for Spanish-speaking substance users. *J Consult Clin Psychol, 77*(5), 993-999. doi:10.1037/a0016489 10.1037/a0016489.

Chartier, K., & Caetano, R. (2010). Ethnicity and Health Disparities in Alcohol Research. *Alcohol Research & Health, 33*(1-2), 152-160.

CSBHSQ, C. f. B. H. S. a. Q. (2015). *Behavioral health trends in the United States: results from the 2014 National Survey on Drug Use and Health*.

Dansereau, D. F., Joe, G. W., Dees, S. M., & Simpson, D. D. (1996). Ethnicity and the effects of mapping-enhanced drug abuse counseling. *Addictive Behaviors, 21*(3), 363-376.

Dansereau, D. F., Joe, G. W., Dees, S. M., & Simpson, D. D. (1996). Ethnicity and the effects of mapping-enhanced drug abuse counseling. *Addict Behav, 21*(3), 363-376.

Dansereau, D. F., Joe, G. W., & Simpson, D. D. (1993). Node-link mapping: A visual representation strategy for enhancing drug abuse counseling. *J Couns Psychol, 40*(4), 385.

Englar-Carlson, M., & Kiselica, M. S. (2013). Affirming the strengths in men: A positive masculinity approach to assisting male clients. *Journal of Counseling & Development, 91*(4), 399-409.

Field, C., & Caetano, R. (2010). The role of ethnic matching between patient and provider on the effectiveness of brief alcohol interventions with Hispanics. *Alcohol Clin Exp Res, 34*(2), 262-271. doi:10.1111/j.1530-0277.2009.01089.x

Field, C. A., Caetano, R., Harris, T. R., Frankowski, R., & Roudsari, B. (2010). Ethnic differences in drinking outcomes following a brief alcohol intervention in the trauma care setting. *Addiction, 105*(1), 62-73. doi:10.1111/j.1360-0443.2009.02737.x

Flores, Y. N., Yee, H. F., Jr., Leng, M., Escarce, J. J., Bastani, R., Salmeron, J., & Morales, L. S. (2008a). Risk factors for chronic liver disease in Blacks, Mexican Americans, and Whites in the United States: results from NHANES IV, 1999-2004. *Am J Gastroenterol, 103*(9), 2231-2238. doi:10.1111/j.1572-0241.2008.02022.x

Flores, Y. N., Yee, H. F., Leng, M., Escarce, J. J., Bastani, R., Salmeron, J., & Morales, L. S. (2008b). Risk Factors for Chronic Liver Disease in Blacks, Mexican Americans, and Whites in the United States: Results From NHANES IV, 1999-2004. *American Journal of Gastroenterology, 103*(9), 2231-2238. doi:10.1111/j.1572-0241.2008.02022.x

Gosin, M., Dustman, P., Drapeau, A., & Harthun, M. (2003). Participatory action research: Creating an effective prevention curriculum for adolescents in the Southwestern US. *Health Educ Res, 18*(3), 363-379.

Guerrero, E. G., Marsh, J. C., Cao, D., Shin, H.-C., & Andrews, C. (2014). Gender disparities in utilization and outcome of comprehensive substance abuse treatment among racial/ethnic groups. *J Subst Abuse Treat, 46*(5), 584-591.

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. doi:10.1016/j.drugalcdep.2013.07.027

Gurung, R. A. (2013). A multicultural approach to health psychology. *American Journal of Lifestyle Medicine, 7*(1), 4-12.

Higgins, J. P., Altman, D. G., Gøtzsche, P. C., Jüni, P., Moher, D., Oxman, A. D., . . . Sterne, J. A. (2011). The Cochrane Collaboration's tool for assessing risk of bias in randomised trials. *Bmj, 343*, d5928.

Iguchi, M. Y., London, J. A., Forge, N. G., Hickman, L., Fain, T., & Riehman, K. (2002). Elements of well-being affected by criminalizing the drug user. *Public Health Reports, 117*(Suppl 1), S146.

Jason, L. A., Digangi, J. A., Alvarez, J., Contreras, R., Lopez-Tamayo, R., Gallardo, S., & Flores, S. (2013). Evaluating a bilingual voluntary community-based healthcare organization. *J Ethn Subst Abuse, 12*(4), 321-338. doi:10.1080/15332640.2013.836729 10.1080/15332640.2013.836729.

Kesler, D. O., Hopkins, L. O., Torres, E., & Prasad, A. (2015). Assimilating traditional healing into preventive medicine residency curriculum. *Am J Prev Med, 49*(5), S263-S269.

Lee, C. S., Lopez, S. R., Colby, S. M., Rohsenow, D., Hernandez, L., Borrelli, B., & Caetano, R. (2013). Culturally adapted motivational interviewing for Latino heavy drinkers: results from a randomized clinical trial. *J Ethn Subst Abuse, 12*(4), 356-373. doi:10.1080/15332640.2013.836730 10.1080/15332640.2013.836730.

Lee, C. S., Lopez, S. R., Hernandez, L., Colby, S. M., Caetano, R., Borrelli, B., & Rohsenow, D. (2011). A cultural adaptation of motivational interviewing to address heavy drinking among Hispanics. *Cultur Divers Ethnic Minor Psychol, 17*(3), 317-324. doi:10.1037/a0024035 10.1037/a0024035.

Lomas, T. (2013). Critical positive masculinity. *Masculinities & Social Change, 2*(2), 167-193.

Marsh, J. C., Cao, D., Guerrero, E., & Shin, H.-C. (2009). Need-service matching in substance abuse treatment: Racial/ethnic differences. *Evaluation and program planning, 32*(1), 43-51.

McIntyre, A. (2000). Constructing meaning about violence, school, and community: Participatory action research with urban youth. *The Urban Review, 32*(2), 123-154.

Moher, D., Liberati, A., Tetzlaff, J., & Altman, D. G. (2009). Preferred reporting items for systematic reviews and meta-analyses: the PRISMA statement. *Ann Intern Med, 151*(4), 264-269.

Moore, A. A., Karno, M. P., Ray, L., Ramirez, K., Barenstein, V., Portillo, M. J., . . . Barry, K. L. (2016). Development and Preliminary Testing of a Promotora - Delivered, Spanish Language, Counseling Intervention for Heavy Drinking among Male, Latino Day Laborers. *Journal of Substance Abuse Treatment, 62*, 96-101. doi:10.1016/j.jsat.2015.11.003

Morales-Aleman, M. M., Hageman, K., Gaul, Z. J., Le, B., Paz-Bailey, G., & Sutton, M. Y. (2014). Intimate Partner Violence and Human Immunodeficiency Virus Risk Among Black and Hispanic Women. *American journal of preventive medicine, 47*(6), 689-702. doi:10.1016/j.amepre.2014.08.007

Mulia, N., Ye, Y., Greenfield, T. K., & Zemore, S. E. (2009). Disparities in alcohol-related problems among white, black, and Hispanic Americans. *Alcohol Clin Exp Res, 33*(4), 654-662. doi:10.1111/j.1530-0277.2008.00880.x 10.1111/j.1530-0277.2008.00880.x. Epub 2009 Jan 15.

NSDUH. (2012.). The NSDUH Report: Need for and Receipt of Substance Use Treatment among Hispanics. *Substance Abuse and Mental Health Services Administration, Center for Behavioral Health Statistics and Quality*.

Resnicow, K., Baranowski, T., Ahluwalia, J., & Braithwaite, R. (1998). Cultural sensitivity in public health: defined and demystified. *Ethnicity & disease, 9*(1), 10-21.

Roberts-Douglass, K., & Curtis-Boles, H. (2013). Exploring positive masculinity development in African American men: A retrospective study. *Psychology of Men & Masculinity, 14*(1), 7.

Romero, A., Caporale, J., Harris, R., Meza, E., Muraco, J., & Post, J. (2016). Integrating Research into Prevention Strategies Using Participatory Action Research *Youth-Community Partnerships for Adolescent Alcohol Prevention* (pp. 45-62): Springer.

Romero, A., Meza, E., Ahumada, J., Ceseña, O., Orduña, M., & Urrea, M. (2016). Preventing New Liquor Licenses Through Youth–Community Participatory Action Research *Youth-Community Partnerships for Adolescent Alcohol Prevention* (pp. 211-236): Springer.

SAMHSA. (2014). *Results fom the 2013 National Survey on Drug USe and Health: Summary of National Findings*. Retrieved from Rockville, MD:

Santos, C. M. d. C., Pimenta, C. A. d. M., & Nobre, M. R. C. (2007). The PICO strategy for the research question construction and evidence search. *Revista Latino-Americana de Enfermagem, 15*(3), 508-511.

Sparks, S. N., Tisch, R., & Gardner, M. (2013). Family-centered interventions for substance abuse in Hispanic communities. *J Ethn Subst Abuse, 12*(1), 68-81. doi:10.1080/15332640.2013.759785 10.1080/15332640.2013.759785.

Waters, J. A., Fazio, S. L., Hernandez, L., & Segarra, J. (2002). The Story of CURA, a Hispanic/Latino Drug Therapeutic Community. *Journal of Ethnicity in Substance Abuse, 1*(1), 113-134. doi:10.1300/J233v01n01_07
2

Table 1. Sample Literature Search Strategy *(PubMed)*

Terms	Search	Number of Articles
PubMed		
Population	(((((((("hispanic") OR "hispanic american") OR "latino") OR "mexican") OR "spanish speaking") OR "latin american") OR "hispanic american") OR "mexican american"	66112
Alcohol	(((((((("alcohol") OR "alcoholism") OR "alcohol abuse") OR "alcohol dependence") OR "drinking") OR "alcohol use disorder") OR "problem drinking") OR "binge drinking"	364607
Drugs	(((((((((("drug use") OR "drug abuse") OR "drug dependence") OR "substance related disorders") OR "addiction") OR "illicit drugs") OR "illegal drugs") OR "drug dependence") OR "substance use") OR "substance abuse"	186191
Treatment	((((((((((("treatment") OR "intervention") OR "program") OR "inpatient") OR "outpatient") OR "evidence based") OR "model") OR "modalities") OR "treatment services") OR "service") OR "rehabilitation") OR "substance abuse rehabilitation") OR "drug rehabilitation"	2647175
Pop+alcohol	(((((((((("hispanic") OR "hispanic american") OR "latino") OR "mexican") OR "spanish speaking") OR "latin american") OR "hispanic american") OR "mexican american")) AND (((((((("alcohol") OR "alcoholism") OR "alcohol abuse") OR "alcohol dependence") OR "drinking") OR "alcohol use disorder") OR "problem drinking") OR "binge drinking")	3544
Pop+drugs	(((((((((("hispanic") OR "hispanic american") OR "latino") OR "mexican") OR "spanish speaking") OR "latin american") OR "hispanic american") OR "mexican american")) AND ((((((((((("drug use") OR "drug abuse") OR "drug dependence") OR "substance related disorders") OR "addiction") OR "illicit drugs") OR "illegal drugs") OR "drug dependence") OR "substance use") OR "substance abuse")	3408
Pop+ (drugs OR alcohol)	((((((((((("alcohol") OR "alcoholism") OR "alcohol abuse") OR "alcohol dependence") OR "drinking") OR "alcohol use disorder") OR "problem drinking") OR "binge drinking")) OR ((((((((((("drug use") OR "drug abuse") OR "drug dependence") OR "substance related disorders") OR "addiction") OR "illicit drugs") OR "illegal drugs") OR "drug dependence") OR "substance use") OR "substance abuse"))) AND ((((((((("hispanic") OR "hispanic american") OR "latino") OR "mexican") OR "spanish speaking") OR "latin american") OR "hispanic american") OR "mexican american")	5593
Pop+ (drugs OR alcohol) + treatment	((((((((((((("alcohol") OR "alcoholism") OR "alcohol abuse") OR "alcohol dependence") OR "drinking") OR "alcohol use disorder") OR "problem drinking") OR "binge drinking")) OR ((((((((((("drug use") OR "drug abuse") OR "drug dependence") OR "substance related disorders") OR "addiction") OR "illicit drugs") OR "illegal drugs") OR "drug dependence") OR "substance use") OR "substance abuse"))) AND ((((((((("hispanic") OR "hispanic american") OR "latino") OR "mexican") OR "spanish speaking") OR "latin american") OR "hispanic american") OR "mexican american"))) AND ((((("treatment") OR "therapeutics") OR "intervention") OR "program")	1995
FINAL: all + language, human, age	((((((((((((((("alcohol") OR "alcoholism") OR "alcohol abuse") OR "alcohol dependence") OR "drinking") OR "alcohol use disorder") OR "problem drinking") OR "binge drinking")) OR ((((((((((("drug use") OR "drug abuse") OR "drug dependence") OR "substance related disorders") OR "addiction") OR "illicit drugs") OR "illegal drugs") OR "drug dependence") OR "substance use") OR "substance abuse"))) AND ((((((((("hispanic") OR "hispanic american") OR "latino") OR "mexican") OR "spanish speaking") OR "latin american") OR "hispanic american") OR "mexican american")) AND (Humans[Mesh] AND (young adult[MeSH] OR adult[MeSH:noexp] OR adult[MeSH] OR (middle age[MeSH] OR aged[MeSH]) OR middle age[MeSH] OR aged[MeSH] OR aged, 80 and over[MeSH])))) AND ((((((((((((((("treatment") OR "intervention") OR "program") OR "inpatient") OR "outpatient") OR "evidence based") OR "model") OR "modalities") OR "treatment services") OR "service") OR "rehabilitation") OR "substance abuse rehabilitation") OR "drug rehabilitation") AND (Humans[Mesh] AND (young adult[MeSH] OR adult[MeSH:noexp] OR adult[MeSH] OR (middle age[MeSH] OR aged[MeSH]) OR middle age[MeSH] OR aged[MeSH] OR aged, 80 and over[MeSH])))	**1595 :FINAL**

