

Marquette University

e-Publications@Marquette

---

Dissertations (1934 -)

Dissertations, Theses, and Professional  
Projects

---

## Effects of Within-Group Discrimination on Mental Health Symptoms in Latinos

Felicia Mata-Greve  
*Marquette University*

Follow this and additional works at: [https://epublications.marquette.edu/dissertations\\_mu](https://epublications.marquette.edu/dissertations_mu)



Part of the [Latin American Studies Commons](#), and the [Multicultural Psychology Commons](#)

---

### Recommended Citation

Mata-Greve, Felicia, "Effects of Within-Group Discrimination on Mental Health Symptoms in Latinos" (2016). *Dissertations (1934 -)*. 634.

[https://epublications.marquette.edu/dissertations\\_mu/634](https://epublications.marquette.edu/dissertations_mu/634)

EFFECTS OF WITHIN-GROUP DISCRIMINATION ON MENTAL HEALTH  
SYMPTOMS IN LATINOS

by

Felicia Mata-Greve, B. A.

A Thesis submitted to the Faculty of the Graduate School,  
Marquette University,  
in Partial Fulfillment of the Requirements for  
the Degree of Master of Science

Milwaukee, Wisconsin

May 2016

ABSTRACT  
EFFECTS OF WITHIN-GROUP DISCRIMINATION ON MENTAL HEALTH  
SYMPTOMS IN LATINOS

Felicia Mata-Greve, B. A.

Marquette University, 2016

Minimal research has examined within-group discrimination even though it may be more distressing than out-group discrimination (Lee & Ahn, 2012). Within-group discrimination has primarily focused on Latinos discriminating each other for being too acculturated (i.e., intragroup marginalization; Castillo et al., 2007). Qualitative research suggests that Latinos also report discrimination from one another for being too enculturated (Cordova & Cervantes, 2010), coined *intragroup stereotyping* for the current study. Yet, intragroup stereotyping has received no research attention. The primary purpose of the present study was to examine the role of within-group discrimination in predicting mental health symptoms while accounting for out-group discrimination. Secondary goals include investigating how cultural factors, namely acculturation and nativity status, influence the relationship between within-group discrimination and symptoms of mental health.

A community sample of Latinos ( $N = 170$ ) were recruited to complete multiple self-report surveys. Within-group discrimination predicted depression and anxiety symptoms above and beyond that of out-group discrimination alone in a series of hierarchical regressions. Though, Latino and Anglo cultural orientations and nativity status did not serve as moderators for various forms within-group discrimination and psychological distress.

Evidence was found for intragroup stereotyping, a potential subtype of within-group discrimination that may better define within-group discrimination for foreign-born Latinos. This study aimed to elucidate an understudied cultural stressor that Latinos in the U.S. experience.

## ACKNOWLEDGEMENTS

Felicia Mata-Greve, B. A.

I would like to thank the chair of my committee and research mentor, Dr. Lucas Torres for his invaluable guidance and support throughout this project. In addition, I would like to extend my gratitude to the members of my thesis committee, Drs. Nicholas Heck and Ed de St. Aubin for their time and contributions to this project. I would also like to thank undergraduate and graduate members of the Mental Health Disparities Lab, especially Natasha Najar and Leticia Vallejo, for all of their help, advice, and encouragement throughout this project. I would like to thank my parents and husband for their unconditional support and encouragements throughout my education. Lastly, I would like to thank the members of my cohort, friends, and fellow graduate students for their support and care.

## TABLE OF CONTENTS

ACKNOWLEDGEMENTS.....	i
LIST OF TABLES.....	v
CHAPTER	
I. INTRODUCTION.....	1
A. In-Group Bias and Within-Group Discrimination.....	2
B. Within-Group Discrimination and Latinos.....	4
C. Acculturation and Latinos.....	5
D. Within-Group Discrimination: IM and Intragroup Stereotyping.....	6
E. Within-Group Discrimination and Nativity Status.....	9
F. Within-Group Discrimination and Mental Health.....	10
G. Current Study.....	11
II. METHODS.....	13
A. Participants and Sampling.....	13
B. Procedure.....	14
C. Measures – Independent Variables.....	15
a. Demographic Form.....	15
b. Out-Group Discrimination.....	15
c. Within-group Discrimination.....	16
i. Intragroup Marginalization.....	16
ii. Intragroup Stereotyping.....	19
d. Cultural Orientation.....	20
D. Measures – Dependent Variables.....	20

a.	Depression Symptoms.....	20
b.	Anxiety Symptoms.....	21
c.	Alcohol Misuse.....	22
III.	RESULTS.....	22
A.	Data Screening.....	26
B.	Preliminary Analyses.....	28
C.	Hypothesis 1.....	28
a.	Hypothesis 1a.....	28
b.	Hypothesis 1b.....	30
c.	Hypothesis 1c.....	30
D.	Moderator Analyses.....	33
E.	Hypothesis 2.....	35
a.	Hypothesis 2a.....	35
b.	Hypothesis 2b.....	35
F.	Hypothesis 3.....	37
G.	Hypothesis 4.....	38
a.	Hypothesis 4a.....	38
b.	Hypothesis 4b.....	38
H.	Hypothesis 5.....	39
a.	Hypothesis 5a.....	41
b.	Hypothesis 5b.....	41
c.	Hypothesis 5c.....	41
IV.	DISCUSSION.....	41

a. Limitations.....	49
b. Future Directions and Conclusion.....	50
BIBLIOGRAPHY.....	52

## LIST OF TABLES

Table 1: Coefficients of Rotated Factors from Principal Components Analysis of Ethnic Group Intragroup Marginalization Scale.....	18
Table 2: Descriptive Statistics of Variables of Interest.....	24
Table 3: Correlations of Variables of Interest.....	25
Table 4: Hierarchical Regression Analysis for Variables Predicting Depression Symptoms.....	29
Table 5: Hierarchical Regression Analysis for Variables Predicting Anxiety Symptoms.....	31
Table 6: Hierarchical Regression Analysis for Variables Predicting Alcohol Misuse.....	32
Table 7: Regression Examining Anglo Cultural Orientation as a Moderator between Family Intragroup Marginalization and Psychological Distress.....	36
Table 8: Regression Examining Anglo Cultural Orientation as a Moderator between Ethnic Group Marginalization and Psychological Distress.....	36
Table 9: Regression Examining Latino Cultural Orientation as a Moderator between Intragroup Stereotyping and Psychological Distress.....	37
Table 10: Within-Group Discrimination Experienced by U.S.- and Foreign-born Latinos.....	39
Table 11: Regression Examining Nativity Status as a Moderator between Family Intragroup Marginalization and Psychological Distress.....	40
Table 12: Regression Examining Nativity Status as a Moderator between Ethnic Group Intragroup Marginalization and Psychological Distress.....	41
Table 13: Regression Examining Nativity Status as a Moderator between Intragroup Stereotyping and Psychological Distress.....	42

## Introduction

It has been well documented that racial and ethnic discrimination has detrimental effects on an individual's mental and physical health. Multiple meta-analyses have revealed that perceived racial and ethnic discrimination is a lifelong social stressor associated with increased stress response, heart problems, depression, anxiety, posttraumatic stress symptoms, and substance use, and lower self-esteem and feelings of belonging (Pascoe, & Smart Richman, 2009; Schmitt, Branscombe, Postmes, & Garcia, 2014; Williams, Neighbors, & Jackson, 2003). Further, these negative effects of perceived discrimination exist when examining specifically Latinos in the U.S. (Lee & Ahn, 2009).

However, some research evidence suggests that when the transgressor of a discriminatory event is another in-group member, there are adverse effects on physical and mental health above and beyond that of discrimination from out-group members (Williams et al., 2003). This phenomenon is known as *within-group discrimination*, and it appears to be a separate stressor from out-group discrimination. In fact, a simulation study by Jamieson, Koslov, Nock, and Mendes (2012) found that experiencing rejection from an in-group member over the computer elicited a different physiological stress response than rejection from an out-group member. Specifically, participants that experienced rejection from an in-group member had higher cortisol reactivity, less efficient cardiac output, increased blood pressure, and performed worse on a memory task than participants that experienced rejection from an out-group member.

Moreover, rejection from in-group members influences feelings of belonging differently than rejection from out-group members. A study by Bernstein, Sacco, Young,

Hugenberg, and Cook (2010) demonstrated that college-aged participants that were accepted in a computer simulated game by their racial in-group members reported higher feelings of belonging than when they were accepted by racial out-group members. In the same study, the students reported significantly lower feelings of belonging when they were rejected by their racial in-group members than when they were rejected by racial out-group members. Together, these findings suggest that within-group discrimination is an important cultural stressor that warrants more attention. Some studies have demonstrated that within-group discrimination may be more detrimental to or affect mental health differently than out-group discrimination (Bernstein et al., 2010; Jamieson et al., 2012). Despite this proposed difference, few studies have examined within-group discrimination's effect on mental health.

### **In-Group Bias and Within-Group Discrimination**

Humans have an inborn tendency to desire social relationships for protection, survival, and increased well-being (Baumeister & Leary, 1995). When people are rejected or do not feel like they belong to any group, they may feel alienated, depressed, and engage in maladaptive behaviors (Jetten, Branscombe, & Spears, 2006). The innate desire for belonging leads humans to favor specifically those in their own group over their out-group, which has been coined as *in-group bias* (Brewer, & Campbell, 1978). Further, in-group bias may influence people to positively appraise other in-group members, prefer to surround themselves with others similar to them, and have a strict loyalty to those in their own group. Simultaneously, this favoritism for one's in-group also fosters a negative bias towards the out-group, which causes one to actively avoid, less accurately remember, and have less trust towards the out-group (Meyer, 2012). Therefore, within-group

discrimination could be more detrimental to mental health than out-group discrimination because within-group discrimination is unexpected and violates the social expectations created by the in-group bias.