Figure 1. Flowchart of Included Studies

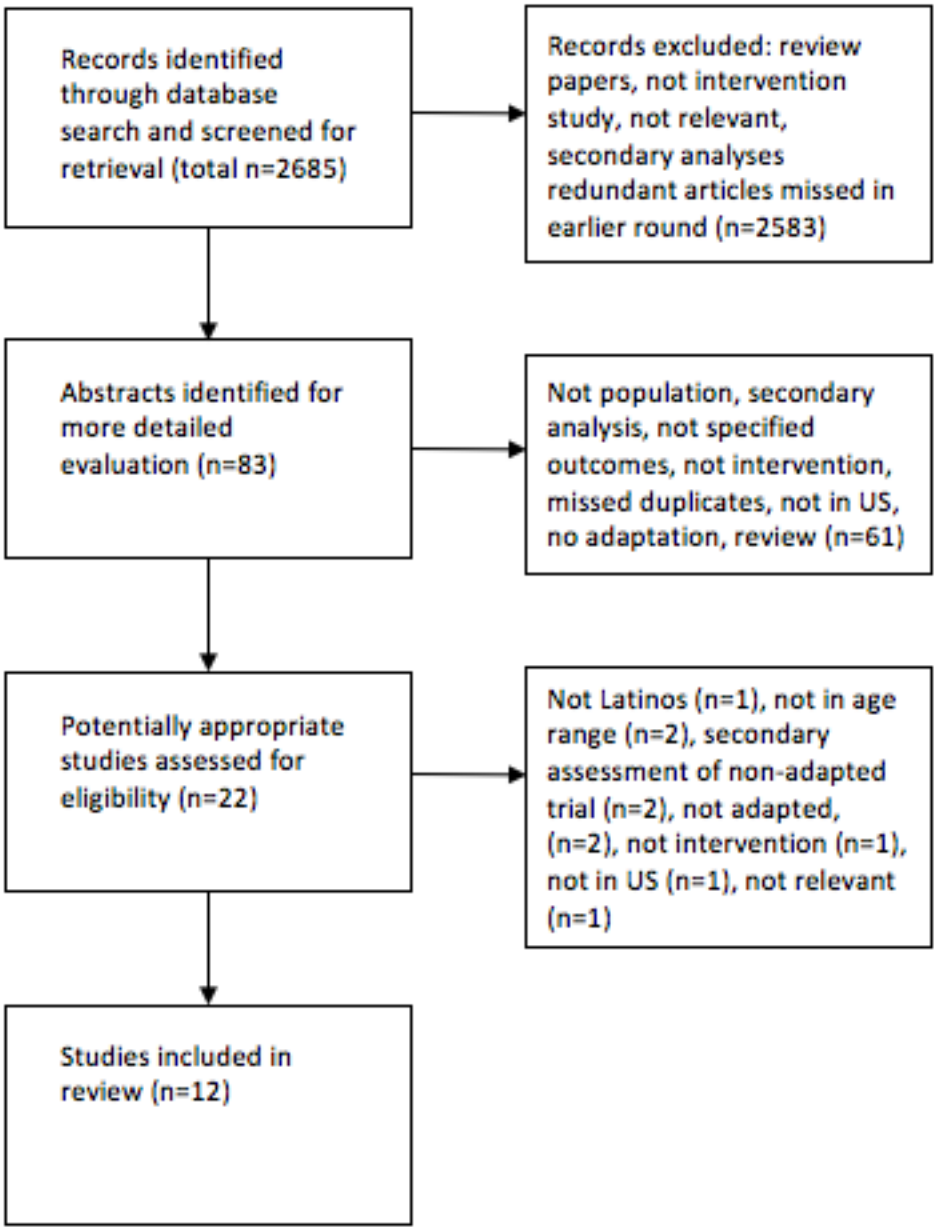


Table 2. Brief participant demographics, intervention types, treatment substance, outcome measures, study duration, and relevant findings for selected studies.

Author, Year	Intervention/Control	Targeted Substance	Sample Size	% Latino in Intervention % Latino in Control	% Male Intervention % Male in Control	Mean Age Intervention/ Control	Primary Outcome Measures	Treatment Duration	Acculturation Level of Participants
Amodeo et al., 2007	Residential Treatment, individual, group, and family counseling, relapse prevention, case management and trauma recovery / control	Alcohol and Substance use (unspecified)	164	Intervention: 98.2% No control (87% Puerto Rican/None were of Mexican origin)	69%/no control	35.2/no control	Treatment Completion/ Length of stay	4-6 months	(Nativity) Not adequately reported
Relevant Findings	-Bivariate statistics indicated that only 10.6% of clients with a history of mental health treatment completed the program, only 7.4% of clients that had ever been diagnosed by a psychiatrist or psychologist completed the program. The program showed no significant differences in male/female (Female OR 1.17; CI .43, 3.23 p>0.05) program completion or length of stay (Female OR 0.76; CI .23, 2.49; p>0.05).								
Bernstein et al., 2004	Peer-Led Brief Motivational Interviewing/ Written advice	Cocaine and/or Heroin	1175	Intervention: 24.1% Control: 22.3%	69.4%/71.8%	37.8/38.1	Abstinence of cocaine and/or heroin at 6 months post-enrollment	Brief Motivational Interview	(Nativity) Intervention: 81.4% US Control 82.4% US
Relevant Findings	-Participants in the intervention group were more likely to be abstinent than those in the control group for cocaine alone (OR 1.51; CI 1.01, 2.24); p = 0.045), and heroin alone (OR 1.57; CI 1.00, 2.47; p = 0.50). Participants that used both drugs also achieved positive results (OR 1.51; CI 0.98, 2.26; p = 0.052). Latinos in the sample had significantly more likely to be abstinent from heroin and/or cocaine (OR = 2.39; CI 1.65, 4.46; p<0.001), and cocaine alone (OR = 4.32; CI 2.69, 6.94; p<0.001), but not from opiates alone.								
Burge et al., 1997	Physician Intervention, Psychoeducation, Both interventions/ No intervention	Alcohol Abuse	175	100% Latino (Mexican American)	75%	39.4	Alcohol consumption frequency and Addiction Severity Index (ASI) Scores	Brief physician education, 6-week patient psycho-educational group	Not Measured
Relevant Findings	Repeated Measured ANCOVAs at 12- and 18-months post-enrollment suggested treatment effect improvements for Addiction Severity Index scores (Family; F=5.86, p=0.003, and Medical: p=0.047) but not Drinks per week. Gender also had an effect over time on Addiction Severity Index scores (Family: F=4.68, p=0.010; Legal: F=3.26, p=0.040; and Psychiatric F=3.00, p<0.050).								

Author, Year	Intervention/Control	Targeted Substance	Sample Size	% Latino in Intervention % Latino in Control	% Male Intervention % Male in Control	Mean Age Intervention/ Control	Primary Outcome Measures	Treatment Duration	Acculturation Level of Participants
Carroll et al., 2009	Motivational Enhancement Therapy (MET)/ Counseling as Usual	Alcohol, Cocaine, Opioids, Marijuana	405	100%	88.4%	32.5	Treatment Retention and Frequency of Substance Use	3 therapy sessions within a 28-day time window	(Years living in US) *Mean* 14.1 years
Relevant Findings	-Findings show that most participants in both groups were retained in their conditions after 28 days (Motivational enhancement therapy=93%, care as usual=91%), however, after the 84-day follow-up period little over half remained in each group (57% vs. 52%). Contrary to study hypothesis, MET did not yield improved substance use reduction results over treatment as usual.								
Dansereau et al., 1996	Node-link mapping during substance abuse counseling/ Standard counseling	Opiates, Cocaine	320	36% (Mexican American)	62.7%	37.4	Opiate and cocaine Abstinence and Client participation measured by attendance	6 months or longer	Not Measured
Relevant Findings	-Participants in treatment condition had better treatment outcomes including decreased drug positive urines, increased attendance to scheduled counseling sessions, and had better therapist rated rapport, motivation, and self-confidence. Multivariate between group effects yielded positive results for treatment condition had better treatment outcomes, including decreased drug positive urines $F = 2.17$, $p<0.045$ and increased attendance to scheduled counseling sessions $F = 3.89$, $p<0.0009$.								
Field et al., 2010	Ethnic Matched Brief Motivational Intervention based on Brief Motivational Interviewing (BMI)/ Usual BMI	Alcohol	537	100% (Mostly Mexican American, exact number not reported)	88.5%	29.9	Drinking frequency and quantity. Volume per week, and maximum amount consumed, frequency of 5 or more drinks per occasion.	Brief Motivational Intervention / 6 month follow-up	Low 34.3% Medium 32.0% High 33.7% (Nativity) US born 45.8%
Relevant Findings	- Reductions in volume per week were seen in foreign-born Latinos that received BMI compared to those who did not (p=0.01). Less acculturated Latinos had reductions in drinking at both 6- and 12-month time points ($p_6 = 0.02$, $p_{12} = 0.004$). -Ethnic matching was more beneficial for foreign-born and less acculturated Latinos.								

Author, Year	Intervention/Control	Targeted Substance	Sample Size	% Latino in Intervention % Latino in Control	% Male Intervention % Male in Control	Mean Age Intervention/ Control	Primary Outcome Measures	Treatment Duration	Acculturation Level of Participants
Jason et al., 2013	Culturally adapted residential after care/ traditional residential aftercare	Alcohol, Opiates, Cocaine	84	100% (51% Puerto Rican, 31% Mexican)	75.6%/84.6%	35.8/37.4	Income from employment, illegal activity, Addiction Severity Alcohol and substance use frequency	(Undefined) 115 days or more	Not reported
Relevant Findings	-No significant differences in length of stay (115 vs. 100 days, *p*=0.40) -Being less acculturated was associated with greater initial alcohol use [b=27.63, t (160 days) = 3.93], p<0.01 -Treatment group had significantly higher increased income ($733, *p*<0.01 vs. $325, *p*=0.02)								
Lee et al., 2013	Culturally Adapted Motivational interviewing/ Standard motivational interviewing	Alcohol	58	100% (55% Dominican Republic and Puerto Rico)	53.8%/55.5%	36.4/33.5	Severity of Alcohol Problems (DrInC) Alcohol consumption frequency	Brief motivational interview 1.5 hours / 2 and 6 month follow-up	Moderately acculturated (3.12 SASH)
Relevant Findings	-Retention at 2 and 6 months was 86% and 84%, respectively. -Decreased heavy drinking days/month and drinking consequences across both groups (*p*<0.001) -Significantly decreased drinking consequences for treatment group at 2 months (*p*=0.009)								
Lee et al., 2011	Culturally Adapted motivational Interviewing/ Standard Motivational interviewing	Alcohol	25	100% (60% Caribbean)	44%	34	Treatment acceptability	Brief motivational interview 1.5 hours	Highly Acculturated
Relevant Findings	-Participants reported high levels of satisfaction with treatment (*M*=3.58 on a scale of 1-4) and treatment engagement (*M*=4.58 on a scale of 1-4).								

Author, Year	Intervention/Control	Targeted Substance	Sample Size	% Latino in Intervention % Latino in Control	% Male Intervention % Male in Control	Mean Age Intervention/ Control	Primary Outcome Measures	Treatment Duration	Acculturation Level of Participants
Moore et al., 2016	3-session culturally adapted intervention combining motivational enhancement therapy (MET) and strengths-based case management (SBCM)/Brief Feedback (BF)	Alcohol	29	100% (69% Mexican)	100%	42.6/43.0	Alcohol Frequency, Alcohol Volume, AUDIT scores	1-2 week intervals between 3 session intervention 45-55 minutes/ 6, 12, and 18 week follow-up	(Nativity) US Born: 6%
Relevant Findings	-Nearly all participants attended every counseling session and 86% completed treatment. -Intervention participants drank less (11 vs. 25 drinks/week) and had improved AUDIT scores (14 vs. 20) at 6 weeks								
Sparks et al., 2013	Culturally adapted "Celebrating Families" family-based substance abuse counseling program	Alcohol and substance use (unspecified)	41	100% (Unspecified)	16%	Unspecified	Alcohol and Substance use, Family resilience and strength Parent social/cognitive skills	16 weekly 90 minute sessions	Not reported
Relevant Findings	-No significant differences in alcohol and substance use were found in comparison to traditional "Celebrating Families" samples. Significant improvements in family strengths/resilience and parent social/cognitive skills in intervention group.								
Waters et al., 2002	Culturally adapted therapeutic community model	Alcohol and Substance (Unspecified)	434	100%	81%	Unspecified	Program completion	6 week or long term residential	Not Reported
Relevant Findings	-In 1998, only 51% of males and 56% of females completed a 28-day program, while 45% of men and 52% of women completed the long-term program. In 1999, 83% of women and only 51% of men completed long-term treatment.								

Table 3. Summary of Risk of Bias Assessment

Author (Year)	Random sequence generation	Allocation concealment	Blinding of participants and personnel	Blinding of outcome assessment	Incomplete outcome data	Selective reporting
Amodeo et al., 2007	-	-	-	?	+	+
Bernstein et al., 2004	+	+	+	+	+	+
Burge et al., 1997	+	?	-	?	?	+
Carroll et al., 2009	+	+	+	-	+	+
Dansereau et al., 1996	+	+	+	-	+	+
Field at al., 2010	+	+	+	+	+	+
Jason et al., 2013	-	-	-	?	+	+
Lee et al., 2013	+	+	+	+	+	+
Lee et al., 2011	-	-	-	+	+	+
Moore et al., 2016	+	+	?	?	+	+
Sparks et al., 2013	-	-	-	-	-	?
Waters et al., 2002	-	-	-	-	?	?

(+) = Low Risk of Bias; (-) = High Risk of Bias; (?) = Unclear Risk of Bias

Table 4. Eight Elements of Cultural Consideration in Selected Articles

Author, Year	Language	Therapist Matching	Inclusion of Cultural Symbols and Sayings	Inclusion of Cultural Knowledge in Treatment Content	Treatment Conceptualization	Treatment Goals	Treatment Methods	Treatment Context
Amodeo et al, 2007	X	X	X	X	X	X	X	X
Bernstein et al, 2004	X	X		X		X		
Burge et al, 1997	X	X						X
Carroll et al, 2009	X	X						
Dansereau et al, 1996	X	X	X		X	X	X	X
Field et al, 2010	X	X				X		X
Jason et al, 2013	X	X	X	X	X	X		X
Lee et al, 2013			X	X	X	X	X	X
Lee et al, 2011			X	X	X	X	X	X
Moore et al, 2016	X	X						X
Sparks et al, 2013	X				X			
Waters et al, 2002	X	X	X	X	X	X	X	X

Table 5. The Eight Elements of Cultural Adaptation, Their Application, and Brief Examples from Selected Articles

Adaptation	Application	Example From Selected Article
Language	Treatment delivered in the native language of a target population assumes at least a superficial integration of culture	Staff was bilingual and bicultural and come from the countries and cultures of the program's clients (Amodeo et al., 2008).
Therapist Matching	Ethnic and gender matching of service providers enhances provider positionality in client-therapist relationships	Peer educators were non-professionals, who could meet the participant as an equal, and they are too in recovery from cocaine and/or heroin for at least three years or had grown up in a home dominated by substance (Bernstein et al., 2004).
Inclusion of Cultural Symbols and Sayings	Inclusion of objects and symbols of the target population in the space where programs were delivered or the delivery of treatment out of a culturally driven space (church, cultural center, neighborhood/community center, etc.).	Intervention was located at Casa Esperanza Inc., which was primarily serving substance users of Puerto Rican descent (Amodeo et al., 2008).
Inclusion of Cultural Knowledge in Treatment Content	Inclusion of values, customs, and traditions shared by the populations receiving treatment within communication (recruitment communication) and any materials (flyers, informational pamphlets etc.) received	Communication was centralized around *personalizmo, simpatia,* and *respeto* (Jason et al., 2013).
Treatment Conceptualization	Consideration of how different cultures and genders define, manifest, and treat physical, behavioral, and social problems may be very different.	Node link mapping takes into account the cultural conceptualization of treatment may be different for African and Mexican American populations. Authors attempted to circumvent the gaps in treatment conceptualization by using link-node mapping (Dansereau et al., 1996).
Treatment Goals	Goals of treatment should be created with attention to the specific values, customs and traditions of a client's gender- and culturally-bound definitions of success.	Key outcome variables were income from employment and illegal activities as well as use of prescribed medications for psychiatric or medical problems (Jason et al., 2013).
Treatment Methods	All program procedures to follow for the achievement of treatment goals and their consideration of cultural and or gender norms.	Node-link mapping, a visually engaging methodology, changes the understanding of the message that is being transmitted by the counselor because it eliminates language and cultural barriers (Dansereau et al., 1996).
Treatment Context	Consideration of a participant's broader social, economic, and political reality.	Therapists were trained to prove and discuss stressors, such as experiences of discrimination, the effects of low status employment, or missing family back home as influences of drinking behaviors (Lee et al., 2013).

APPENDIX B

MANUSCRIPT 2

TITLE:

Understanding Social and Cultural Contexts of Alcohol Use in Hispanic Men

AUTHORS:

Luis A. Valdez, MPH; David O. Garcia, PhD John Ruiz, PhD; Eyal Oren, PhD; Scott Carvajal, PhD

CORRESPONDING AUTHOR:

Luis A. Valdez, MPH
Mel & Enid Zuckerman College of Public Health
Department of Health Promotion Sciences
University of Arizona

ABSTRACT:

INTRO: Evidence suggests that Hispanic and non-Hispanic whites (NHW) have comparable prevalence rates of alcohol use. However, Hispanics consistently have higher prevalence rates of alcohol abuse and dependence compared to NHW. Consequently, Hispanic men experience disproportionate levels of adverse health consequences of alcohol abuse when compared to NHW men**.** PURPOSE**:** The purpose of this study was to explore Hispanic male perspectives and opinions regarding alcohol use and abuse patterns that may lead to disparate rates of alcohol abuse in Hispanic males. **METHODS:** Demographic data were collected with questionnaires. Twenty semi-structured interviews were completed with Hispanic men (age: 44.6 ± 11.3 yrs.). We conducted a thematic analysis using a hybrid deductive-inductive analysis strategy centered in an a priori developed codebook that was supplemented with iterative analysis of interview transcripts. RESULTS**:** Transcripts show that alcohol abuse patterns in Hispanic males are influenced by a) an intersection between alcohol-related social norms and learned expressions of masculinity, b) a lack of knowledge of the alcohol-related health risks that further perpetuates the normalization of alcohol abuse, and c) expressions of masculinity and maladaptive coping mechanisms that may lead to alcohol abuse as an escape**.** CONCLUSION: Our findings indicate that there are intersected effects of machismo, a culture of normalized overconsumption, social context stressors, and poor coping strategies that may influence maladaptive relationships with alcohol use. Given the rapid expansion of the Hispanic population in the U.S., and the parallel growth of alcohol abuse implications in this population, it is imperative that we learn where these problems may be rooted to better understand how to diminish the existing gaps.

INTRODUCTION

Evidence suggests that Hispanic and non-Hispanic whites (NHW) have comparable prevalence rates of alcohol use (Raul Caetano, Baruah, Ramisetty-Mikler, & Ebama, 2010; CSBHSQ, 2015; SAMHSA, 2014). However, Hispanics consistently have higher prevalence rates of alcohol abuse and dependence compared to NHW (Raul Caetano et al., 2010; Chartier & Caetano, 2010; CSBHSQ, 2015; Flores et al., 2008; SAMHSA, 2014). Consequently, Hispanic men experience disproportionate levels of adverse health consequences of alcohol abuse when compared to NHW men (Raul Caetano, 2003). Findings from a study on alcohol induced liver disease risk indicated that alcoholic steatosis, hepatitis, and cirrhosis vary significantly by ethnicity, but that Hispanic men present these conditions at significantly younger ages than NHW men (Levy, Catana, Durbin-Johnson, Halsted, & Medici, 2015). Hispanic men also experience disparate rates of social consequences of alcohol use when compared to NHW (Raul Caetano, 2003). Hispanic men have higher incidence rates of alcohol-related intimate partner violence (Raúl Caetano, Galvan, Aguirre-Molina, & Molina, 2001; Morales-Aleman et al., 2014) and face disproportionate alcohol use related contact with the criminal justice system compared to NHW men (Iguchi et al., 2002).

The initiation, duration, and cessation of alcohol in men may be influenced by sociocultural and gender-bound behavior norms (Castro & Alarcón, 2002; Guerrero, Marsh, Cao, Shin, & Andrews, 2014; Prado, Szapocznik, Maldonado-Molina, Schwartz, & Pantin, 2008; Zemore, 2005). Adherence to behavioral traits perceived to be masculine, such as toughness,

self-reliance, expressions of strength, and emotional disconnectedness can result in maladaptive coping behaviors that have adverse effects on physical and emotional wellbeing (Courtenay, 2000). While these behaviors are endorsed by men from many cultural backgrounds, levels of adherence may be influenced by ethnically-bound cultural norms (Englar-Carlson, 2006). The term *machismo* has been used to illustrate adherence to hyper-masculine traits. *Machismo* is characteristic of behaviors that can include power seeking, violence, aggressiveness, dominance, and competition, that can negatively influence health related behaviors (Arciniega, Anderson, Tovar-Blank, & Tracey, 2008), particularly those related to alcohol use (Liang, Salcedo, & Miller, 2011). Although stereotypical in nature, research suggests that some Hispanic men may closely adhere to problematic sets of exaggerated masculine ideologies (Arciniega et al., 2008; Torres, Solberg, & Carlstrom, 2002). Nevertheless, Hispanic masculinity is more complex than a negative set of prescribed behaviors. *Caballerismo* (in reference to a *caballero* or gentleman) is a positive counterpart of machismo, and is used to describe behaviors that incorporate displays of honor, respect, dignity, social responsibility, care for family, and emotional connectedness that can have protective effects on alcohol and substance abuse-related health behaviors (Arciniega et al., 2008; Liang et al., 2011).

However, the pathways by which these norms influence behaviors that lead to poor consumption outcomes are poorly understood (Bernal, Trimble, Burlew, & Leong, 2002; Castro & Alarcón, 2002; Guerrero et al., 2014; Prado et al., 2008). There may be important overlooked interactions of sociocultural norms and individual social context such as differential exposures to life stressors and access to social, educational, and economic resources (Krieger & Moss,

1995). Socioeconomic status (SES) measures, such as educational status, income, and occupation type are strong predictors of health behaviors and outcomes. People with relatively higher SES drink with more frequency than others, however, among drinkers, lower-SES groups drink larger quantities of alcohol (Huckle, You, & Casswell, 2010). Despite what is known, empirical evidence of the interaction between social context and conceptualizations of masculinity and their influence on alcohol consumption patterns in Hispanic men is gravely limited.

The purpose of this study was to explore Hispanic male perspectives and opinions regarding alcohol use and abuse patterns that may lead to disparate rates of alcohol abuse in Hispanic males. We used three questions to explore the topic; 1) How do Hispanic men experience drinking? 2) How do Hispanic men distinguish moderate consumption from alcohol abuse? 3) How do conceptualizations of masculinity influence alcohol abuse in Hispanic males?

METHODS

PARTICIPANTS

Recruitment occurred both actively and passively within the community. Participants were passively recruited via flyers at community health centers and neighborhood centers and actively via project-based tabling occurred at community agencies, local employers, and local outdoor marketplaces. Recruitment materials were formulated according to viable recruitment approaches designed for this population and were based in *fear appeal/ fear arousal*, and *humor-based engagement* (Lee & Ferguson, 2002). All invitations to participate were

distributed and conducted in both English and Spanish. Participants were informed verbally and in writing that their participation was voluntary. Participants were eligible if they were between the ages of 21-64 years, if they self-identified as Hispanic/Latino, if they self-identified as male, and if they reported to ever have consumed alcohol or drugs in their lifetime. Participant eligibility was determined by an initial telephone or in-person screening conducted by trained research staff. All men provided written informed consent prior to participation. All study materials were available in both English and Spanish. All study materials and protocols were approved by the University of Arizona's Human Subjects Protection Program Internal Review Board.

DATA COLLECTION

A semi-structured interview guide (**Table 1**) was used to elicit perspectives of alcohol use and masculinity. A bilingual Hispanic male member of the research team conducted all interviews in the participant's preferred language (English or Spanish). Upon completion of the interview session, a member of the research team administered a voluntary questionnaire that included demographic questions; measures of masculinity (The Machismo/*Caballerismo* scale; TMCS)*;* a measure of acculturation (Brief Acculturation Scale for Hispanics (BASH)), and measures of alcohol use and abuse. The BASH and the TMCS have been tested for validity and reliability in our target population (Arciniega et al., 2008; Mills, Malcarne, Fox, & Sadler, 2014). All interviews took place in a private and confidential environment located within the University of Arizona's Collaboratory for Metabolic Disease Prevention and Treatment.

Demographics Demographic measures included; age (in years), Hispanic heritage (Cuban, Mexican, Mexican-American, Puerto Rican, South/Central American, other), educational attainment (Primary school, some high school, high school completion, some college, bachelors, graduate school), employment status (employed; *yes* or *no*), annual income ($29,999, $30,000-$59,999, $60,000+), marital status (currently married or living with partner), years lived in the United States (in years).

Machismo/Caballerismo The machismo caballerismo Scale is a 20-item self-report instrument designed to assess the extent to which men identify with two different constructs of machismo; *machismo* and *caballerismo*). The 10-item machismo subscale elicits traits of hyper-masculinity, aggressiveness, and chauvinism. A sample from this subscale is "Men are superior to women". The 10-item caballerismo scale elicits measures of emotional connectedness, nurturance of family, and ideals of respectful conduct. A sample from this subscale is "Family is more important than the individual". The scale uses a 7-point anchored scale of agreement with the statements, from 1 (*not at all*) to 7 (*very much so*) which indicate the participant's agreement with each statement. Higher scores (range 1 to 7) indicate stronger machismo or caballerismo beliefs calculated separately.

Alcohol Use Past 12-month alcohol consumption frequency was assessed with a 9-point scale ranging from *every day* to *1-2 times this year.* Quantity during drinking episode was measured with a 10-point scale ranging from *1-drink* to *25 or more drinks* per occasion. Alcohol abuse was elicited by number of times in the last year the respondent consumed 5 or more

drinks within a 2-hour period with a 9-point scale ranging from *1-2 times this last* year to *every day.*

Acculturation The four-item BASH uses a self-report language use to indicate level of acculturation. The items measure language use 1) while reading and speaking, 2) at home, 3) while thinking, and 4) with friend. Responses are given in a 5-point scale ranging from 1=*only English*, 2- *more English than Spanish, 3= both equally, 4= more Spanish than English, 5= only Spanish.* Scores range from 4-20 with higher scores indicating lower levels of acculturation.