While in-group bias can exist across different types of group memberships, such as political parties (Johnson, 1981), findings have shown that some factors make violating this in-group bias and within-group discrimination particularly harmful for racial and ethnic minority members. Bernstein and colleagues (2010) demonstrated that innate group membership moderated feelings of belonging from social rejection. For example, this study demonstrated that when college students were manipulated to believe that their group status (i.e., political party) was an inborn difference, students had lower feelings of belonging when rejected by someone of their same political party than when rejected by someone of the rival political party. However, when college students were not manipulated to believe political party preference was an inborn difference, they had comparable feelings of belonging after being rejected from their own and rival political party. This finding suggests that within-group discrimination may be particularly harmful when it occurs in groups who believe their differences are innate, such as racial and ethnic minorities.

Further, O'Brien, Major, and Simon (2012) found that advantaged (i.e., non-Hispanic White) or disadvantaged (i.e., Latino) group status also moderates the negative effects of within-group discrimination. In this study, Latino participants rejected another disadvantaged group member in favor of a non-Hispanic White individual, who was considered to be an advantaged group member. When asked to reflect on this experience, Latino participants considered it discriminatory and reported higher feelings of betrayal.

In comparison, non-Hispanic White participants were put in the same situation where they watched another non-Hispanic White individual reject a fellow advantaged group member in favor of a Latino individual, who was considered to be a disadvantaged group member. Non-Hispanic White individuals did not consider this discriminatory and reported little to any feelings of betrayal. Thus, within-group discrimination may be particularly harmful for members of disadvantaged groups (Schmitt et al., 2014).

Within-group discrimination has been documented in African Americans (Johnson, & Kaiser, 2012; Williams et al., 2001) and Latinos in the U.S. (Lee, & Ahn, 2009). However, it remains an understudied cultural stressor, and there is no consensus on how often or why exactly it occurs. Generally, the limited studies available show a trend that within-group discrimination occurs within racial and ethnic minority groups when in-group members want to show preference for another member to protect group status (O'Brien et al., 2012). More specifically, Eidelman and Biernat (2003) suggest that in-group members may discriminate against another in-group member if the individual does not fit the prescriptive role, making the intent of within-group discrimination to protect the group as a whole. Jetten and colleagues (2006) coined these individuals that are rejected by their own in-group as “deviants” that are unlikely to ever fit the prescriptive role of the group or “imposters” that damage norms and do not hold the same values as the rest of the group.

### **Within-Group Discrimination and Latinos**

Within-group discrimination is an important topic to consider for Latinos in particular because they constitute 17% of the U.S. population (U.S. Census, 2010) and are a heterogeneous group of individuals with different generational statuses, ethnicities,

racess, levels of acculturation, and subcultures. These many differences may make Latinos particularly susceptible to within-group discrimination. Overall, within-group discrimination is an important cultural stressor to continue studying. Thus, the primary purpose of the present study was to examine the role of within-group discrimination in predicting mental health while accounting for out-group discrimination in a community sample of U.S. Latinos. To the author's knowledge, no research to date has addressed the prevalence or effects of within-group discrimination while controlling for out-group discrimination. Secondary goals include investigating how cultural factors, namely acculturation and nativity status, influence the relationship between within-group discrimination and mental health.

### **Acculturation and Latinos**

Acculturation is an ongoing process regarding an individual's encounters with or adaptations to a host culture that may or may not conflict with that person's heritage culture (Berry, 1997). While adapting to a new culture, individuals may partake in a similar process where they may feel pressure or a desire to continue to maintain the values and traditions of their heritage cultural (i.e., *enculturation*; Gonzales, Knight, Birman, & Sirolli, 2004). In accordance with Berry's (1997) bidimensional acculturation model, acculturation and enculturation are mutually exclusive concepts, and individuals can have low and/or high orientations to Anglo and Latino cultures. For example, as Latino individuals become more acclimated to U.S. society and follow its traditions, they may identify as having a high Anglo cultural orientation (i.e., often referred to as acculturated). Similarly, if Latino individuals retain a strong adherence to their Latino traditions, they may identify as having a high Latino cultural orientation (i.e., often

referred to as enculturated). There tends to be a direct relationship between Anglo and Latino cultural orientations and use of English and Spanish, respectively. As such, language use and fluency become critical factors to assess (Castillo, Conoley, Brossart, & Quiro, 2007; Marin, Sabogal, Marin, Otero-Sabogal, & Perez-Stable, 1997). Commonly associated with acculturation is the experience of *acculturative stress*, or the stress that originates from adapting to a new culture (Rodriguez, Myers, Mira, Flores, & Garcia-Hernandez, 2002). Individuals may not only feel pressure to acculturate, but they may also feel pressure against acculturation from members of their heritage culture. Thus, the sources of acculturative stressors include both mainstream and traditional sources.

### **Within-Group Discrimination: IM and Intragroup Stereotyping**

Within-group discrimination occurs when Latino individuals reject and discriminate against other Latinos (Basañez, Warren, Crano, & Unger, 2014). The reason for differential treatment could be based on nationality, variations in dialect or accent, and/or phenotype, to name a few. However, the bulk of the current literature suggests that within-group discrimination most often occurs due to differences in acculturative and enculturative experiences. Therefore, within-group discrimination seems to be an umbrella concept for both intragroup marginalization (Castillo et al., 2007) and intragroup stereotyping.

Recent research suggests that *intragroup marginalization* (IM) occurs when individuals of an ethnic and racial minority distance themselves, whether by choice or not, from their heritage group because they are acculturating to the host culture while failing to maintain ties to their heritage culture (Berry, 2003; Castillo et al., 2007). IM may occur if the individual is not following the “correct” script of the ethnic group (i.e.,

not speaking the heritage language), which may threaten the group's social identity and distinctiveness from the broader society (Castillo et al., 2007; Eidelman & Biernat, 2003). IM can occur from various sources, such as from one's family, friends, and ethnic group. These various sources may think that an individual acts "too White" or "too American." As an example of IM, an individual with a low Latino cultural orientation may reveal their inability to speak Spanish, which then leads to a negative interaction with another Latino who may be of higher Latino cultural orientation. When this is the case, these English-speaking Latinos are more likely to report lower feelings of group membership or feelings of belonging to other Latinos (Sanchez, & Chavez, 2010; Sanchez, Chavez, Good, & Wilton, 2012). Further, Latinos that speak Spanish, which may also be less acculturated Latinos, are more likely to be viewed as "Latino" than those that do not speak Spanish (Wilton, Sanchez, & Chavez, 2013). It has been reported that Latinos with a high Latino cultural orientation perceive those with a high Anglo cultural orientation as "less minority" (Sanchez, & Chavez, 2010). Recently, a great deal of research has been conducted on IM from familial sources. Research has shown that IM may be especially pertinent to Latino adolescents and college students given that they are at a time in their lives where they are becoming more independent and exploring the U.S. culture while still maintaining relationships with family of the Latino culture (Cano, Castillo, Castro, de Dios, & Roncancio, 2014; Llamas, & Consoli, 2012). Moreover, children and adolescents acculturate at a faster rate than their parents and have very different experiences when interacting with mainstream U.S. society (Castillo et al., 2007). Postmes and Branscombe (2002) noted that there is a negative relationship between acceptance from majority group members and rejection from ethnic group members.

As a subcategory of within-group discrimination, IM addresses being marginalized for over acculturating or assimilating to the mainstream culture. Much like acculturation and acculturative stress, within-group discrimination encompasses more than this one facet and can include other sources. There is evidence that suggests Latinos can be marginalized, rejected, or discriminated against from other Latino in-group members for also acting “too Latino,” too traditional, or speaking too much Spanish (Niemann, Romero, Arredondo, & Rodriguez, 1999). The current study will refer to these experiences as *intragroup stereotyping* as there does not appear to be a more appropriate label in the empirical literature, and there is significantly less research. As an exception, there have been two qualitative studies that identify this concept of intragroup stereotyping. Niemann and colleagues (1999) used a group-based study where first- and second- generation Mexican Americans with low Anglo cultural orientations directly reported their discrimination experiences. Per their reports, the worst form of discrimination was from other Latinos. Participants with a low Anglo cultural orientation reported that Latinos with a higher Anglo cultural orientation would shame their reliance on Spanish and lack of English abilities. More recent qualitative research has also found similar trends almost a decade later. Cordova and Cervantes (2010) showed that recently immigrated and low acculturated Latino youth reported discrimination by more acculturated youth for not knowing English and accused them of not having their immigration documentation.

Acculturation, specifically Anglo and Latino cultural orientation, is likely to influence the type of within-group discrimination experienced and the corresponding psychological consequences. Anglo cultural orientation may be associated with high

levels of IM. Latinos with high Latino cultural orientation perceive other Latinos with high Anglo cultural orientation as “less minority” or may reject them for their inability to speak Spanish (Sanchez & Chavez, 2010). Conversely, Latino cultural orientation may be related to high intragroup stereotyping. Latinos with high Anglo cultural orientation reject Latinos with high Latino cultural orientation for being too traditional and mock their use of Spanish (Niemann et al., 1999). As Jetten and colleagues (2006) noted, those that do not neatly fit the scripts of a group, in this case Latino or Anglo cultural orientations, are at risk for discrimination by other Latinos because they do not appear to share the same values and traditions as those in the in-group.