DATA ANALYSIS

All interviews were audio-recorded and transcribed verbatim in their respective languages by trained staff. We used thematic analysis to identify, analyze, and report patterns within our data (Braun & Clarke, 2006). Data analysis began with a deductive process for which the research team used a preliminary codebook developed based on the topics included in the interview guide. The codebook was then supplemented with broad themes and codes that emerged during iterative reading of the data transcripts. The codebook was finalized during a series of ongoing discussion and iterative reading of each transcript. Four transcripts were selected at random and were double coded to ensure fidelity of coding strategies; remaining transcripts were coded by a single member of the research team. The authors ensured that all salient themes were adequately saturated before recruitment completion. Saturation was derived by the diminishing of variation in the transcribed and subsequently coded data (Patton, 1999). NVivo 13 (QSR International, Cambridge, MA) was used to facilitate data organization, management, and analysis.

RESULTS

PARTICIPANT CHARACTERISTICS

A total of 20 Hispanic, Spanish and English speaking men participated in in depth semi-structured interviews lasting an average of 43 minutes. Mean age of participants was 44. 6 (range: 23 to 64; *SD* = 11.3). Five (25%) participants were born in the United States, while foreign-born participants reported living in the United States a mean of 29.8 years (range: 6 to 57; *SD* = 15.4). The majority (76.5%) were married or currently living with a partner. All participants were currently employed, and 50% reported an annual income below $29,999, while 43.8% reported an income between $30,000-$59,000. Mean machismo scale and caballerismo scale scores were 2.7 (*SD* = 0.69) and 5.8 (*SD* = 0.66) respectively; meaning that our sample showed poor agreement with *machismo* and high agreement with *caballerismo*. Mean Brief Acculturation Scale for Hispanics score was 2.6 (range: 1 to 4.75; SD= 1.1) and ranged from 1 to 4.75 suggesting acculturation was *low* for our sample. Current alcohol use was reported by 17 (85%) of our participants, 6 (35%) drank at least once a week, 5 (29%) were consuming between 9-15 drinks per drinking occasion, and 4 (23%) reported binge drinking at least once a month.

QUALITATIVE THEMES

We present the qualitative results of this study organized into four broad themes; a) *understandings of alcohol abuse,* b) *el Machismo es la raiz* (Machismo is the root)*,* c) *nos gusta la parranda* (we like to party)*,* and d) *nuestro aguante* (our endurance). Excerpt quotes

extracted from our transcripts are included in **Table 2** to illustrate the following themes and subthemes in the direct words of the participants.

UNDERSTANDINGS OF ALCOHOL ABUSE:

Knowledge driven by familial experience and the known consequences of alcohol abuse

Defining Abuse from Experience

All of the participants reported either a personal experience with alcohol abuse or familial experience with alcohol abuse related issues. When recounting drinking parameters, rather than mention a specified amount of drinking that would make someone surpass the limit from recreational drinking to alcohol abuse, participants defined the latter simply by the negative consequences that arise from alcohol misuse. Although not prompted to do so, participants shared personal and familial experiences with the consequences of alcohol use in order to illustrate what they knew about the implications of alcohol abuse. The men spoke about throwing up blood and having cirrhosis, losing work, ruining familial relationships and getting in trouble with the law (drinking and driving convictions). Participant definitions of alcohol abuse stemmed from their known consequences of abuse and were rarely defined by the quantities of alcohol consumed or known alcohol consumption parameters that would typically define abuse. However, when some participants were probed about their self-reported alcohol abuse, they did not define it as abuse, even when their personal consumption patterns exceeded that of moderate consumption (e.g. 6-12 beers on more than two occasions per week).

EL MACHISMO ES LA RAIZ (MACHISMO IS THE ROOT):

The intersection of a culture of normalization and *machismo*

Machismo Exists on a Spectrum

Traditional gender roles and machismo were identified as cultural values that were highly influential in the alcohol use patterns of Hispanic men. Participants were asked to describe the ideal characteristics of the typical man and responded that one should be hard working, socially responsible, level-headed, loving of their family, respectful of their spouses, caring for their elders, and good providers for their family. Nevertheless, their responses changed when asked to describe the traditional societal expectations of the typical Hispanic man. Participants shared that men are taught to be *machos* that they must be strong, self-reliant, resilient, hard-working, in charge, good drinkers, have many women, and make money. Some men explained that while this was a very stereotypical view of Hispanic men, *machismo* perpetuates gender roles that are followed by most men to some degree. Further, participants mentioned that because of its ubiquity, it is much easier to emulate the *macho* because of the implied privileges that this carries. However, the men claimed that hyper-masculine ideals are more pervasive in rural and disadvantaged communities, perhaps due to the lack of education and exposure to more progressive ideals of expressing masculinity.

Tome, Para que se Haga Hombre (Drink, so you can become a man)

Some men reported they felt fortunate not to have been raised in a *macho* household, but acknowledged how pervasive *machismo* is in Hispanic culture. The men perceived that

alcohol consumption, along with a multitude of health risk behaviors are directly related to conceptualizations and expressions of masculinity. The men shared experiences of being handed beers when they were adolescents and being expected to drink in order to show their worth as men. Participants shared the competitive nature of expressing masculinity and needing to surpass their peers' expressed masculinity, which might result in men attempting to outdrink each other. Participants mentioned the need to build up tolerance at a young age to keep up with older men who drank a lot. Further, some men added that males who abstain from drinking are stigmatized as *santos* (saints), and looked to as lesser men in certain circles, which can make it very difficult to abstain or to drink moderately.

Si el Hombre Gana el Hombre Manda (If a man earns, a man orders):

The participants shared that it can sometimes be difficult for men to internalize the idea that they may have a problem with alcohol due to perceived gender and societal roles. Participants shared that many Hispanic men believe that as long as their family is provided for, that they perceive themselves as functional members of their families and society, even when alcohol abuse may be taking a toll on their familial relationships and on their health. Participants mentioned that because of this, there are very few ways to problematize alcohol abuse for Hispanic males. Participant added that some men do not realize they have a problem until they face the grave consequences of their alcohol abuse, such as a driving under the influence "D.U.I." conviction, a serious health problem, or job loss, which might prevent them from providing for their families.

NOS GUSTA LA PARRANDA (WE LIKE TO PARTY):

The intersection of cultural normalization and targeted marketing

Unas Ultras Pa La Sed (Ultras for our Thirst)

Participants added that much like in other cultures, alcohol is ever-present at family and social gatherings and that while the intentions for consumption begin as recreational, the overconsumption of alcohol is regularly encouraged. Participants shared that there is a culture-specific normalization of overconsumption that facilitates the crossing of the use/abuse boundary, particularly for men. Large quantities of alcohol are readily available at everything from child baptisms, first birthday parties, weddings, family reunions, and funerals. However, the men shared that while cultural expectations of Hispanic men to overconsume are pervasive, they are often exacerbated by external pressures. Participants added that that the alcohol industry takes advantage of these cultural vulnerabilities to sell alcohol to Hispanic men. While some men felt like cultural norms are innately welcoming of alcohol consumption, they claimed that alcohol abuse is influenced by external factors, including targeted marketing at the Hispanic community. The men shared that they felt like they feel bombarded by beer and liquor advertisements and that alcohol use is regularly encouraged in the music and television that they consume.

Lack of Knowledge Preserves Norms

There were beliefs that the existing normalization of alcohol abuse was influenced by a lack of knowledge of risky consumption parameters. Specifically, the men explained that most men are not aware of how damaging their own consumption may be to their health. Some men spoke about this relationship existing in a cycle, explaining that lack of knowledge increased the

perpetuation of normalization which then suppresses negative perceptions of alcohol. The men shared that if Hispanic men understood the paths to the physical and social damage that alcohol abuse can cause, that maybe they would be more likely to develop a better relationship with alcohol.

NUESTRO AGUANTE (OUR RESILIENCE):

Maladaptive coping and dealing with systemic propagators of alcohol abuse

Maladaptive Coping Rooted in Machismo

Another perceived exacerbation of alcohol abuse was the idea that *machismo* precipitates maladaptive coping in some Hispanic men, which successively leads to alcohol abuse as an alternative coping strategy. Some participants shared that men are taught to be self-reliant, and to not express emotions, and as such never learn to handle complex emotions and how to cope in a constructive manner. Participants shared that alcohol use as a coping mechanism is taught and encouraged from a young age. The men explained that this causes coping strategies to be underdeveloped which leads to use of alcohol as a socially acceptable coping strategy.

Looking for a Future and Finding Alcohol Abuse

Several men recounted the story of when they came to the U.S. and how their drinking habits changed over time. They claimed that they used alcohol moderately back in Mexico and never perceived it to be a problem. However, they spoke about falling into social circles where alcohol abuse was highly encouraged when they migrated to the U.S. Some of the men

recounted stories about how upon first coming to the U.S. they lived away from their families in small homes or apartments they would share with groups of 4-8 men who they worked with. The men shared that upon leaving work they would all drink together into the late hours of the night and then go back to work the next morning, and explained that it was an escape for them. Some men elaborated that their strenuous work was related to their consumption patterns. They added that the compounded stress of working long and physically exhausting days in the hot sun while making very little money can lead a man to drink the physical pain away. The men mentioned that drinking helps cope with the stress of making little money and lack of opportunities for socioeconomic growth.

DISCUSSION

The purpose of this study was to explore Hispanic male perspectives and opinions regarding alcohol use and abuse patterns that may lead to disparate rates of alcohol abuse in Hispanic males. Our findings show that alcohol abuse patterns in Hispanic males are influenced by a) an intersection between alcohol-related social norms and learned expressions of masculinity, b) a lack of knowledge of the alcohol-related health risks that further perpetuates the normalization of alcohol abuse, and c) expressions of masculinity and maladaptive coping mechanisms that may lead to alcohol abuse as an escape.

Our findings bring to light an intersection between the cultural normalization of alcohol abuse and machismo-driven expressions of masculinity. Some men may be exposed to environments where alcohol abuse is highly normalized and encouraged. This situation is compounded by machismo driven expressions of masculinity which can drive men to express

their masculinities in non-constructive ways, including the recreational (e.g., social gatherings) and non-recreational (e.g., drinking to alleviate stress after work) overconsumption of alcohol. Social and familial alcohol consumption norms are exacerbated by machismo-driven expressions of masculinity to generate an environment that encourages recreational overconsumption of alcohol and perpetuates the normalization of alcohol abuse as a norm for Hispanic males. Our findings are congruent with research suggesting the presence of strong social pressures exerted on Hispanic men to engage in social drinking with other men makes abstinence an unrealistic goal (Panitz, McConchie, Sauber, & Fonseca, 1983). In similar work with Puerto Rican men, Abad and Suarez (1975) suggested that men use alcohol in adherence to the expectations of men to trying to live up to the macho image. The ability to consume large amounts of alcohol is intrinsically considered a favorable macho trait. The normalization of overconsumption compounded by the overconsumption as an encouraged expression of masculinity can create an environment where the expectation to overconsume alcohol is inescapable.

Complicating the influence rooted in the expectations of masculine ideals were our findings showing that Hispanic men feel especially targeted by alcohol and liquor marketing, which capitalizes on the existing alcohol-related vulnerabilities. There is congruent evidence suggesting that some segments of the population are differentially exposed to a wide variety of alcohol and liquor marketing, especially in the United States (Sudhinaraset, Wigglesworth, & Takeuchi, 2016). Studies suggest that African American, Latino, and American Indian communities are specifically targeted by complex focused marketing strategies (Maria Luisa Alaniz & Wilkes, 1998). Targeted strategies can create positive beliefs about drinking, as well as

expand environments where alcohol use is socially acceptable and encouraged (Maria Luisa Alaniz & Wilkes, 1998; McKee, Jones-Webb, Hannan, & Pham, 2011). These factors can influence the initiation of drinking, increase overall consumption and frequency of alcohol abuse (Tanski et al., 2015). Further, the themes of hyper-masculinity and nationalism motivate a large proportion of the advertising selling alcohol to Hispanic men. Researchers argue that alcohol marketing strategies use symbols comprising flags, national colors, cultural artifacts, architecture, pottery maps of home countries and widespread use of the Spanish language as a significant attempt to refigure Hispanic culture into a culture of consumption (Maria L Alaniz & Wilkes, 1995). As such, while the men in our sample reported existing within a culture where there are high expectations for men to drink excessively, there is evidence of how the alcohol industry in the U.S. and abroad plays a significant role in manipulating normed alcohol use patterns and expectations, which can have detrimental consequences for Hispanic male consumers.

Our findings suggest that the normalization of problem alcohol use may be rooted in lack of comprehensive knowledge regarding the parameters of healthful alcohol consumption. There may be a cyclical relationship between lack of knowledge that results in alcohol use which further perpetuates the normalization of alcohol abuse. Research suggests that increased knowledge of alcohol-related health risks decreases the frequency of alcohol abuse incidence (Bertholet, Daeppen, Wietlisbach, Fleming, & Burnand, 2005), particularly when the attainment of knowledge is responsive to individual consumption patterns. There is support for social norm marketing campaigns to reduce alcohol consumption; however, most of the empirical data on the matter is focused largely on NHW and college aged populations (DeJong et al., 2006). An

increase in individual knowledge of the alcohol quantity parameters of moderate use, abuse, and dependence, may better equip men to gauge their own consumption patterns and how they may be affected in the long term, which can result in an increase in protective behaviors.

Finally, participants explained that alcohol misuse may be rooted in an inability to cope in a healthful manner. Participants suggested that maladaptive coping may be entrenched in culturally acceptable expressions of masculinity and in the lack of learned healthy coping behaviors. Hispanic men's coping strategies may be underdeveloped due to persistent suppression of male expression of emotions that exists in Hispanic culture; as such alcohol is considered an acceptable and encouraged coping mechanism for Hispanic men. For instance, an interview-based study found that lack of choices for work, lack of opportunities for social advancement, fear of being deported and grieving the distance from family members were important determinants suffering that often drove Hispanic men to drink (Holmes, 2006). As such, there has been building interest in the intersected influences of the social context of Hispanics including levels of perceived discrimination, socioeconomic disadvantage, historical trauma, context of migration, and immigration status. For example, research indicates that Hispanic migrant workers in the U.S. engage in heavy alcohol use and binge drinking at higher rates than their NHW counterparts; a trend that has been attributed to instability and unsafe work environments (Arcury et al., 2016). Material deprivation, crowded housing, as well as home and neighborhood disrepair have been linked to higher rates of alcohol abuse (Hill & Angel, 2005; Pollack, Cubbin, Ahn, & Winkleby, 2005). Evidence suggests that the stress of living

in spaces defined by deprivation can be psychologically distressing and can lead people to consume alcohol as a means of escape (Hill & Angel, 2005).

STRENGTHS AND LIMITATIONS

Collaboratively exploring these topics along with Hispanic males provided opportunities to survey, confirm, question, and complicate the conceptualization of Hispanic male identifies and challenge men to embrace a wider range of gender-bound expressions. The opportunity to explore Hispanic male identity has the potential to cast a positive light on constructive qualities of masculinity and *caballerismo* such as being nurturing and socially responsible that may promote deeper connections between masculinity and positive health behaviors. The knowledge shared by the men in our sample can be used as a valuable insight to better inform alcohol abuse prevention and treatment strategies with this population. Careful consideration of the sociocultural intersections mentioned above might allow practitioners and researchers alike to have a better grasp on the sociocultural nuances that may influence alcohol consumptions patterns in this population. However, this study had several limitations that need to be acknowledged. In part, limitations arise from the transferability of the data generated in this study. Additionally, participants might have felt embarrassed fully disclosing their opinions and perspectives with the member of the research team that conducted the study. Further, while issues of masculinity were discussed, our work examined gender as a binary measure. As such, our work is not representative of a full spectrum of masculinity and gender expressions and their influence on alcohol use patterns, particularly the lived experiences of the Hispanic LGBTQ community. Despite these limitations, our study offers valuable insight about an

important segment of the Hispanic, cisgender, heterosexual male population in southern Arizona.

CONCLUSION

Our findings indicate that there are intersected effects of machismo, a culture of normalized overconsumption, social context stressors, and poor coping strategies that may influence maladaptive relationships with alcohol use. Given the rapid expansion of the Hispanic population in the U.S., and the parallel growth of alcohol abuse implications in this population, it is imperative that we learn where these problems may be rooted to better understand how to diminish the existing gaps.

REFERENCES

Abad, V., & Suarez, J. (1975). *Machismo Alcoholism: Cross-Cultural Aspects of Alcoholism among Puerto Ricans.* Paper presented at the Proceedings of the Fourth Annual Alcoholism Conference, NIAAA.

Alaniz, M. L., & Wilkes, C. (1995). Reinterpreting Latino culture in the commodity form: The case of alcohol advertising in the Mexican American community. *Hispanic Journal of Behavioral Sciences, 17*(4), 430-451.

Alaniz, M. L., & Wilkes, C. (1998). Pro-drinking messages and message environments for young adults: the case of alcohol industry advertising in African American, Latino, and Native American communities. *Journal of Public Health Policy*, 447-472.

Arciniega, G. M., Anderson, T. C., Tovar-Blank, Z. G., & Tracey, T. J. (2008). Toward a fuller conception of Machismo: Development of a traditional Machismo and Caballerismo Scale. *Journal of Counseling Psychology, 55*(1), 19.

Arcury, T. A., Talton, J. W., Summers, P., Chen, H., Laurienti, P. J., & Quandt, S. A. (2016). Alcohol consumption and risk for dependence among male Latino migrant farmworkers compared to Latino nonfarmworkers in North Carolina. *Alcoholism: Clinical and Experimental Research, 40*(2), 377-384. doi:10.1111/acer.12969

Bernal, G., Trimble, J. E., Burlew, A. K., & Leong, F. T. (2002). *Handbook of racial and ethnic minority psychology*: Sage Publications.

Bertholet, N., Daeppen, J.-B., Wietlisbach, V., Fleming, M., & Burnand, B. (2005). Reduction of alcohol consumption by brief alcohol intervention in primary care: systematic review and meta-analysis. *Archives of internal medicine, 165*(9), 986-995.

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative research in psychology, 3*(2), 77-101.

Caetano, R. (2003). Alcohol-related health disparities and treatment- related epidemiological findings among Whites, Blacks, and Hispanics in the United States. *Alcoholism: Clinical and Experimental Research, 27*(8), 1337-1339. doi:10.1097/01.ALC.0000080342.05229.86

Caetano, R., Baruah, J., Ramisetty-Mikler, S., & Ebama, M. S. (2010). Sociodemographic predictors of pattern and volume of alcohol consumption across Hispanics, Blacks, and Whites: 10-year trend (1992–2002). *Alcoholism: Clinical and Experimental Research, 34*(10), 1782-1792.

Caetano, R., Galvan, F. H., Aguirre-Molina, M., & Molina, C. (2001). Alcohol use and alcohol-related problems among Latinos in the United States. *Health issues in the Latino community*, 383-412.

Castro, F. G., & Alarcón, E. H. (2002). Integrating cultural variables into drug abuse prevention and treatment with racial/ethnic minorities. *Journal of Drug Issues, 32*(3), 783-810.

Chartier, K., & Caetano, R. (2010). Ethnicity and Health Disparities in Alcohol Research. *Alcohol Research & Health, 33*(1-2), 152-160.

Courtenay, W. H. (2000). Constructions of masculinity and their influence on men's well-being: a theory of gender and health. *Social Science & Medicine, 50*(10), 1385-1401.

CSBHSQ, C. f. B. H. S. a. Q. (2015). *Behavioral health trends in the United States: results from the 2014 National Survey on Drug Use and Health*.

DeJong, W., Schneider, S. K., Towvim, L. G., Murphy, M. J., Doerr, E. E., Simonsen, N. R., . . . Scribner, R. A. (2006). A multisite randomized trial of social norms marketing campaigns to reduce college student drinking. *Journal of studies on alcohol, 67*(6), 868-879.

Englar-Carlson, M. (2006). Masculine norms and the therapy process.

Flores, Y. N., Yee, H. F., Jr., Leng, M., Escarce, J. J., Bastani, R., Salmeron, J., & Morales, L. S. (2008). Risk factors for chronic liver disease in Blacks, Mexican Americans, and Whites in the United States: results from NHANES IV, 1999-2004. *Am J Gastroenterol, 103*(9), 2231-2238. doi:10.1111/j.1572-0241.2008.02022.x

Guerrero, E. G., Marsh, J. C., Cao, D., Shin, H.-C., & Andrews, C. (2014). Gender disparities in utilization and outcome of comprehensive substance abuse treatment among racial/ethnic groups. *J Subst Abuse Treat, 46*(5), 584-591.

Hill, T. D., & Angel, R. J. (2005). Neighborhood disorder, psychological distress, and heavy drinking. *Social Science & Medicine, 61*(5), 965-975. doi:10.1016/j.socscimed.2004.12.027

Holmes, S. M. (2006). An ethnographic study of the social context of migrant health in the United States. *PLoS Med, 3*(10), e448.

Huckle, T., You, R. Q., & Casswell, S. (2010). Socio-economic status predicts drinking patterns but not alcohol-related consequences independently. *Addiction, 105*(7), 1192-1202.

Iguchi, M. Y., London, J. A., Forge, N. G., Hickman, L., Fain, T., & Riehman, K. (2002). Elements of well-being affected by criminalizing the drug user. *Public Health Reports, 117*(Suppl 1), S146.

Krieger, N., & Moss, N. (1995). Measuring social inequalities in health: Report of a National Institutes of Health conference. *Public Health Rep, 119*, 302-305.

Lee, M. J., & Ferguson, M. A. (2002). Effects of anti-tobacco advertisements based on risk-taking tendencies: Realistic fear vs. vulgar humor. *Journalism & Mass Communication Quarterly, 79*(4), 945-963.

Levy, R. E., Catana, A. M., Durbin-Johnson, B., Halsted, C. H., & Medici, V. (2015). Ethnic differences in presentation and severity of alcoholic liver disease. *Alcoholism: Clinical and Experimental Research, 39*(3), 566-574. doi:10.1111/acer.12660

Liang, C. T., Salcedo, J., & Miller, H. A. (2011). Perceived racism, masculinity ideologies, and gender role conflict among Latino men. *Psychology of Men & Masculinity, 12*(3), 201.

McKee, P., Jones-Webb, R., Hannan, P., & Pham, L. (2011). Malt liquor marketing in inner cities: the role of neighborhood racial composition. *Journal of Ethnicity in Substance Abuse, 10*(1), 24-38.

Mills, S. D., Malcarne, V. L., Fox, R. S., & Sadler, G. R. (2014). Psychometric evaluation of the brief acculturation scale for Hispanics. *Hispanic Journal of Behavioral Sciences, 36*(2), 164-174.

Morales-Aleman, M. M., Hageman, K., Gaul, Z. J., Le, B., Paz-Bailey, G., & Sutton, M. Y. (2014). Intimate Partner Violence and Human Immunodeficiency Virus Risk Among Black and Hispanic Women. *American journal of preventive medicine, 47*(6), 689-702. doi:10.1016/j.amepre.2014.08.007

Panitz, D. R., McConchie, R. D., Sauber, S. R., & Fonseca, J. A. (1983). The role of machismo and the Hispanic family in the etiology and treatment of alcoholism in Hispanic American males. *American Journal of Family Therapy, 11*(1), 31-44.

Patton, M. Q. (1999). Enhancing the quality and credibility of qualitative analysis. *Health Serv Res, 34*(5 Pt 2), 1189-1208.

Pollack, C. E., Cubbin, C., Ahn, D., & Winkleby, M. (2005). Neighbourhood deprivation and alcohol consumption: does the availability of alcohol play a role? *International journal of epidemiology, 34*(4), 772-780.

Prado, G., Szapocznik, J., Maldonado-Molina, M. M., Schwartz, S. J., & Pantin, H. (2008). Drug use/abuse prevalence, etiology, prevention, and treatment in Hispanic adolescents: A cultural perspective. *Journal of Drug Issues, 38*(1), 5-36.

SAMHSA. (2014). *Results fom the 2013 National Survey on Drug USe and Health: Summary of National Findings*. Retrieved from Rockville, MD:

Sudhinaraset, M., Wigglesworth, C., & Takeuchi, D. T. (2016). Social and cultural contexts of alcohol use: Influences in a social–ecological framework. *Alcohol research: current reviews, 38*(1), 35.

Tanski, S. E., McClure, A. C., Li, Z., Jackson, K., Morgenstern, M., Li, Z., & Sargent, J. D. (2015). Cued recall of alcohol advertising on television and underage drinking behavior. *JAMA pediatrics, 169*(3), 264-271.

Torres, J. B., Solberg, V. S. H., & Carlstrom, A. H. (2002). The myth of sameness among Latino men and their machismo. *American Journal of Orthopsychiatry, 72*(2), 163.

Zemore, S. E. (2005). Re-examining whether and why acculturation relates to drinking outcomes in a rigorous, national survey of Latinos. *Alcoholism-Clinical and Experimental Research, 29*(12), 2144-2153. doi:10.1097/01.alc.0000191775.01148.c0

Table 1. Semi structured Interview Guide

Domain and questions
Definition of the problem
• How would you define alcohol abuse?
• What do you think are some of the biggest alcohol-related health problems Latino/Hispanic men in the United States face?
• How do you think alcohol abuse affects the Latino/Hispanic community?
• How do you think alcohol abuse affects Latino/Hispanic men?
Masculinity
• Think of someone you consider manly or a typical man. Describe that person, what makes that person manly?
• How does the idea of manhood influence a man's life?
• How does manhood differ for a Latino/Hispanic man compared to a man of another race?
• How is the idea of manhood influenced by Latino/Hispanic culture or traditions?
• How does the idea of manhood influence health-related behaviors?
Masculinity and Alcohol Consumption
• How does the idea of manhood influence alcohol consumption in Latino/Hispanic men?
• How do traditional ideas of manhood influence alcohol abuse in Latino/Hispanic men?
• How does this influence change with age?
Treatment Seeking Behaviors
• What do you think brings people to seek treatment for problems with alcohol?
• What may be some of the reasons why people who need treatment do not seek it?
• It is known that Hispanic/Latino men have a harder time gaining access to alcohol treatment, can you tell me why you think that might be?
• Now, even when men gain access, it is known that Latino/Hispanic males have a harder time successfully completing alcohol abuse treatment, can you tell me why you think that is?

Table 2. Participant Characteristics (n=20)

Characteristics		
	n/mean	%/SD (range)
Age (years)	44.6	11.3 (23-64)
Foreign Born	15	75%
Years in the US	29.8	15.4 (6-57)
Currently Married or live with Domestic Partner	15	75%
Employed	20	100%
Income		
<$29,999	10	50%
$30,000-59,999	8	40%
>$60,000	2	10%
BASH (Acculturation)	2.6	1.1 (1-4.75)
Machismo/Caballerismo Scale (TMCS)		
M-Scale (Machismo)	2.7	0.69
C-Scale (Caballerismo)	5.8	0.66
Consumption Measures		
Current Alcohol Use	17	85%
At Least Once a Week	6	35%
Binge Drink At Least Once a Month	4	23%
Experience with Treatment	9	45%

Table 3. Select Quotes Illustrating Perspectives and Opinions Regarding Influential Factors of Alcohol Abuse in Hispanic Males.