### **Within-Group Discrimination and Nativity Status**

In addition to acculturation, nativity status, which refers to country of birth, may also be associated with the within-group discrimination of Latinos. Wiley (2013) described that immigrants may have different nationalities and cultural backgrounds than their U.S.-born counterparts. Recently immigrated, or foreign-born, Latinos have reported experiencing high levels of within-group discrimination via intragroup stereotyping specifically from later generation, U.S.-born Latinos because of their lack of English proficiency and accusations about not obtaining legal documentation within the U.S. (Cordova & Cervantes, 2010). Buriel and Vasquez (1982) conducted a study with first-, second-, and third- generation Latinos and non-Hispanic Whites and explored what each group’s stereotype was for Mexican Americans. These authors found that with each successive Latino generation, the stereotypes for fellow Mexican Americans resembled those endorsed by non-Hispanic White individuals. Their findings suggested that either type of within-group discrimination may occur because successive Latino generations

become less familiar with the traditional culture, have fewer role models of Mexican descent, and may become more geographically distanced from Central and South America. Similarly, their findings suggested that as each generation spends more time in the U.S. and develops more of an Anglo cultural orientation, more differences emerge between groups, which result in increased within-group discrimination between U.S.- and foreign-born Latinos. U.S.-born Latinos may be more acculturated, speak more English, and try to separate themselves from their foreign-born counterparts (Araújo & Borrell, 2006). While nativity status and cultural orientation may be interrelated, the scarce research available on within-group discrimination shows that they both may be factors as to why some Latinos are more susceptible to within-group discrimination than others.

### **Within-Group Discrimination and Mental Health**

As stated earlier, in-group bias can be beneficial for mental health by increasing one's sense of belonging, which is then related to a more positive mood, higher self-esteem, and reduced anxiety (Hewstone, Rubin, & Willis, 2002; Meyer, 2012). Therefore, within-group discrimination may be more detrimental than out-group discrimination because rejection by respected in-group members is unexpected (Bernstein et al., 2010). When specifically examining the literature with Latino young adults, IM has been found to be associated with increased depression symptoms (Cano et al., 2014), less successful adjustments in college (Llamas, & Ramos-Sanchez, 2011), less resilience and thriving behaviors (Llamas, & Consoli, 2012), and increased amounts of acculturative stress (Castillo, Cano, Chen, Blucker, & Olders, 2008).

Within-group discrimination leads to higher feelings of betrayal and exclusion, and lower feelings of belonging or connectedness, all of which contribute to poor mental

health outcomes such as increased negative emotions, and depression and anxiety symptoms (Eidelman, & Biernat, 2003; Jetten et al., 2006; O'Brien et al., 2011; Sanchez et al., 2012). In a sample of Latino adolescents, Basañez et al. (2014) found that participants who perceived higher rates of within-group discrimination and reported lower levels of active coping had higher depressive symptoms than those who solely reported out-group discrimination. Furthermore, out-group discrimination is associated with increased lifetime use of cigarettes, alcohol, and marijuana; therefore, it seems plausible that within-group discrimination could also be linked to increased substance misuse (Okamoto, Ritt-Olson, Soto, Baezconde-Garbanati, & Unger, 2009; Pascoe & Smart Richman, 2009). Additionally, the thought of potential rejection can be distressing. For example, Sanchez et al. (2012) found that non-Spanish speaking Latinos who merely thought about being rejected by other Spanish speakers reported lower feelings of ethnic identity, collective self-esteem, and connectedness to other Latinos. This suggests that Latinos of later generations may be particularly sensitive and negatively affected by within-group discrimination.

### **Current Study**

To the author's knowledge, this current study was the first to examine the effects of within-group discrimination while controlling for out-group discrimination on multiple mental health symptoms (i.e., depression, anxiety, and alcohol misuse). In addition, this study aimed to examine the role of acculturation, namely Anglo and Latino cultural orientation, in contributing to the mental health consequences associated with within-group discrimination. Lastly, the present study examined nativity status' influence on the

negative psychological effects of within-group discrimination. A quantitative survey methodology with a community sample of Latinos was utilized.

Hypothesis 1 consisted of three parts and stated that within-group discrimination would predict mental health symptoms above and beyond out-group discrimination in terms of the explained variance. More specifically, within-group discrimination would predict self-reported symptoms of depression (1a), anxiety (1b), and alcohol misuse (1c) above and beyond what out-group discrimination alone would predict (Basañez et al., 2014; Eidelman, & Biernat, 2003; O'Brien et al., 2011; Sanchez et al., 2012). For Hypotheses 2 and 3, it was expected that Anglo and Latino cultural orientation would function as moderating variables. Hypothesis 2 stated that Anglo cultural orientation would moderate the relationship between IM (from familial [2a] and ethnic group [2b] sources) and depression and anxiety symptoms, such that high Anglo cultural orientation would strengthen this association. For example, Latinos would report experiencing IM from other Latinos for their inability to speak Spanish and be perceived as less minority (Castillo et al, 2007; Sanchez & Chavez, 2010), which in turn will elicit more symptoms of psychological distress. On the other hand, Hypothesis 3 stated that Latino cultural orientation would moderate the relationship between intragroup stereotyping and depression and anxiety symptoms such that high Latino cultural orientation would exacerbate this effect. For example, Latinos would report experiencing within-group discrimination from other Latinos for using too much Spanish, an inability to speak English, and acting too traditional to Latino cultural norms (Niemann et al., 1999), which would elicit more symptoms psychological distress.

Hypothesis 4 indicated foreign-born Latinos would experience less family and ethnic group IM (4a) and more intragroup stereotyping (4c) than U.S.-born Latinos. Lastly, Hypothesis 5 examined nativity status as a moderator for the relationship between each subtype of within-group discrimination and mental health symptoms. Specifically, it was hypothesized that that U.S.-born Latinos would be more susceptible to family (5a) and ethnic group (5b) IM, and thus, they would report more depression and anxiety symptoms than their foreign-born counterparts (Sanchez et al., 2012). Moreover, it was also hypothesized that foreign-born Latinos would be more susceptible to intragroup stereotyping (5c), and thus, they would report more depression and anxiety symptoms than their U.S.-born counterparts.

## **Methods**

### **Participants and Sampling**

For the present study, 185 adults over the age of 18 who identified as Latino or Hispanic were recruited from a community cultural event and a moderately sized university in the Midwest. However, 15 participant responses were discarded because either less than 80% of the survey was completed, or it appeared that participants had variable effort on their surveys. Of the 170 participants, the majority were female (76.5%,  $n = 130$ , males: 23.5%,  $n = 40$ ). The mean age was approximately 38 years of age ( $SD = 15.91$ , range: 18-84). As for annual family/household income, one quarter of the sample (25.3%,  $n = 43$ ) reported an annual income of less than \$20,000, almost half (45.9%,  $n = 78$ ) endorsed having an annual income of \$20,000 to \$50,000, and the last quarter of the sample (25.3%  $n = 43$ ) indicated having a salary of over \$50,000 annually; the median

income was between \$20,000 and \$35,000. Nearly a third (31.8%,  $n = 54$ ) of the sample were students at the time of recruitment. The sample included 68 foreign-born (40%) and 100 U.S.-born individuals (58.8%; 2 did not answer). Majority of the sample identified being Mexican, Mexican American, or Chicano ( $n = 155$ ; 91.1%) followed by Puerto Rican ( $n = 8$ , 4.7%), Central/South American ( $n = 4$ , 2.4%; Colombian, Guatemalan, Peru), and Cuban ( $n = 1$ , 1.2%). Further, 109 (64.1%) of the participants were first generation, 26 were second generation (15.3%), and 23 (20.0%) were third or greater generation Latinos.

### **Procedure**

After receiving appropriate approval for survey methodology from the Institute Review Board of the affiliated institution, participants were recruited from a cultural event and a moderately sized Midwestern university. Latino participants were approached at the cultural event and given a brief description of the study including goals, benefits, potential risks, and confidentiality. After oral consent, participants voluntarily completed a series of paper-and-pencil questionnaires onsite in the participants' choice of English or Spanish. Participants spent approximately 30-60 minutes to complete the questionnaires, and they had the option to discontinue at any time. Bilingual research assistants were available at the event to help answer questions. To ensure privacy and confidentiality, responses were anonymous with no identifiable information. To ensure completion, trained research assistants briefly scanned through surveys to verify that participants did not unnecessarily omit items. Surveys were then placed into an anonymous drop box after completion. Participants were given a referral form with community mental health resources and compensated with \$10 in cash. As for

recruitment via the university, several Latino student groups and organizations were contacted and given information on the study through email. Interested Latino students were sent additional information and given the option to complete the survey anonymously online or in-person. Participants that completed the survey online were given the option of \$10 cash or gift card compensation. Over half of the participants (57.1%,  $n = 97$ ) completed the survey in-person in English, 31.7% ( $n = 54$ ) completed the survey in-person in Spanish, and 11.2% ( $n = 19$ ) completed the survey online in English.

### **Measures - Independent Variables**

**Demographic form.** Participants completed a demographic form and indicated sex, family and household income, education level, generation level, nativity status, and age.

**Out-group discrimination.** The Brief-Perceived Ethnic Discrimination Questionnaire (BPEDQ; Brondolo et al., 2005) is a 17-item questionnaire available in both English and Spanish that quantifies incidences of discrimination one has experienced during their lifetime; it was shortened from the original PEDQ, which was 34 items. The BPEDQ was developed to evaluate discriminatory experiences that could apply to multiple racial/ethnic backgrounds, one of which included Latinos. Sample items include, “How often have you been treated unfairly by teachers, principals, or other staff at school?” and, “Have others hinted that you are dishonest and can’t be trusted?” Each question lists an event and asks the participant how often they have experienced that event on a Likert scale from 1 *Never* to 5 *Very often*. Brondolo and colleagues (2005) reported a Cronbach’s alpha of 0.87 for the scale. An overall score was calculated using all items, and scores range from 0 to 5, such that higher scores indicate increased

incidences of discrimination. For the present study, calculated Cronbach's alpha was 0.95.

**Within-group discrimination.** Two self-report measures were utilized to measure the construct of within-group discrimination in order to measure both IM and intragroup stereotyping.

***Intragroup marginalization.*** One of the measures used was the Intragroup Marginalization Inventory (IMI; Castillo et al., 2007), which is a 37-item measure available in English and Spanish that measures the amount of marginalization one perceives for being too acculturated and not maintaining one's heritage culture. The IMI includes items that assess within-group discrimination and consists of three subscales: Family, Friends, and Ethnic Group. Subscales clarify what groups are marginalizing the participant. The present study used the Family and Ethnic Group subscales as the Friends scale has the lowest alpha of the three subscales (Castillo et al., 2007), and some of the content overlapped with the Ethnic Group subscale. Sample items from the used subscales include "Family members tease me because I don't speak my ethnic group's language" (Family), and "People of my ethnic group tell me that I am not really a member of my ethnic group because I don't act like my ethnic group" (Ethnic Group). The IMI uses a 7-point Likert scale that ranges from 1 *does not apply* to 7 *extremely often* to determine how often these situations occur. Summary scores were calculated for each subscale for analyses, where higher scores indicate feelings of IM. Castillo et al. (2007) reported that the scale has respectable convergent and divergent validity. Cano et al. (2014) reported high reliability ( $\alpha=0.85$ ). The present study had Cronbach's alphas of 0.81 and 0.61 for the Family and Ethnic Group subscales, respectively.

Due to the low reliability on the Ethnic Group subscale, a principal component analysis (PCA), was conducted utilizing maximum likelihood extraction and varimax rotation. Prior to performing the PCA, suitability of the data was assessed. Many correlations had coefficients of 0.3 or higher. In addition, the Kaiser-Meyer-Olkin value was 0.86 exceeding the recommended value of 0.6 (Kaiser, 1974), suggesting the sample was adequate for interpretation. Further, Bartlett's Test of Sphericity was statistically significant. Principal components analysis demonstrated the presence of three components with Eigenvalues exceeding 1, explaining 42.19%, 17.24% and 10.84% of the variance, respectively. The screeplot revealed a clear break after the second component. Using Cattell's (1966) scree test, two components were retained for further analysis. The rotated solution, displayed in Table 1, revealed that two items cross loaded on two of the components, which means that the items had coefficients greater than 0.32 on both factors and the difference was less than 0.10. These two items (Items 10 and 13) were removed. The two-components explained 59.44% of the variance, with the first factor containing 6 items (Items 1, 7, 8, 9, 11, and 12) that explained 42.19% of the variance. The first component was considered to be a subscale of the IMI Ethnic Group scale and was labeled "pressures to conform" (eigenvalue 5.49, rotated eigenvalue 4.56). The second component explained 17.25% of the variance and contained two items (Items 5, and 6). This component was named "accusations of assimilation" (eigenvalue 2.24, rotated eigenvalue 2.56). Naming of the components were consistent with results from an exploratory factor analysis conducted by the developers of the IMI (Castillo et al., 2007). The two subscales, pressures to conform ( $\alpha = 0.91$ ) and accusations of assimilation ( $\alpha = 0.72$ ) were utilized for analyses containing Ethnic Group IM. While analyses were

Table 1

*Coefficients of Rotated Factors from Principal Components Analysis of Ethnic Group Intragroup Marginalization Scale*

Scale item	1	2	3
1. Latinos criticize me because I don't speak Spanish well.	<b>.82</b>	-.05	.10
2. Latinos have the same hopes and dreams as me.	.02	.02	<b>.79</b>
3. Latinos are accepting of my work/career goals.	-.01	-.02	<b>.89</b>
4. My success in work/school has made people of my ethnic group closer to me.	-.00	-.20	<b>-.83</b>
5. People of my ethnic group say that I have changed.	-.08	<b>-.80</b>	-.16
6. People of my ethnic group are not as close to me as they used to be because of my work/school achievements.	-.09	<b>-.81</b>	-.12
7. Latinos tease me because I don't know how to speak Spanish.	<b>.89</b>	.10	.12
8. Latinos tell me that I need to act more like them.	<b>.67</b>	.45	-.06
9. Latinos tell me that I am a "sellout."	<b>.63</b>	.44	-.06
10. Latinos tell me that I have too many White friends.	<b>.55</b>	<b>.58</b>	-.03
11. Latinos laugh at me when I try to speak Spanish.	<b>.90</b>	.06	-.03
12. Latinos tell me that I am not really a Latino because I don't act like a Latino.	<b>.79</b>	.41	-.06
13. Latinos want me to act the way I used to act.	<b>.56</b>	<b>.55</b>	-.04

conducted utilizing either the entire Ethnic Group scale or the two subscales, results did not differ. The results that utilized the subscales, pressures to conform and accusations of assimilation, will be reported since they have higher reliability.

***Intragroup stereotyping.*** The Multidimensional Acculturative Stress Inventory (MASI; Rodriguez et al., 2002), which is a 36-item scale that measures acculturative pressures associated with the mainstream U.S. and traditional Latino cultures, was adapted to measure intragroup stereotyping. The MASI includes four subscales: Pressures to Acculturate, Pressures Against Enculturation, Spanish Competency Pressures, and English Competency Pressures. The current study used MASI items to assess the experience of being rejected by other Latinos for being too enculturated. Five items with the highest factor loadings were taken from the “English Competency Pressures” subscale, such as, “I have been discriminated against because I have difficulty speaking English” and “Since I don’t speak English well, people have treated me rudely or unfairly.” In these cases, “by Latinos” was added to the end of the sentence and “people” was replaced with “other Latinos,” respectively. Additionally, five more items with the highest factor loadings were adapted from the “Pressure to Acculturate” subscale including, “It bothers me when people pressure me to assimilate to the American ways of doing things” and “It bothers me when people don’t respect my Mexican/Latino values.” Similarly, these items were adapted by changing “people” to “other Latinos” in each item. These four items were rated for how stressful they are on a 6-point Likert scale from 0 *not applicable* to 5 *very well/very much*. Mean scores were calculated and range from 0 to 5. Higher scores indicate higher levels of intragroup stereotyping. While adapting a measure is not ideal, no measure currently exists that measures within-group discrimination of Latinos for being too enculturated. Basañez and colleagues (2014) performed this adaptation in a study with Latino adolescents and reported a Cronbach’s alpha of 0.79 for their four items. Cronbach’s alpha for the present study is 0.93.

**Cultural Orientation.** The Brief-Acculturation Rating Scale for Mexican Americans-II (BARSMA-II; Bauman, 2005) is a 10-item questionnaire available in English and Spanish adapted from the original 30-item ARMSA (Cuellar, Arnold, & Maldonado, 1995). The BARSMA-II includes two subscales: Anglo Orientation Scale (AOS,  $\alpha = 0.73$ ) and Latino Orientation Scale (LOS,  $\alpha = 0.91$ ; Bauman, 2005). Sample items from each subscale include, “I like to identify myself as an Anglo American” (AOS), and “I like to speak Spanish” (LOS). The BARSMA-II uses a 5-point Likert scale from 1 *not at all* to 5 *extremely often or almost always*. The mean scores were calculated and range from 1 to 5 with higher means indicating stronger cultural orientations. Despite the scale being specifically developed for Mexicans and Mexican Americans (Cabassa, 2003), it is the strongest measure available for cultural orientation and has been used across research with heterogeneous groups of Latinos. Furthermore, many of the study’s sample (91.1%) was of Mexican heritage. The ARMSA-II has been reported to be a reliable and valid measure, as demonstrated by Cuellar et al. (1995). Cronbach’s alphas were 0.86 and 0.80 for the current LOS and AOS, respectively.

### **Measures - Dependent Variables**

**Depression symptoms.** The Brief-Center for Epidemiologic Study-Depression Scale (BCES-D; Radloff, 1977) is a 10-item self-report measure that examines the frequency of affective, somatic, and interpersonal depression symptoms experienced within the past week. A sample item is, “I felt sad.” Each item asks participants to indicate how often they experienced these feelings during the past week on a 4-point Likert scale from 0 *rarely or none of the time (less than 1 day)* to 3 *most or all of the time (5-7 days a week)*. A total sum was calculated and used for analyses. Scores ranged from

0 to 30, and higher scores indicate more depression symptoms. A benefit to using the BCES-D is that it is sensitive to depression symptoms in non-clinically impaired populations, but it can also provide a clinically significant cut-off score (8; Weissman, Sholomskas, Pottenger, Prusoff, & Locke, 1977). The BCES-D has been translated into Spanish and is considered a valid and reliable measure when it is used with Latino populations in the U.S. ( $\alpha = .76$ ; Grzywacz, Hovey, Seligman, Arcury, & Quandt, 2006). The Cronbach's alpha for the current study was 0.82.