UNDERSTANDINGS OF ALCOHOL ABUSE
Defining Abuse from Experience
• " Fatty liver or whatever, or an alcoholic disease of some sort, so you have to cut down and realize that if you want to keep living, you have to stop drinking. People that drink also get sick a lot, if you are tired at getting sick all of the time, maybe you should stop drinking. So, all those little things. You know? You get sick, don't go work, you don't get paid, etc."
EL MACHISMO ES LA RAIZ (MACHISMO IS THE ROOT)
Machismo exists on a Spectrum
• "Many times, Latino men become very [self]-centric. The Latino-Hispanic culture is one that is very family oriented. But at the same time, it is very, men-centric in particular. Yes, this is my family… but you know what? I am the king of the castle and everyone takes care of me."
Tome, Para que se Haga Hombre (Drink so you can become a man)
• "They have told us, ' men do not cry'. I have seen fathers offer their young boys alcohol, two or three years old. I have seen it with my own eyes that they offer them a drink and they say 'drink so you can become a man'"**
Si el Hombre Gana el Hombre Manda (If the man earns, the man calls the shots)
• "Somebody doesn't realize that it could take years until they finally realize, "Hey, I have health problems, I have this, I have that." It's not until somebody has a health issue or law enforcement. You get pulled over for drunk driving or you get into some kind of trouble that leads to something where alcohol was involved in. So, then, you realize because it becomes an economic issue"
NOS GUSTA LA PARRANDA (WE LIKE TO PARTY)
Unas Ultras pa' la sed (Some [Michelob] Ultras for our Thirst)
• "Marketing agencies have seized on the opportunity that Hispanics are machos so you know, they use sex appeal too …there are agencies that tend to market their products or assume that you know, all Latinos are machos, womanizers and etc.
Lack of Knowledge Preserves Norms
• "I think that in our Hispanic culture, from the begining, since I was a boy everyone dran, it was something that was normal. And I think its the same, its because of the ignorance of the harm that it can cause. In my opinion, its due to lack of knowledge, lack of consience. **
NUESTRO AGUANTE (OUR RESILIENCE)
Maladaptive Coping Rooted in Machismo
• "Yeah, even Hispanic males, when they do bond and talk to each other and a guy has a problem, what do you tell them? "Oh go have a couple of drinks and you know, you will be better, you'll be fine." Is that the advice, you know? You know, a couple of years later, you find out that the person is an alcoholic."
Looking for a Future and Finding Alcohol Abuse
• "I work construction so… you know… it feels good to have freakin' a few beers after work… I had a long day being out in the sun. So I want to say that kinda… it kinda just progresses"
**These quotes have been translated from Spanish*

APPENDIX C

MANUSCRIPT 3

TITLE:

Hispanic Male Structural and Sociocultural Barriers to Alcohol Abuse Treatment Seeking: A Qualitative Study

AUTHORS:

Luis A. Valdez, MPH; David O. Garcia, PhD; John Ruiz, PhD; Eyal Oren, PhD; Scott Carvajal, PhD

CORRESPONDING AUTHOR:

Luis A. Valdez, MPH
Mel & Enid Zuckerman College of Public Health
Department of Health Promotion Sciences
University of Arizona

ABSTRACT:

INTRO: Hispanic men face greater barriers than non-Hispanic white men in accessing, engaging, and completing alcohol abuse treatment services despite the contrasting burden of alcohol-related consequences they face. **PURPOSE:** The purpose of this study was to examine Hispanic male perspectives regarding the influential factors of alcohol abuse treatment-related behaviors that can lead to disparate treatment engagement and completion rates. **METHODS:** Demographic data were collected with questionnaires. Twenty semi-structured interviews were completed with Hispanic men (age: 44.6 ± 11.3 yrs.). We conducted a thematic analysis using a hybrid deductive-inductive analysis strategy centered in an a priori developed codebook that was supplemented with iterative analysis of interview transcripts. **RESULTS:** Findings suggest that treatment seeking behaviors are highly influenced by; a) structural factors related to treatment accessibility, and linguistic, and cultural-responsiveness of available treatment, b) sociocultural factors related to difficulties problematizing alcohol abuse due to lack of knowledge and cultural normalization of consumption, and societal stigmatization of alcohol abuse treatment, and c) individual factors related to *machismo*-bound pride as well as lack of knowledge. **CONCLUSION:** These findings point to the need for treatment providers to disseminate accurate information about treatment availability and eligibility, and the treatment process. Our work also illustrates the need to for consciousness building efforts targeting the Hispanic male community regarding the detrimental effects of alcohol-related problems and treatment, in order to diminish the stigma. Increased or redistributed funding for linguistically and culturally responsive programs is also needed in communities with large Hispanic populations in order to meet the growing demand.

INTRODUCTION

Hispanic and non-Hispanic white (NHW) men have comparable moderate alcohol consumption rates, however, Hispanic men are more likely to consume higher volumes of alcohol and with more frequency than NHW men (Statistics & Research, 2012). The harmful effects of alcohol misuse are vast and range from vehicular accidents to chronic disease and death, as well as familial and social consequences (Sudhinaraset, Wigglesworth, & Takeuchi, 2016). Research suggests that Hispanic men experience disproportionate levels of adverse health and social consequences of alcohol abuse when compared to their NHW counterparts (Caetano, 2003).

Research suggests that Hispanic men are four times as likely to live in a poor neighborhood compared to NHW men (Jones-Webb, Snowden, Herd, Short, & Hannan, 1997). Poor communities characterized by high rates of unemployment, high population density, and greater retail alcohol outlets can increase the risk of alcohol related problems and (Singer & Toledo, 1994) and decrease access to treatment (Jacobson, Robinson, & Bluthenthal, 2007). Despite the gaps, efforts to expand knowledge about the specific mechanisms by which gendered, sociocultural, and structural correlates influence treatment-related behaviors and lead to adverse alcohol abuse outcomes in Hispanic men are still lacking (Kissinger et al., 2013; NSDUH, 2012.; Ojeda & Liang, 2014; Vega, Alderete, Kolody, & Aguilar-Gaxiola, 1998).

Hispanic men face greater barriers than NHW men in accessing, engaging, and completing alcohol abuse treatment services despite the contrasting burden of alcohol-related consequences they face (Campbell & Alexander, 2002; Guerrero, Marsh, Khachikian, Amaro, & Vega, 2013; Marsh, Cao, Guerrero, & Shin, 2009; Wells, Klap, Koike, & Sherbourne, 2001).

When compared to NHW men, Hispanic men are less likely to seek and receive treatment when needed (NSDUH, 2012.), more likely to receive inadequate services, and report dissatisfaction with treatment (Guerrero et al., 2013). According to the National Survey on Drug Use and Health (2009), the following characteristics increase the likelihood of treatment access, engagement, and completion: 1) endorsing NHW race and ethnicity, 2) being female, 3) reporting an age of 40 or older, and 4) having more than a high school education. Further, limited research suggest that English-speaking, highly acculturated Hispanics can benefit from current treatment modalities (SAMHSA, 2013). Consequently, when compared to NHW men, some Hispanic men might face disproportionate challenges when undergoing conventional alcohol abuse treatment.

Further, there is a lack of knowledge about the mechanisms by which adherence to Latino gender-bound conceptualizations of masculinity (*machismo, caballerismo)* influence treatment-related behaviors and lead to adverse alcohol and abuse outcomes in this group (Kissinger et al., 2013; NSDUH, 2012.; Ojeda & Liang, 2014; Vega et al., 1998). The term *machismo* has been used to illustrate a Latino male-bound hyper-masculinity representative of behaviors that can include an exaggerated sense of power, self-reliance, aggressiveness, and emotional disconnectedness that can negatively influence treatment seeking behaviors (Arciniega, Anderson, Tovar-Blank, & Tracey, 2008). In contrast, *caballerismo* is a positive counterpart of machismo, and is used to describe behaviors that incorporate displays of impartiality, respect, social responsibility, and care for family that can have protective effects on treatment seeking behaviors (Arciniega et al., 2008; Liang, Salcedo, & Miller, 2011). However, little is known about how these individual and sociocultural factors interact with an

individual's social context (i.e. neighborhood disadvantage differential access to care, economic resources) to influence abuse patterns and treatment seeking behaviors among Hispanic males.

Researchers have called for further inquiry to assess sociocultural factors, community contexts and community-based perspectives and their influence on alcohol consumption matters among Hispanic males (Alegría et al., 2006). As such, the purpose of this study was to examine Hispanic male perspectives regarding the barriers to alcohol abuse treatment-seeking related behaviors that lead to disparate treatment engagement and completion rates.

METHODS

PARTICIPANTS

Participants were recruited via passively via flyers at community health centers, and actively through tabling at community agencies, local employers and outdoor marketplaces. Depending on recruitment contact, interested participants called the research team using contact information available on posted flyers or provided their contact information during tabling sessions. Participant eligibility was determined by an initial telephone or in-person screening conducted by trained research staff. Eligible participants were between the ages of 21-64, self-identified as Hispanic males, and reported previous or current alcohol consumption. Individuals that were invited to participate were informed of all study related procedures and consented prior to data collection. All study materials were available in both English and Spanish approved by the University of Arizona's Human Subjects Protection Program Internal

Review Board. All interviews took place in a private and confidential environment located within the University of Arizona's Collaboratory for Metabolic Disease Prevention and Treatment.

DATA COLLECTION

A bilingual Hispanic male member of the research team conducted all interviews using a semi-structured interview guide (**Table 1**). The interview guide was used to elicit perspectives of alcohol abuse and abuse treatment related behaviors of Hispanic males. Participants also completed a voluntary questionnaire that included questions covering demographics; measures of masculinity (The Machismo Caballerismo Scale; TMCS)(Arciniega et al., 2008)*;* a measure of acculturation (Brief Acculturation Scale for Hispanics (BASH))(Mills, Malcarne, Fox, & Sadler, 2014), and measures of alcohol use and abuse.

Demographics Demographic measures included: age (in years), Hispanic heritage (Cuban, Mexican, Mexican-American, Puerto Rican, South/Central American, other), educational attainment (primary school, some high school, high school completion, some college, bachelors, graduate school), employment status (employed; *yes,* or *no*), annual income ($29,999, $30,000-$59,999, $60,000+), marital status (currently married or living with partner), and years lived in the United States.

Machismo/Caballerismo TMCS is a valid and reliable 20-item self-report instrument designed to assess the extent to which men identify with two different constructs of machismo;

machismo and *caballerismo*). Specifically designed for Mexican American Men, the 10-item machismo subscale elicits traits of hyper-masculinity, aggressiveness, and chauvinism. A sample from this subscale is "Men are superior to women". The 10-item caballerismo scale elicits measures of emotional connectedness, nurturance of family, and ideals of respectful conduct. A sample from this subscale is "Family is more important than the individual". The scale uses a 7-point anchored scale of agreement with the statements, from 1 (*not at all*) to 7 (*very much so*) which indicate the participant's agreement with each statement. Higher scores (range 1 to 7) indicate stronger machismo or caballerismo beliefs calculated separately (Arciniega et al., 2008). The TMCS has been validated with our target population (Arciniega et al., 2008).

Alcohol Use Past 12-month alcohol consumption frequency was measured with a 9-point scale ranging from *every day* to *1-2 times this year.* Quantity during drinking episode was measured with a 10-point scale ranging from *1-drink* to *25 or more drinks* per occasion. Alcohol abuse was elicited by number of times in the last year the respondent consumed 5 or more drinks within a 2-hour period with a 9-point scale ranging from *1-2 times this last* year to *every day (Allen & Columbus, 1997).*

Acculturation The four-item BASH uses self-report language use to indicate level of acculturation. The items measure language use 1) while reading and speaking, 2) at home, 3) while thinking, and 4) with friend. Responses are given in a 5-point scale ranging from 1=*only English*, 2- *more English than Spanish, 3= both equally, 4= more Spanish than English, 5= only Spanish.* Scores range from 4-20 with higher scores indicating lower levels of acculturation (Mills et al., 2014). The BASH has been validated with our target population (Mills et al., 2014).

DATA ANALYSIS

All interviews were audio-recorded and transcribed verbatim in their respective languages by trained staff. Data analysis began with a deductive process for which the research team used a preliminary codebook developed based on the topics included in the interview guide. The codebook was then supplemented with broad themes and codes that emerged during iterative reading of the data transcripts. The codebook was finalized during a series of ongoing discussion and iterative reading of each transcript. Four transcripts were selected at random and were double coded to ensure fidelity of coding strategies; remaining transcripts were coded by a single member of the research team. The authors ensured that all salient themes were adequately saturated before recruitment completion. Saturation was derived by the diminishing of variation in the transcribed and subsequently coded data. NVivo 13 (QSR International, Cambridge, MA) was used to facilitate data organization, management, and analysis.

RESULTS

PARTICIPANT CHARACTERISTICS

A total of 20 Hispanic, Spanish and English speaking men participated in in depth semi-structured interviews lasting an average of 43 minutes. Mean age of participants was 44. 6 (range: 23 to 64; *SD* = 11.3). Five (25%) participants were born in the United States, while 15

foreign-born participants reported living in the United States a mean of 29.8 years (range: 6 to 57; *SD* = 15.4). The majority (75%) were married or currently living with a partner. All participants were currently employed, and 50% reported an annual income below $29,999, while 40% reported an income between $30,000 and $59,000. Mean machismo scale and caballerismo scale scores were 2.7 (*SD* = 0.69) and 5.8 (*SD* = 0.66) respectively; meaning that our sample showed poor agreement with *machismo and* high agreement with *caballerismo*. Mean BASH score was 2.6 (range: 1 to 4.75; SD= 1.1) and ranged from 1 to 4.75 suggesting acculturation was *low* for our sample. Current alcohol use was reported by 17 (85%) of our participants: 6 (35%) drank at least once a week, 5 (29%) were consuming between 9-15 drinks per drinking occasion, and 4 (23%) reported binge drinking at least once a month. Nine of our participants (45%) had a personal experience with alcohol abuse treatment.