**Anxiety symptoms.** The Beck Anxiety Inventory (BAI) is a well-known 21-item self-report measure that has the ability to quantify and screen for clinically significant affective, cognitive and somatic symptoms of anxiety (Beck, Epstein, Brown, & Steer, 1988). The measure lists anxiety symptoms for items such as, "nervous," and "face flushed." Similar to the BCES-D, participants must indicate how bothered they have been by a symptom in the past month on a Likert scale of 0 *not at all* to 3 *severely*. A total sum was calculated and used for analyses. Scores can range from 0 to 63, and higher scores indicate more anxiety symptoms. Despite being designed for a clinically impaired population, it has had successful use with non-clinically impaired populations to measure anxiety as a characteristic (Creamer, Foran, & Bell, 1995). The BAI has high internal consistency, high test-retest reliability, and good validity (Beck et al., 1988; Fydrich, Dowdall, & Chambless, 1992). In addition, it has also been translated in Spanish, used in Spain (Magán, Sanz, & García-Vera, 2008), and considered culturally sensitive within a U.S. Latino college population ( $\alpha = 0.82$ ; Contreras, Fernandez, Malcarne, Ingram, & Vaccarino, 2004). The Cronbach's alpha was 0.95 for the current study.

**Alcohol misuse.** The Alcohol Use Disorders Identification Test (AUDIT; Babor, de la Fuente, Saunders, & Grant, 1989) was developed by the World Health Organization (WHO) and consists of 10 items that screens for problematic alcohol use. Questions 1 and 2 assess frequency in which participants consume alcohol on a weekly (i.e., zero *never* to four *4 or more times each week*) and daily basis (i.e., zero *1 or 2* to four *10 or more*) on a five-point scale. Questions 3 through 8 determine how often participants engage in various behaviors related to substance use on a five-point scale of 0 *never* to 4 *daily or almost daily*. The last 2 (9 and 10) questions ask about problems related to annual alcohol use that are on a 3-point scale from 0 *no*, 2 *Yes, but not in the last year*, and 4 *Yes, during the last year*. For analysis, total scores were summed and range from 0 to 40; higher scores indicate problematic alcohol use. Cut-off scores vary, but scores of 16 and above indicate potential for alcohol abuse and dependency (Babor, Higgins-Biddle, Saunders, & Monteiro, 2001). This scale was created and validated utilizing a sample from Mexico. In addition, it has been utilized with Latinos and translated into Spanish (de Meneses-Gaya, Zuardi, Loureiro, & Crippa, 2009). Cronbach's alpha for the current study was 0.84.

## **Results**

### **Data Screening**

Prior to analysis, the ten variables of interest (Latino orientation, Anglo orientation, out-group discrimination, family IM, pressures to conform and accusations of assimilation from ethnic group IM, intragroup stereotyping, anxiety symptoms,

depression symptoms and alcohol misuse) were examined to determine accuracy of data entry, missing values, and assumptions of multivariate analysis.

No more than 1.10% of composite scores were missing for each variable. Pairwise linearity was examined using within-group scatterplots and deemed satisfactory. Exact number of cases for each variable can be found in Table 2. To screen for univariate outliers, each variable was transformed to its z-scores, and scores  $\pm 3.29$  were considered potential outliers. Significantly high outliers were winsorized to the next highest value under the z-score cut-off of 3.29 (Tabachnick & Fidell, 2011). To screen for multivariate outliers, Mahalanobis distance was utilized to evaluate the distance of values from the centroid. Only three cases (1.70%) were identified to be multivariate outliers using a  $p$ -value of 0.0001 and  $\chi^2$  testing. Therefore, nothing was used to correct them. Lastly, kurtosis and skewness were examined for each variable by dividing the value by their respective standard errors. If the value was greater than  $\pm 3.29$ , data was considered significantly kurtotic or skewed. Anxiety was the only variable that was significantly kurtotic. Further, all of the variables of interest were significantly skewed except for Latino orientation and depression symptoms. However, many of these variables were expected to be skewed. Since a non-clinically impaired sample was utilized, it was expected that anxiety symptoms and alcohol misuse symptoms would be positively skewed (Crawford, & Henry, 2003; Neal & Simons, 2007). All main analyses were conducted using untransformed and transformed variables. Since no significant differences were detected between major findings, the results of untransformed data are reported to facilitate interpretation.

Table 2.

*Descriptive Statistics of Variables of Interest*

Variables ( <i>n</i> )	<i>M</i>	<i>SD</i>	Min.	Max.
Out-Group Discrimination (168)	2.00	.89	1.00	4.82
Family IM (169)	16.56	11.83	0	54
Ethnic Group IM (169)	25.82	9.04	9	54
Pressures to Conform (169)	6.01	8.26	0	36
Accusations of Assimilation (169)	8.45	3.41	0	12
Intragroup Stereotyping (170)	1.01	1.14	0	4.20
Latino Orientation (168)	3.74	.99	1.17	5.00
Anglo Orientation (168)	3.76	.89	1.00	5.00
Depression Symptoms (168)	10.20	6.43	0	30
Anxiety Symptoms (170)	12.82	12.96	0	54
Alcohol Misuse Symptoms (169)	3.21	3.86	0	14
Psychological Distress (170)	.81	.57	0	2.45

To examine multicollinearity, a correlational matrix (two-tailed Pearson's  $r$ ) of all variables was computed and no two variables were correlated over 0.61. Results can be found in Table 3. Singularity was avoided by either using only composite means or subscale means. For example, for the CES-D and BAI, total sum and mean scores were utilized instead of subscale scores. While for the BARSMA, the Anglo and Latino subscale means were used instead of the composite mean.

Table 3.

*Correlations of Variables of Interest.*

	1	2	3	4	5	6	7	8	9	10	11	12
1. Out-Group Discrimination	--	.36*	.33*	.40*	-.32*	.43*	-.07	-.02	.48*	.36*	.23*	.47*
2. Family IM		--	.42*	.50*	-.18*	-.34*	-.09	-.27*	.46*	.33*	.17*	.44*
3. Ethnic Group IM			--	.90*	-.10	.28*	-.27*	.02	.42*	.32*	.15	.41*
4. Pressures to Conform				---	-.40*	.34*	-.28*	-.03	.43*	.36*	.20*	.44*
5. Accusations of Assimilation					--	-.33*	-.08	.02	-.27*	-.26*	-.20*	-.29*
6. Intragroup Stereotyping						--	.23*	-.41*	.34*	.24*	.07	.32*
7. Latino Orientation							--	-.14	-.08	-.04	-.09	-.07
8. Anglo Orientation								--	.08	.07	.02	.08
9. Depression Symptoms									--	.61*	.23*	.90*
10. Anxiety Symptoms										--	.23*	.89*
11. Substance Use Symptoms											--	.25
12. Psychopathology												--

Note. \* $p < 0.05$

## Preliminary Analyses

After data screening, descriptive statistics and correlations were computed for each variable, which can be found in Table 2 and 3, respectively. In addition, mean differences were assessed using demographic information. Each of the ten variables of interest were assessed to determine if there were differences across income (less than \$20,000, \$20,000-\$50,000, and above \$50,000), nativity status (U.S.-born, and foreign-born) and sex (male and female). The Bonferroni correction was utilized for preliminary analyses due to multiple comparisons ( $p = 0.005$ ).

One-way analyses of variances for each variable determined that were significant differences among income levels for the following variables: Anglo cultural orientation, anxiety symptoms, depression symptoms, family IM, and intragroup stereotyping.

*Tukey's HSD* was utilized for post-hoc comparisons. For Anglo orientation, homogeneity was violated, Levene's statistic (2, 159) = 5.50,  $p < 0.01$  and there were significant differences, Welch's statistic (2, 90.06) = 7.72,  $p < 0.005$ . Those that were in the low income group ( $M = 3.45$ ,  $SD = 1.07$ ) had significantly lower Anglo cultural orientations than those in the high income group ( $M = 4.10$ ,  $SD = .59$ ). Homogeneity was violated for anxiety symptoms, Levene's statistic (2, 161) = 10.94,  $p < 0.01$ , and Welch's statistic (2, 90.07) = 7.72,  $p < 0.005$  revealed that those in the low income group ( $M = 18.72$ ,  $SD = 15.83$ ) had significantly higher anxiety than those in the high income group ( $M = 7.30$ ,  $SD = 8.71$ ). Similarly, homogeneity was violated for depression symptoms, Levene's statistic (2, 159) = 4.52,  $p < 0.01$ , and Welch's statistic (2, 90.91) = 12.27,  $p < 0.005$  was significant, demonstrating that those in the high income group ( $M = 6.86$ ,  $SD = 4.92$ ) had lower depression symptoms than the low ( $M = 12.86$ ,  $SD = 7.06$ ) and medium ( $M =$

10.63,  $SD = 6.04$ ) income groups. Homogeneity of variance was violated for family IM, Levene's statistic (2, 160) = 4.41,  $p = 0.014$ , and revealed significant differences, Welch's statistic (2, 88.83) = 10.34,  $p < 0.005$ ). Those in the high income group ( $M = 10.65$ ,  $SD = 9.67$ ) had significantly lower rates of family IM than the medium ( $M = 17.65$ ,  $SD = 10.92$ ) and low ( $M = 21.07$ ,  $SD = 13.57$ ) income groups. Lastly, intragroup stereotyping's homogeneity of variance was violated, Levene's statistic (2, 161) = 7.51,  $p = 0.001$ , and there were significant differences, Welch's statistic (2, 95.64) = 8.17,  $p < 0.005$ . Post-hoc analyses revealed that those in the low income group ( $M = 1.39$ ,  $SD = 1.21$ ) reported significantly more intragroup stereotyping than the high ( $M = 0.59$ ,  $SD = 0.72$ ) income group.

Ten independent t-tests were utilized to determine differences between sex for the ten variables of interest. No significant differences were found while utilizing Bonferonni's correction.

Six independent t-tests were also utilized to determine differences between U.S.-born and foreign-born Latinos and revealed differences for Latino and Anglo cultural orientation. For both Latino and Anglo orientations, homogeneity of variance was violated, Levene's statistic = 12.29,  $p = 0.001$  and 29.69,  $p = 0.001$ , respectively. Foreign-born Latinos ( $M = 4.13$ ,  $SD = 0.71$ ) reported significantly higher Latino orientation than U.S.-born Latinos ( $M = 3.45$ ,  $SD = 1.06$ ), equal variances not assumed  $t(164.90) = 5.04$ ,  $p = 0.001$ . In contrast, U.S.-born Latinos ( $M = 4.06$ ,  $SD = 0.56$ ) reported higher Anglo orientation than foreign-born Latinos ( $M = 3.27$ ,  $SD = 0.56$ ), equal variances not assumed  $t(91.06) = -5.69$ ,  $p = 0.001$ . As a result, the main analyses

controlled for income, nativity status and sex. In addition, due to many regressions being utilized, Bonferroni's correction was applied for main analyses ( $p = 0.008$ ).

### **Hypothesis 1**

Hypothesis 1 consisted of three parts and stated that within-group discrimination would predict depression (1a), anxiety (1b), and alcohol misuse (1c) above and beyond out-group discrimination. To test Hypothesis 1, three separate hierarchical regressions were conducted for depression, anxiety, and alcohol misuse. Sex, nativity status, and annual household income were entered at step 1, out-group discrimination was entered at step 2, and IM (family and ethnic group) and intragroup stereotyping were entered at step 3. Due to ethnic group IM having low reliability, the two subscales, pressures to conform and accusations of assimilation were used.

**Hypothesis 1a.** For the first hierarchical regression that predicted depression, step 1 explained 13.9% of the variance in depression,  $F(3, 158) = 8.35$ ,  $R^2 = 0.14$ ,  $p = 0.0001$ . After entry of the out-group discrimination measure at step 2, the total variance explained by the model was 32.5%,  $F(4, 158) = 18.52$ ,  $R^2 = 0.33$ ,  $p = 0.0001$ . Out-group discrimination explained an additional 19% of the variance in depression, after controlling for demographic information,  $R$  square change = 0.19,  $F$  change (1, 154) = 42.33,  $p < 0.001$ . After entry of within-group discrimination measures at step 3, the total variance explained by the model was 41.0%,  $F(8, 158) = 13.05$ ,  $R^2 = 0.41$ ,  $p = 0.0001$ . Within-group discrimination explained an additional 8.6% of the variance in depression, after controlling for out-group discrimination and demographic information,  $R$  square change = 0.086,  $F$  change (4, 150) = 5.44,  $p < 0.001$ . In the final model, annual family income, and out-group discrimination were significant. Nativity status ( $p = 0.03$ ), gender

( $p = 0.07$ ), and family IM ( $p = 0.012$ ) were trending significance. These results support hypothesis 1a and demonstrate that within-group discrimination did predict depression symptoms above and beyond that of out-group discrimination alone. Full results are shown in Table 4.

Table 4.

*Hierarchical Regression Analysis for Variables Predicting Depression Symptoms*

Variable	Model 1			Model 2			Model 3		
	<i>B</i>	<i>SE B</i>	$\beta$	<i>B</i>	<i>SE B</i>	$\beta$	<i>B</i>	<i>SE B</i>	$\beta$
Gender	-1.57	1.17	-.10	.01	1.07	.00	.13	1.02	.01
Annual Household Income	-3.05	0.67	-.35**	-2.55	.60	-.29**	-1.82	1.01	.17**
Nativity Status	2.03	1.01	.15*	1.48	.90	.11	2.21	1.01	.17*
Out-group Discrimination				3.22	.50	.45**	2.00	.55	.28**
Intragroup Stereotyping							0.72	0.48	0.13
Family IM							.11	0.04	0.20*
Ethnic Group IM Pressures to Conform							.09	.06	.12
Ethnic Group IM Accusations of Assimilation							-.04	.14	-.02
$R^2$	0.14**			0.33**			0.41**		
F for change in $R^2$	0.14**			0.19**			0.09**		

Note. \* $p < 0.05$  \*\* $p < .01$ .

**Hypothesis 1b.** For the second hierarchical regression that predicted anxiety symptoms, entering demographic variables in step 1 explained 10.4% of the variance in anxiety symptoms,  $F(3, 159) = 6.013, R^2 = 0.10, p = 0.001$ . After entry of the out-group discrimination measure at step 2, the total variance explained by the model was 19.6%,  $F(4, 159) = 9.45, R^2 = 0.20, p = 0.0001$ . Out-group discrimination explained an additional 9.2% of the variance in anxiety, after controlling for demographic information,  $R$  square change = 0.09,  $F$  change (1, 155) = 17.82,  $p < 0.001$ . After entry of within-group discrimination at step 3, the total variance explained by the model was 25.8%,  $F(8, 159) = 6.58, R^2 = 0.26, p = 0.0001$ . Within-group discrimination explained an additional, significant variance of 6.2% in anxiety symptoms,  $R$  square change = 0.062,  $F$  change (4, 151) = 3.17,  $p = 0.016$ . In the final model, annual household income was significant. Out-group discrimination was trending significance ( $p = 0.03$ ). Hypothesis 1b was supported in demonstrating that within-group discrimination predicted anxiety symptoms above and beyond that accounted for by out-group discrimination. Full results are shown in Table 5.

**Hypothesis 1c.** For the third hierarchical regression that predicted alcohol misuse symptoms, step 1 explained 5.4% of the variance in anxiety symptoms,  $F(3, 159) = 2.58, R^2 = 0.05, p = 0.011$ . After entry of the out-group discrimination measure at step 2, the total variance explained by the model was 8.3%,  $F(4, 159) = 3.53, p = 0.009$ . Out-group discrimination explained an additional 3.0% of the variance in alcohol misuse, after controlling for demographic information,  $R$  square change = 0.03,  $F$  change (1, 155) = 5.04,  $p = 0.03$ . After entry of within-group discrimination at step 3, the total variance explained by the model entirely was 12.0%,  $F(8, 159) = 2.58, p = 0.01$ . Within-group discrimination explained an additional 3.7% of the variance in alcohol misuse, which was

not statistically significant,  $R$  square change = 0.037,  $F$  change (4, 151) = 1.58,  $p$  = 0.18.

In the final model, sex was a significant predictor. This analysis did not support hypothesis 1c given that within-group discrimination did not contribute significant variance in predicting alcohol misuse. Full results are shown in Table 6.

Table 5

*Hierarchical Regression Analysis for Variables Predicting Anxiety Symptoms*

Variable	Model 1			Model 2			Model 3		
	<i>B</i>	<i>SE B</i>	$\beta$	<i>B</i>	<i>SE B</i>	$\beta$	<i>B</i>	<i>SE B</i>	$\beta$
Gender	-	2.37	-.06	.36	2.31	.01	.56	2.26	.02
Annual Household Income	-	1.37	-	-	1.31	-.27**	-3.89	1.34	-.22**
Nativity Status	5.51		.31**	4.81					
Out-group Discrimination	2.93	2.06	.11	2.09	1.97	.08	1.73	2.26	.07
Intragroup Stereotyping				4.55	1.08	.31**	2.76	1.24	.19*
Family IM							.26	1.07	-.02
Ethnic Group IM							.16	.10	.14
Pressures to Conform							.22	.14	.14
Ethnic Group IM							-.38	.30	-.10
Accusations of Assimilation									
$R^2$		0.10**			0.20**			0.26**	
F for change in $R^2$		0.10**			0.09**			0.06*	

Note. \* $p$  < 0.05 \*\* $p$  < .01.

Table 6.

*Hierarchical Regression Analysis for Variables Predicting Alcohol Misuse*

Variable	Model 1			Model 2			Model 3		
	<i>B</i>	<i>SE B</i>	$\beta$	<i>B</i>	<i>SE B</i>	$\beta$	<i>B</i>	<i>SE B</i>	$\beta$
Gender	-	.73	-	-	.74	-.19*	-	.74	-.19*
Annual Household Income	2.06		.23**	1.70			1.74		
Nativity Status	-.25	.42	-.05	-.13	.42	-.02	.02	.44	.00
Out-group Discrimination				.69	.63	0.09	.49	.74	.06
Intragroup Stereotyping				0.78	.35	.18*	.50	.41	.11
Family IM							-.31	.35	-.09
Ethnic Group IM Pressures to Conform							.04	.03	.12
Ethnic Group IM Accusations of Assimilation							.01	.05	.02
$R^2$		.05*			.08**			0.12*	
F for change in $R^2$		.05*			0.03*			0.04	

Note. \* $p < 0.05$  \*\* $p < .01$ .

Overall, Hypothesis 1a and 1b were supported as within-group discrimination accounted for additional variance in depression and anxiety symptoms beyond out-group discrimination alone. However, Hypothesis 1c was not supported and within-group

discrimination did not predict additional variance in alcohol misuse beyond that of out-group discrimination alone.