BARRIERS TO TREATMENT

Participants mentioned a variety of hindrances to seeking and accessing treatment. We present these grouped into three nested themes: structural barriers, sociocultural barriers, and individual barriers.

STRUCTURAL BARRIERS

Good Treatment Is Expensive, Okay Treatment Does Not Work, and Free Treatment is a Nightmare

In general, the men believed that alcohol abuse treatment was unobtainable to them and to the Hispanic community for a variety of reasons, the most impactful of which was the inability to afford the treatment they perceived to be effective. There was a shared belief that adequate, and consequently, successful treatment, was reserved only for those who could afford it. Some participants shared personal and familial frustration with seeking treatment and being turned away because they could not pay or were not insured. Further, the men explained that it would be impossible for most men they knew to enter treatment simply because they could not afford to take time off work given they are the primary bread winners and work jobs that do not pay very well.

The men discussed that the treatment that was accessible to them without medical insurance, at a sliding scale, or free of charge was inadequate. While participants explained that they were aware that accessible treatment programs may exist, they explained that these programs are not easily found, are difficult to navigate, are overburdened, and ill equipped to treat Hispanic patients. Participants explained that accessible programs have long queues that can take months.

Linguistic and Cultural Disconnects

The presence of linguistic and cultural barriers associated with free treatment also were discussed. The men reported difficulties finding affordable services that were available in Spanish, adding that when help is offered in Spanish there are long waits and not enough linguistically- competent staff to meet the needs of the Hispanic community. For those men

that had accessed treatment, they spoke about how they did not feel comfortable receiving treatment because they felt misunderstood. Additionally, they reported that because the providers did not adequately speak the language, that they could not wholly understand their experiences. Importantly, participants reported that misunderstandings due to cultural incompetency can cause dissatisfaction with treatment providers, claiming that they feel providers are too invasive, and ask too many personal and uncomfortable questions upon initiation of treatment. Participants added that one bad experience can drive Hispanic men to deprecate treatment forever.

SOCIOCULTURAL BARRIERS

Normalization Makes It Difficult to Problematize

There were a variety of sociocultural hindrances to treatment seeking that were reported. The most common barrier presented was the perceived cultural normalization of alcohol overconsumption. The men reported that the ubiquity of overconsumption begets a culture of normalization in which alcohol abuse is not readily perceived as a problem. Problem drinking is seen as a phase of youth, and an inescapable habit for Hispanic men. Thus, early signs of problems with alcohol are easily overlooked by family and individuals alike. The men discussed that because alcohol use is not perceived to be a problem, that treatment is not perceived to necessary until they face grave consequences of their alcohol abuse, such as serious health problems, loss of family, or driving while drinking convictions.

Los Consejos del Compadre (A Buddy's Advice)

The normalization of alcohol abuse compounded by macho-driven self-reliance generates a peer-to-peer environment that can exacerbate problems with alcohol and deter individuals from treatment. Participants mentioned that most men will reach out to their closest drinking companions for advice when problems with alcohol consumption arise. If a man is having problems becoming violent when he is drunk, then friends suggest he take up smoking marihuana to stay calm; if he is experiencing blackouts men suggest that he use cocaine to stay alert; if he is having trouble keeping up with work in the mornings after drinking, he is encouraged to have a beer in the morning to curb his hangover. The men shared that the topic of seeking treatment is scarcely mentioned, adding that most men who have not had experiences with treatment would not be aware of where to go or who to ask for help.

Negative Community Perceptions of Known Treatment

The men shared alcohol abuse treatment is taboo in their community. The men shared that while the community knows they can seek help at places like Alcoholics Anonymous (AA), or a church, there is a generalized sentiment that only people with grave problems should seek help there. As such there is a stigma that envelops peer-to-peer programs or church-based assistance with alcohol-related issues. This stigma is rooted in two myths; a) men that voluntarily seek help at AA must also have behavioral health issues, or b) a prevalent belief that alcoholism is a behavioral flaw and that one only seeks care when they are fundamentally incapable of remedying the problem on their own.

INDIVIDUAL BARRIERS

El Orgullo Mata (Pride Kills)

The greatest individual barrier discussed by participants was *machismo*-driven pride. It was mentioned that in order to seek treatment men have to admit a loss of control, a vulnerability to alcohol, and a consequential loss of self-reliance. Participants added that an admission of loss of control is perceived as emasculating. As such, men are often too proud to admit they need help even when their health is at risk and when their lives are falling apart. Participants added that pride keeps most men that need help away from treatment and in a self-imposed cyclical battle with alcohol that ebbs and flows with periods of abuse and periods of abstinence.

Lack of understanding of treatment purpose and goals:

The men reported that alcohol-related treatment is considered something to be fearful of. They perceive that "real" treatment (i.e. not AA or church) will involve hospitalization. The general perception of conventional treatment was that it was based on the medical model; that one would need to be hospitalized for effective treatment, which would take a large amount of time and resources.

Getting past the Orgullo (Pride)

When prompted about what motivates Hispanic men to seek help with alcohol-abuse related problems, participant responses could be compartmentalized under one overarching theme: *getting past their pride.* Participants explained that due to the intersected barriers, Hispanic men must experience a pivotal, potentially life changing event that outweighs their pervasive pride and self-reliance. Importantly the consequences that override normalization and may drive men to seek help were largely related to a man's ability to provide for their family such as losing their driving privileges due to a driving under the influence (D.U.I.) conviction, a serious health problem, or job loss. The men explained that when a man loses their ability to provide for their family that is when they may realize they need to seek help. The only health-related concerns that could drive Hispanic men to seek help would be the experience of grave alcohol-related health conditions, although the men rarely specified anything other than cirrhosis of the liver.

DISCUSSION

The purpose of this study was to examine Hispanic male perspectives regarding the influential factors of alcohol abuse treatment-related behaviors that can lead to disparate treatment engagement and completion rates. Our findings suggest that treatment seeking behaviors are highly influenced by; a) structural factors related to treatment accessibility, and linguistic and cultural-responsiveness of available treatment, b) sociocultural factors related to difficulties problematizing alcohol abuse due to lack of knowledge and cultural normalization of

consumption, and societal stigmatization of alcohol abuse treatment, and c) individual factors related to *machismo*-bound pride as well as lack of knowledge.

Our findings indicate that there are complex and compounded effects of the socioeconomic status of Hispanic males that beget not only decreased access to adequate services but increased likelihood of having alcohol-related health and social problems. Primary structural hindrances to treatment cited by our participants were the high costs of effective treatment, the inability to afford it, and the lack of insurance to subsidize it. Research shows that lack of insurance can be a significant barrier to treatment for Hispanics that may be a function of ethnicity, immigration status, and citizenship status (Alegría et al., 2006). Lack of economic resources has been found to have detrimental effects to service access and completion that affects minority populations, particularly Hispanics and African Americans, at increased rates when compare to NHW (Jacobson et al., 2007). Participants disapproved of free or sliding scale treatment experiences as there was a perceived inadequacy of the available treatment. Participant cited long waits, overburdened staff, lack of individualized attention, and inefficient communication with providers. Congruent research suggests that barriers to treatment can arise from difficulty navigating admission systems, poor rapport at intake, overbooked staff, and overburdened treatment facilities (Festinger, Lamb, Kountz, Kirby, & Marlowe, 1995) as well as the reluctance of some programs to admit undocumented immigrants (Pagano, 2014).

It is not difficult to see how socioeconomic factors may affect treatment seeking behaviors or even incite fatalism treatment altogether. This illustrates the need to consider

structural barriers to health for Hispanic men. The men that find themselves in socioeconomically disadvantaged positions may be more likely to engage in high risk behaviors to cope with stressors and be less likely to access adequate treatment. As such, it is evident that treatment programs should consider the social context of Hispanic men as part of comprehensive treatment plans wherein breaking the cycle of poverty becomes a focused outcome of alcohol abuse treatment. Interventions are needed to assist treatment seeking Hispanic men in improving their socioeconomic situation, possibly thought effective job placement, continuing education, or job and skills training.

Our participants also highlighted discrepancies in the adequacy of the treatment available to them. Successful treatment was perceived to be out of their reach and that of most of the Hispanic community. This is congruent with literature indicating that Hispanics consistently report dissatisfaction with treatment when compared to NHW (Alegría et al., 2006). In our sample, dissatisfaction with treatment was centered in; 1) deprecation created by poor experiences with treatment, begetting distrust of sliding-scale and free treatment, and 2) the language- and culturally-based inadequacy of viable communication between patient and provider. Research suggests there is a scarcity of Spanish-speaking treatment providers, resulting in a lack of culturally and linguistically appropriate services that continues to be a major barrier to seeking and using alcohol abuse treatment (Amaro & Aguiar, 1998; Pagano, 2014). Regardless of cultural underpinnings, the failing of effective communication requiring successful transfer and understanding of information can have dire effects in every phase of treatment from outreach to completion (Baker, Hayes, & Fortier, 1998). Individuals who seek alcohol abuse services need to be able to inform themselves about where services are offered

and learn to navigate the delivery system to access services. Successfully finding and engaging with treatment is dependent on effective communication. As such, it is imperative that treatment efforts comprehensively consider the preferred language of clientele from outreach to completion.

Beyond language, health provider considerations of the sociocultural environment and social context of individuals are imperative to patient-provider communication and understanding. For instance, immersive work completed by Holmes (2012), found that social and economic structures in healthcare drive professionals from seeing the social and cultural determinants that result in individual health outcomes of their clients, a phenomenon which, in part, can be attributed to the economic, pay-per-client, structure of care. Consequently, Holmes posits that rushed, confusing, and blaming interactions with providers can lead individuals to frown on service provision and discount treatment. This was parallel to our data indicating that one bad experience with treatment can drive men to deprecate treatment forever, which is problematic given that men may find themselves temporarily willing to enter treatment and they are inexplicitly turned away before intake. As such, it is imperative for treatment programs working with this population to consider the effects of each client's social context. For instance, Lee et al. (2013), assessed the effectiveness of a culturally adapted brief motivational interview intervention (n=53, 54% male) to decrease heavy drinking in which interviewers were highly trained to consider contextual reality of participants accounting for the influences of poverty, perceived discrimination, historical trauma, and employment status. The authors found that improved communication between providers and participants had a statistically significant influence in participants' drinking patterns at follow-up.

Our findings also suggest that there is considerable community stigma regarding peer to peer support and church-based treatment programs. Our participants attributed this stigma primarily to ignorance about the problems that arise from alcohol abuse, ignorance of behavioral health issues that may be intersected with these problems, and unfamiliarity with the benefits of alcohol abuse treatment. Research shows that stigmatization of alcoholism itself keeps people from seeking treatment (Fortney et al., 2004; Keyes et al., 2010); a stigma that exists at higher rates among Hispanics (Smith, Dawson, Goldstein, & Grant, 2010). This is parallel to our data highlighting the difficulty Hispanic men experience with admission of vulnerability to alcohol. Participants attributed both the community-based stigma and self-stigmatization to a lack of understanding of alcohol abuse and alcoholism as something that can be attributed to factors other than behavioral flaws. These findings illustrate a critical need for community-based education on the health and social consequences related to alcohol abuse in the Hispanic community with an emphasis on men. In addition to lowering community stigma, information regarding complex origins of alcohol abuse can emphasize the early symptoms of alcoholism and the benefits of treatment can make Hispanic men aware of when they may need to seek help. While evidence shows that individual, community, and structural consciousness building decreases abuse and treatment stigma, the research base is severely limited (Livingston, Milne, Fang, & Amari, 2012). An effort to build community consciousness about alcohol, early signs of alcohol abuse and dependence would allow families and individuals to take action at an earlier time in the alcohol abuse trajectory which may result in increased treatment success. The National Institute on Alcohol Abuse and Alcoholism also indicates that the symptoms of an alcohol use disorder are mild, and are often not seen as signs

of trouble and posits that when the symptoms are not known the trajectory is often ignored and result in an alcohol use disorder (Association, 2013). However, practical knowledge of the low and high risk drinking parameters may influence both drinking patterns and cues to action toward seeking treatment among Hispanic males.

STRENGTHS and LIMITATIONS

These findings have the potential to build upon currently available treatment avenues using specified community-based suggestions for improving treatment outreach and participant engagement that can positively impact treatment outcomes for Hispanic males. Conversely, there are several limitations in our study that should be considered. The results of our work need to be approached with caution as the racial and ethnic homogeneity of our sample limits the generalizability of our findings. Our participants were all of Mexican origin and therefore have distinct sociocultural and contextual factors that influence the aforementioned behaviors. Further, while our participants were all self-identified males, we use a heteronormative lens for data collection and analysis that limits our analysis away from consideration from barriers to treatment experienced by queer, bisexual, and trans self-identified men.

CONCLUSION

Given the rapidly expanding Hispanic population in the United States and the high cost of alcohol-related health and social problems, it is imperative to identify treatment barriers and accessible alcohol abuse recovery resources for this population. These findings point to the need for treatment providers to disseminate accurate information about treatment availability and eligibility, and the treatment process. Our work also illustrates the need to for

consciousness building efforts targeting the Hispanic male community regarding the detrimental effects of alcohol-related problems and treatment, in order to diminish the stigma. Increased or redistributed funding for linguistically and culturally responsive programs is also needed in communities with large Hispanic populations in order to meet the growing demand, particularly for the uninsured. Further research is needed to identify other potential barriers and recovery resources for this population and other Hispanic subgroups in other parts of the United States.

REFERENCES

Alegría, M., Page, J. B., Hansen, H., Cauce, A. M., Robles, R., Blanco, C., . . . Berry, P. (2006). Improving drug treatment services for Hispanics: Research gaps and scientific opportunities. *Drug and Alcohol Dependence, 84*, S76-S84.

Allen, J. P., & Columbus, M. (1997). *Assessing alcohol problems: A guide for clinicians and researchers*: Diane Publishing.

Amaro, H., & Aguiar, M. (1998). Programa mamá/mom's project: a community-based outreach model for addicted women. *A Hispanic-Latino Family Approach to Substance Abuse Prevention*, 125.

Arciniega, G. M., Anderson, T. C., Tovar-Blank, Z. G., & Tracey, T. J. (2008). Toward a fuller conception of Machismo: Development of a traditional Machismo and Caballerismo Scale. *Journal of Counseling Psychology, 55*(1), 19.

Association, A. P. (2013). *Diagnostic and statistical manual of mental disorders (DSM-5®)*: American Psychiatric Pub.

Baker, D. W., Hayes, R., & Fortier, J. P. (1998). Interpreter use and satisfaction with interpersonal aspects of care for Spanish-speaking patients. *Medical Care, 36*(10), 1461-1470.

Caetano, R. (2003). Alcohol-related health disparities and treatment- related epidemiological findings among Whites, Blacks, and Hispanics in the United States. *Alcoholism: Clinical and Experimental Research, 27*(8), 1337-1339. doi:10.1097/01.ALC.0000080342.05229.86

Campbell, C. I., & Alexander, J. A. (2002). Culturally competent treatment practices and ancillary service use in outpatient substance abuse treatment. *Journal of Substance Abuse Treatment, 22*(3), 109-119.

Festinger, D. S., Lamb, R., Kountz, M. R., Kirby, K. C., & Marlowe, D. (1995). Pretreatment dropout as a function of treatment delay and client variables. *Addictive Behaviors, 20*(1), 111-115.

Fortney, J., Mukherjee, S., Curran, G., Fortney, S., Han, X., & Booth, B. M. (2004). Factors associated with perceived stigma for alcohol use and treatment among at-risk drinkers. *The Journal of Behavioral Health Services and Research, 31*(4), 418-429.

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. doi:10.1016/j.drugalcdep.2013.07.027

Holmes, S. M. (2012). The clinical gaze in the practice of migrant health: Mexican migrants in the United States. *Social Science & Medicine, 74*(6), 873-881.

Jacobson, J. O., Robinson, P. L., & Bluthenthal, R. N. (2007). Racial disparities in completion rates from publicly funded alcohol treatment: economic resources explain more than demographics and addiction severity. *Health Services Research, 42*(2), 773-794.

Jones-Webb, R., Snowden, L., Herd, D., Short, B., & Hannan, P. (1997). Alcohol-related problems among black, Hispanic and white men: the contribution of neighborhood poverty. *Journal of studies on alcohol, 58*(5), 539-545.

Keyes, K., Hatzenbuehler, M., McLaughlin, K., Link, B., Olfson, M., Grant, B., & Hasin, D. (2010). Stigma and treatment for alcohol disorders in the United States. *American Journal of Epidemiology, 172*(12), 1364-1372.

Kissinger, P., Althoff, M., Burton, N., Schmidt, N., Hembling, 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. doi:10.1016/j.drugalcdep.2013.08.031

Lee, C. S., Lopez, S. R., Colby, S. M., Rohsenow, D., Hernandez, L., Borrelli, B., & Caetano, R. (2013). Culturally adapted motivational interviewing for Latino heavy drinkers: results from a randomized clinical trial. *J Ethn Subst Abuse, 12*(4), 356-373. doi:10.1080/15332640.2013.836730

10.1080/15332640.2013.836730.

Liang, C. T., Salcedo, J., & Miller, H. A. (2011). Perceived racism, masculinity ideologies, and gender role conflict among Latino men. *Psychology of Men & Masculinity, 12*(3), 201.

Livingston, J. D., Milne, T., Fang, M. L., & Amari, E. (2012). The effectiveness of interventions for reducing stigma related to substance use disorders: a systematic review. *Addiction, 107*(1), 39-50.

Marsh, J. C., Cao, D., Guerrero, E., & Shin, H.-C. (2009). Need-service matching in substance abuse treatment: Racial/ethnic differences. *Evaluation and program planning, 32*(1), 43-51.

Mills, S. D., Malcarne, V. L., Fox, R. S., & Sadler, G. R. (2014). Psychometric evaluation of the brief acculturation scale for Hispanics. *Hispanic Journal of Behavioral Sciences, 36*(2), 164-174.

NSDUH. (2012.). The NSDUH Report: Need for and Receipt of Substance Use Treatment among Hispanics. *Substance Abuse and Mental Health Services Administration, Center for Behavioral Health Statistics and Quality*.

Ojeda, L., & Liang, C. T. H. (2014). Ethnocultural and Gendered Determinants of Coping Among Mexican American Adolescent Men. *Psychology of Men & Masculinity, 15*(3), 296-304. doi:10.1037/a0033293

Pagano, A. (2014). Barriers to drug abuse treatment for Latino migrants: treatment providers' perspectives. *J Ethn Subst Abuse, 13*(3), 273-287. doi:10.1080/15332640.2014.886320

10.1080/15332640.2014.886320.

SAMHSA Substance Abuse and Mental Health Services Administration (SAMHSA) (2013). Hispanic Subgroups Differ in Rates of Substance Use Treatment Need and Receipt. National Survey on Drug Use and Health (NSDUH) Report, 24 October 2013. Retrieved from

Singer, M., & Toledo, E. (1994). *Oppression illness: critical health theory and intervention with chemically dependent women at risk of AIDS.* Paper presented at the annual meeting of the Society for Applied Anthropology, Cancun, Mexico.

Smith, S. M., Dawson, D. A., Goldstein, R. B., & Grant, B. F. (2010). Examining perceived alcoholism stigma effect on racial-ethnic disparities in treatment and quality of life among alcoholics. *J Stud Alcohol Drugs, 71*(2), 231-236.

Statistics, N. C. f. H., & Research, N. C. f. H. S. (2012). *Health, United States*: US Department of Health, Education, and Welfare, Public Health Service, Health Resources Administration, National Center for Health Statistics.

Sudhinaraset, M., Wigglesworth, C., & Takeuchi, D. T. (2016). Social and cultural contexts of alcohol use: Influences in a social–ecological framework. *Alcohol research: current reviews, 38*(1), 35.

Vega, W. A., Alderete, E., Kolody, B., & Aguilar-Gaxiola, S. (1998). Illicit drug use among Mexicans and Mexican Americans in California: the effects of gender and acculturation. *Addiction, 93*(12), 1839-1850.

Wells, K., Klap, R., Koike, A., & Sherbourne, C. (2001). Ethnic disparities in unmet need for alcoholism, drug abuse, and mental health care. *American Journal of Psychiatry, 158*(12), 2027-2032.

Table 1. Semi structured Interview Guide

Domain and questions
Definition of the problem
• How would you define alcohol abuse?
• What do you think are some of the biggest alcohol-related health problems Latino/Hispanic men in the United States face?
• How do you think alcohol abuse affects the Latino/Hispanic community?
• How do you think alcohol abuse affects Latino/Hispanic men?
Masculinity
• Think of someone you consider manly or a typical man. Describe that person, what makes that person manly?
• How does the idea of manhood influence a man's life?
• How does manhood differ for a Latino/Hispanic man compared to a man of another race?
• How is the idea of manhood influenced by Latino/Hispanic culture or traditions?
• How does the idea of manhood influence health-related behaviors?
Masculinity and Alcohol Consumption
• How does the idea of manhood influence alcohol consumption in Latino/Hispanic men?
• How do traditional ideas of manhood influence alcohol abuse in Latino/Hispanic men?
• How does this influence change with age?
Treatment Seeking Behaviors
• What do you think brings people to seek treatment for problems with alcohol?
• What may be some of the reasons why people who need treatment do not seek it?
• It is known that Hispanic/Latino men have a harder time gaining access to alcohol treatment, can you tell me why you think that might be?
• Now, even when men gain access, it is known that Latino/Hispanic males have a harder time successfully completing alcohol abuse treatment, can you tell me why you think that is?

Table 2. Participant Characteristics (n=20)

Characteristics		
	n/mean	%/SD (range)
Age (years)	44.6	11.3 (23-64)
Foreign Born	15	75%
Years in the US	29.8	15.4 (6-57)
Currently Married or live with Domestic Partner	15	75%
Employed	20	100%
Income		
<$29,999	10	50%
$30,000-59,999	8	40%
>$60,000	2	10%
BASH (Acculturation)	2.6	1.1 (1-4.75)
Machismo/Caballerismo Scale (TMCS)		
M-Scale (Machismo)	2.7	0.69
C-Scale (Caballerismo)	5.8	0.66
Consumption Measures		
Current Alcohol Use	17	85%
At Least Once a Week	6	35%
Binge Drink At Least Once a Month	4	23%
Experience with Treatment	9	45%

Table 3. Select Quotes Illustrating Perspectives and Opinions Regarding Influential Factors of Alcohol Abuse Treatment Seeking Behaviors in Hispanic Males.

STRUCTURAL BARRIERS
Good Treatment Is Expensive, Okay Treatment Does Not Work, and Free Treatment is a Nightmare
• "I think that some of the reasons why some men don't get treatment is because they simply can't they fear because they are undocumented, or they do not have insurance, or it is too expensive. I imagine that there are programs that can help but, well, I do not know, I guess there is a lack of informaiton." **
Linguistic and Cultural Disconnects
• "The problem is that if the psychologist does no understand the cultural aspects, well they're going to focus only on the education that they have received. Maybe a lot of the things they do will not help, although some things might … Sometimes language is a barrier, not everybody speaks perfect English. Most of these programs are in English." **
SOCIOCULTURAL BARRIERS
Normalization Makes it Difficult to Problematize
• Well its in our lifestyle, for example, since your're a young man you see it, right? You see that your fatehr drinks excessively, uncles, you understand? All of the people that surround you"**
Los Consejos del Compadre
• "I guess if it was a friend of mine I really wouldn't know where you could go to get help. I would say, "Yeah, you know, to AA or just stop drinking, just don't drink anymore." It's not that easy of course but really, I don't know where somebody could go."
Negative Community Perceptions of Known Treatment
• The help is not really there, I would be good with the help but it's just not 100%, there are too many holes. If somebody like yourself wanted to try to reach out to somebody, I would say to go on but how would you be accepted, you know? How can you be accepted if they don't even know you?
INDIVIDUAL BARRIERS
El Orgullo Mata (Pride Kills)
• I think there is too much machismo in the Hispanic culture that they don't look for help. They don't look for that at all. They try to deal with it I guess or they don't deal with it and they keep on with it. I don't know the percentage of people in the Hispanic that are abusers of alcohol. I'm sure it is up there. I just think there is too much machismo for them to look for help in our culture.
Lack of Understanding of Treatment Purpose and Goals
• "Because you hear it from one person, you expect to get the same treatments. 'the doctor gave me pills so that the beer won't hit me as hard, or pills so that when I drink it tastes bad' and then everyone expects that type of treatment. **
Getting Past the Orgullo (Pride)
• "Well what I meant by that is that a shock to the body usually a house scare that will change a man from drinking to stop drinking when you do that. That's why I say a shock to the body, when I say by incident it can be maybe DUI or car accident where alcohol is a contributing factor, of course."
***These quotes were translated from Spanish*

APPENDIX D
HUMAN SUBJECTS APPROVAL

Human Subjects
Protection Program

1618 E. Helen St.
P.O.Box 245137
Tucson, AZ 85724-5137
Tel: (520) 626-6721
http://rgw.arizona.edu/compliance/home

Date:	February 10, 2017
Principal Investigator:	Luis A Valdez
Protocol Number:	1701148051
Protocol Title:	Conceptualizations of masculinity and the social context and their influence on alcohol and substance abuse related behaviors in Latino males.
Level of Review:	Expedited
Determination:	Approved
Expiration Date:	February 08, 2018

Documents Reviewed Concurrently:

Data Collection Tools: *3_Eligibility Screening Forms (English and Spanish)_2017_02_07.doc*
Data Collection Tools: *8_Participant Questionnaires (English and Spanish) 2017_01_29.docx*
Grant/Contracts: *11_Valdez Dissertation Support Letter_2017_02_02.pdf*
HSPP Forms/Correspondence: *1_F107 Verification of Training Form_2017_01_29.doc*
HSPP Forms/Correspondence: *appendix_f (10).docx*
HSPP Forms/Correspondence: *F200_Valdez_2017-02-07.doc*
HSPP Forms/Correspondence: *LuisValdez_NewF200_finalsigpg1.23.17.pdf*
Informed Consent/PHI Forms: *4_Disclosure Statment (English and Spanish)_2017_02_07.docx*
Informed Consent/PHI Forms: *4_Disclosure Statment (English and Spanish)_2017_02_07.pdf*
Informed Consent/PHI Forms: *5_Informed Consent (English) 2017_02_08.doc*
Informed Consent/PHI Forms: *5_Informed Consent (English) 2017_02_08.pdf*
Informed Consent/PHI Forms: *6_Informed Consent (Spanish) 2017_02_08.docx*
Informed Consent/PHI Forms: *6_Informed Consent (Spanish) 2017_02_08.pdf*
Participant Material: *10 Participant Resorce List_2017_02_05.docx*
Participant Material: *7_Interview Moderator Guides (English and Spanish) 2017_01_29.docx*
Participant Material: *9_Participant Contact Form (English and Spanish)_2017_02_05.docx*
Recruitment Material: *1_Recruitment Flyers_with compensation (English and Spanish)_2017_02_05.docx*
Recruitment Material: *2_Recruitment Flyers (English and Spanish)_2017_02_....docx*