### **Moderator Analyses**

Moderator analyses were conducted to test Hypotheses 2, 3, and 5. A moderator is a third variable that changes the strength or the direction of a relationship and explains when or for whom the relationship between an independent and dependent variable occurs (Baron & Kenny, 1986, p. 1174). Fundamentally, Baron and Kenny (1986) proposed a five-step approach to test moderation with multiple regressions. The first step involves conducting a hierarchical regression to determine if the independent variable predicts the dependent variable. If the variables are continuous, the second step centers, or subtracts the respective mean from each case value, the continuous independent variable and moderator variables. Then, the mean of both the independent and moderating variable becomes 0. Variables are centered in order to avoid multicollinearity and to give zero a true value for the regression model (Cruz, 2007). However, if the moderator variable is a categorical variable, it is dummy coded so that each level of the independent variable has its own value (Frazier, Tix, & Barron, 2004). Step three consists of creating the interaction variable by multiplying the newly modified independent and moderator variables. Step four adds the interaction variable to the final step of the hierarchical regression to determine if the interaction variable moderates the relationship. Baron and Kenny (1986) proposed that if the unstandardized beta value becomes zero for the independent variable after adding the interaction variable, then the interaction variable is a significant moderator.

Instead of using the traditional five-step procedure proposed by Baron and Kenny (1986), a more recent approach developed by Hayes (2012) was utilized. Hayes simplifies moderation into a one-step input process and expands the findings of the moderator analyses. This moderation analysis uses percentile based bootstrapping, a non-parametric test that reduces the chance of a type 1 error rate by conducting many sample replications from a dataset (Hayes, 2012; Tabachnick & Fidell, 2001). For these analyses, all of the moderator analyses used 1000 bootstrapping samples. In addition, bootstrapping estimates standard errors and confidence intervals for significance testing. In addition, this approach to moderation corrects construct bias and provides an effect size, “R square increases due to the interaction variable,” and improved graphing techniques. This technique is able to determine if the slopes of moderators are significant or non-significant. Again, the moderator variable is an interaction term defined by the product of the newly created moderator and independent variables.

Separate moderator analyses were first conducted that examined depression and anxiety separately as dependent variables. However, none of the following moderator analyses had a significant interaction effect. To briefly report the following findings, the mean of the anxiety symptoms from the BAI, and the mean of depression symptoms from the CESD were taken and averaged since they were highly correlated,  $r(166) = 0.61$ ,  $p < 0.001$ . While sums were used for composite anxiety and depression scores, means scores were used when combining the variables since the BAI and CES-D were on the same Likert scales, but had a different number of items. The dependent variable will be referred to as “psychological distress.” Psychological distress ranges from 0 to 3, and

higher scores indicate more psychological distress (i.e., depression and anxiety symptoms).

## **Hypothesis 2**

Hypothesis 2 stated that Anglo cultural orientation would moderate the relationship between IM, from familial (2a) and ethnic group (2b) sources, and psychological distress. Due to the low reliability on the ethnic group scale, its subscale, pressures to conform, was utilized. Two separate regressions utilizing bootstrapping of 1000 samples for each type of IM were conducted. The variables, income, sex, and nativity status were included as covariates. One form of IM, Anglo cultural orientation, and the interaction term of Anglo cultural orientation and one form of IM was added.

**Hypothesis 2a.** For the first analysis that examined Anglo cultural orientation as a moderator between family IM and psychological distress, the variables accounted for 32% of variance of psychological distress,  $F(6, 153) = 12.26, R^2 = 0.32, p < 0.008$ . However, Anglo cultural orientation, family IM, and the interaction were not significant. Results are located in Table 7.

**Hypothesis 2b.** The second analysis examined Anglo cultural orientation as a moderator between pressures to conform from ethnic group IM and psychological distress; the variables accounted for 31% of variance in psychological distress,  $F(6, 153) = 8.79, R^2 = 0.31, p = 0.008$ . Anglo cultural orientation and ethnic group IM had significant main effects. The interaction effect as not significant. Hypothesis 2 was not supported, and Anglo cultural orientation did not moderate the relationship between either IM and psychological distress. Results are located in Table 8.

Table 7.

*Regression Examining Anglo Cultural Orientation as a Moderator between Family Intragroup Marginalization and Psychological Distress*

Variable	<i>B</i>	<i>SE B</i>	<i>95% CI</i>
Nativity Status	0.07	0.09	-0.11 – 0.24
Sex	-0.08	0.09	-0.26 – 0.10
Income	0.22**	0.06	-0.33 – -0.11
AOS	0.10	0.08	-0.07 – 0.26
Family IM	0.01	0.01	-0.02 – 0.04
AOS X Family IM	0.003	0.004	-0.00 – 0.01
<i>R</i> <sup>2</sup>	0.32		

*Note.* \**p* < 0.05 \*\**p* < .01.

Table 8.

*Regression Examining Anglo Cultural Orientation as a Moderator between Ethnic Group Intragroup Marginalization and Psychological Distress*

Variable	<i>B</i>	<i>SE B</i>	<i>95% CI</i>
Nativity Status	-.01	.09	-0.19 – 0.16
Sex	-.04	.10	-0.22 – 0.14
Income	-.27	.06	-0.38 – -0.16
AOS	.13*	.05	-0.00 – 0.21
EG IM	0.03**	.01	-0.03 – 0.05
AOS X EG IM	.003	.01	-0.01 – 0.02
<i>R</i> <sup>2</sup>	0.30		

*Note.* \**p* < 0.05 \*\**p* < .01.

### Hypothesis 3

Hypothesis 3 stated that Latino cultural orientation would moderate the relationship between intragroup stereotyping and psychological distress. A regression analysis using bootstrapping of 1000 samples tested this hypothesis. Covariates (i.e., income, sex, nativity status) were entered. In addition, intragroup stereotyping, Latino cultural orientation, and an interaction term of Latino cultural orientation multiplied by intragroup stereotyping was entered.

Table 9.

*Regression Examining Latino Cultural Orientation as a Moderator between Intragroup Stereotyping and Psychological Distress*

Variable	<i>B</i>	<i>SE B</i>	<i>95% CI</i>
Nativity Status	0.30**	0.10	2.68 – 14.75
Sex	-0.05	0.10	-7.98 – 4.96
Income	-0.24**	0.05	-10.99 – -3.62
LOS	0.01	0.06	-2.58 – 3.17
Intragroup Stereotyping	0.43*	0.18	-2.27 – 25.79
LOS X Intragroup Stereotyping	-0.06	0.04	-5.17 – 1.72
<i>R</i> <sup>2</sup>	0.25		

Note. \**p* < 0.05 \*\**p* < .01.

This analysis examined Latino cultural orientation as a moderator between intragroup stereotyping and psychological distress, and the variables accounted for 25% of variance in depression and anxiety symptoms,  $F(6, 153) = 8.51, R^2 = 0.25, p < 0.008$ . However, Latino cultural orientation, intragroup stereotyping, and the interaction were not significant. The third hypothesis was not supported as Latino cultural orientation did not moderate the relationship between intragroup stereotyping and psychological distress. Results are in Table 9.

#### **Hypothesis 4**

Prior to the last moderator analysis, Hypothesis 4 stated that U.S.-born Latinos would experience higher levels of IM (4a) and lower levels of intragroup stereotyping (4b) than foreign-born Latinos. Again, due to the low reliability on the ethnic group scale as a whole, its subscale, pressures to conform, was utilized since it accounted for the most variance from the original measure. Means and standard deviations for the two groups are displayed in Table 10. Three independent samples t-test were conducted with nativity status as the independent variable and family IM, pressures to conform from ethnic group IM, and intragroup stereotyping as the dependent variables.

**Hypothesis 4a.** Among U.S.- and foreign-born Latinos, there was not a significant difference for family,  $t(165) = 1.16, p = 0.73$  or pressures to conform from ethnic group IM,  $t(165) = -1.75, p = 0.08$ . Foreign-born Latinos ( $M_F = 17.96, SD_F = 12.12; M_{EG} = 4.73, SD_{EG} = 7.55$ ) reported a comparable amount of family and ethnic group IM with U.S.-born Latinos ( $M_F = 15.80, SD_F = 11.63; M_{EG} = 4.73, SD_{EG} = 7.55$ ).

**Hypothesis 4b.** Levene's statistic was violated when examining intragroup stereotyping, Levene's statistic = 26.70,  $p < .05$ . There was a significant difference in the

amount of intragroup stereotyping endorsed by U.S.-born ( $M = 0.64$ ,  $SD = 0.81$ ) and foreign-born ( $M = 1.57$ ,  $SD = 1.32$ ) Latinos; equal variances not assumed  $t(101.09) = 5.14$ ,  $p = 0.001$ , one-tailed. The magnitude of the difference in the means (mean difference = 0.93, 95% CI: 0.57 to 1.29) was small (eta squared = 0.14).

These results support Hypothesis 4b, and fail to support Hypothesis 4a: foreign-born Latinos endorsed higher rates of intragroup stereotyping than U.S.-born Latinos, but both groups rated experiencing similar amounts of IM from familial and ethnic group sources.

Table 10.

*Within-group Discrimination Experienced by U.S.- and Foreign-born Latinos*

Within-group discrimination	Nativity Status			
	U.S.-born		Foreign-born	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Family IM	15.80	11.63	17.96	12.12
Pressures to Conform Ethnic Group IM	7.00	8.65	4.73	7.56
Intragroup Stereotyping	.65	.81	1.57	1.33

### Hypothesis 5

Lastly, Hypothesis 5 examined nativity status as a moderator for the relationship between within-group discrimination and psychological distress, such that U.S.-born Latinos would be more vulnerable to within-group discrimination and report higher rates

of psychological distress than their foreign-born counterparts (Sanchez et al., 2012). Three hierarchical regression analyses were conducted utilizing bootstrapping of 1000 samples for each type of within-group discrimination, family IM (5a), ethnic group IM (5b), and intragroup stereotyping (5c). The subscale pressures to conform was utilized for ethnic group IM. The demographic variables income and sex were entered as covariates. Then, nativity status, a form of within-group discrimination, and an interaction term of nativity status multiplied by a form of within-group discrimination was entered.

**Hypothesis 5a.** The first analysis examined nativity status as a moderator between the relationship of family IM and psychological distress. The variables accounted for 27% of variance in psychological distress,  $F(5, 155) = 11.51$ ,  $R^2 = 0.27$ ,  $p = 0.001$ . Nativity status and the interaction term were not significant. However, there was a main effect for family IM. Results are in Table 11.

Table 11.

*Hierarchical Regression Examining Nativity Status as a Moderator Between Family Intragroup Marginalization and Psychological Distress.*

Variable	<i>B</i>	<i>SE B</i>	<i>95% CI</i>
Sex	-0.07	0.10	-0.26 – 0.12
Income	-0.21**	0.06	-0.32 – 0.09
Nativity Status	0.20	0.14	-0.08 – 0.47
Family IM	0.02**	0.01	0.01 – 0.03
Interaction of Nativity Status X Family IM	-0.001	0.01	-0.01 – 0.01
$R^2$	0.27		

Note. \* $p < 0.05$  \*\* $p < .01$ .

**Hypothesis 5b.** The second analysis examined nativity status as a moderator between the relationship of pressures to conform from ethnic group IM and psychological distress. The variables accounted for 29% of variance in psychological distress,  $F(5, 155) = 7.73$ ,  $R^2 = 0.29$ ,  $p = 0.001$ . Nativity status was not significant. However, there was a main effect for pressures to conform from ethnic group IM. Though, nativity status did not moderate the relationship between family or ethnic group marginalization and depression and anxiety. Results are in Table 12.

Table 12.

*Hierarchical Regression Examining Nativity Status as a Moderator Between Ethnic Group Intragroup Marginalization and Psychological Distress.*

Variable	<i>B</i>	<i>SE B</i>	<i>95% CI</i>
Sex	-0.002	0.10	-0.19 – 0.19
Income	-0.24**	0.06	-0.34 – 0.13
Nativity Status	0.06	0.09	-0.03 – 0.35
Ethnic Group IM	0.03**	0.01	0.02 – 0.05
Nativity Status X Ethnic Group IM	-0.01	0.01	-0.03 – 0.01
$R^2$	0.29		

*Note.* \* $p < 0.05$  \*\* $p < .01$ .

**Hypothesis 5c.** The third analysis examined nativity status as a moderator between the relationship of intragroup stereotyping and psychological distress. The variables accounted for 24% of variance in psychological distress,  $F(5, 156) = 9.65$ ,  $R^2 = 0.24$ ,  $p = 0.001$ . Nativity status and the interaction term were not significant. However,

there was a main effect for intragroup stereotyping. Results are in Table 13. The three analyses did not support hypothesis 5; nativity status did not serve as a moderator for within-group discrimination and psychological distress.

Table 13.

*Hierarchical Regression Examining Nativity Status as a Moderator Between Intragroup Stereotyping and Psychological Distress.*

Variable	<i>B</i>	<i>SE B</i>	<i>95% CI</i>
Sex	-0.07	0.10	-0.26 – 0.12
Income	-0.24**	0.06	-0.36 – - 0.13
Nativity Status	0.27*	0.12	0.04 – 0.51
Intragroup Stereotyping	0.15**	0.05	0.06 – 0.25
Nativity Status X Intragroup Stereotyping	0.03	0.08	-0.13 – 0.19
<i>R</i> <sup>2</sup>	0.24		

*Note.* \**p* < 0.05 \*\**p* < .01.

## Discussion

The present study extended findings and awareness of an understudied cultural stressor that Latinos in the U.S. experience, within-group discrimination. Currently, research on Latinos tends to solely focus on out-group discrimination and acculturation as cultural stressors. It is imperative to examine within-group discrimination because a handful of studies have proposed that it may be more detrimental to mental health for

minorities than out-group discrimination (Basañez et al., 2014; Cordova & Cervantes, 2010; Lee & Ahn, 2009; Williams et al., 2001). Despite these known claims, no studies to date have explicitly considered within-group discrimination's effect on depression, anxiety, and alcohol misuse symptoms. Therefore, the primary purpose of this study was to examine the effects of within-group discrimination on mental health, while accounting for out-group discrimination and considering the moderating roles of acculturation and nativity status between within-group discrimination and mental health symptoms.

First, this study provides evidence that within-group discrimination has a significant, negative impact on mental health symptoms. Furthermore, there's evidence that within-group discrimination is more destructive to mental health symptoms than out-group discrimination. Second, the present study's fourth hypothesis supports the idea that within-group discrimination is a multidimensional construct with at least two subtypes, IM and intragroup stereotyping. Specifically, the present study found evidence for intragroup stereotyping, a newly coined term to explain a phenomenon that occurs when Latinos reject other Latinos for being too enculturated and not adhering to the culture of mainstream society.

Hypothesis 1 stated that within-group discrimination would predict symptoms of depression (1a), anxiety (1b) and alcohol misuse (1c) above and beyond that of out-group discrimination. Results supported Hypothesis 1a and 1b, but failed to support 1c. Within-group discrimination explained significantly more variance than out-group discrimination alone for depression and anxiety symptoms. This finding was consistent with previous research evidence that demonstrated that within-group discrimination leads to enhanced symptoms of depression (Basañez et al., 2014). Within-group discrimination may be

particularly harmful for Latinos because it violates in-group bias norms, they are of a disadvantaged subgroup, and ethnicity is often seen as an “innate difference” (Bernstein et al., 2010; O’Brien et al., 2012). With regards to hypothesis 1a that predicted depression symptoms, family IM was trending significance as a driving predictor in the final model, and the other forms of within-group discrimination, the subtypes of ethnic group IM and intragroup stereotyping, were not significant. It may be possible that family IM may be more impactful than other forms of within-group discrimination. Within the Latino culture, the cultural value of *familismo*, or emphasized importance, belonging, and loyalty to family members, has been documented (Parsai, Voisine, Marsiglia, Kulis, & Nieri, 2009). Ayón, Marsiglia, and Bermudez-Parsai (2010) found evidence that higher levels of familismo is often linked to lower levels of mental health symptoms. Similarly, those that have a stronger sense of social identity have higher feelings of belonging and self-esteem (Tajfel & Turner, 1979). Therefore, individuals experiencing high levels of familial IM may report higher symptoms of depression because they are being rejected by those that they value, which then may lead to lower feelings of belonging to their ethnic group and lower self-esteem. For anxiety, to the author’s knowledge, this is the first study that has evaluated and found evidence that within-group discrimination predicts anxiety symptoms.

As for alcohol misuse, within-group discrimination failed to add additional variance, which was consistent with previous literature. Cano and colleagues (2015) found that out-group discrimination predicted alcohol misuse, but IM failed to have a direct effect predicting alcohol misuse for a sample of Latinos in emerging adulthood. Though within-group discrimination predicted depression and anxiety symptoms, further

research should examine other consequences of within-group discrimination as it may have consequences dissimilar from out-group discrimination. For example, Jamieson and colleagues (2012) found in their study that in-group and out-group rejection seem to elicit different physiological and emotional responses, which may mean different negative mental health consequences occur as well.

Hypothesis 2 stated that Anglo cultural orientation would moderate the relationship between family (2a) or ethnic group (2b) IM and psychological distress. On the other hand, Hypothesis 3 stated that Latino cultural orientation would moderate intragroup stereotyping and psychological distress. None of the hypotheses were supported. Hypothesis 5 consisted of three tests that stated that nativity status would moderate family (5a) and ethnic group (5b) IM and intragroup stereotyping (5c), respectively, and psychological distress. Again, the present study did not contain evidence suggesting that nativity status was a moderating factor for within-group discrimination and psychological distress. However, Anglo cultural orientation and pressures to conform from ethnic group IM served as main effects for significantly predicting psychological distress in Hypothesis 2. Similarly, each subtype of within-group discrimination served as a main effect and significantly predicted psychological distress in Hypothesis 5. These findings suggest that within-group discrimination has a significant impact on depression and anxiety symptoms.

Previous literature still supports the idea that the cultural factors of acculturation and nativity status significantly impact within-group discrimination (Buriel & Vasquez, 1982; Cordova & Cervantes, 2010; Niemann et al., 1999; Sanchez & Chavez, 2010). Future studies should examine more distal, indirect, or mediating roles of acculturation

and nativity status on within-group discrimination, which this study failed to do. Acculturation and nativity status may still play a role in within-group discrimination, but at an earlier point in the model. For example, Wiley (2013) reported that Latinos endorse higher levels of an American identity (i.e., higher levels of Anglo cultural orientation) when they are rejected from Latinos, which may increase their risk of experiencing within-group discrimination in the future. Nevertheless, other variables (i.e., skin color, languages spoken) that may impact within-group discrimination should also be examined in future studies. For instance, a study conducted by Wilton and colleagues (2013) demonstrated that there was an interaction effect for ethnicity and Spanish-speaking ability, such that those that were racially ambiguous and spoke Spanish were perceived as “more Latino” than racially ambiguous candidates that did not speak Spanish.

Hypothesis 4 predicted that U.S.-born Latinos would report higher levels of IM (4a) and lower levels of intragroup stereotyping (4b) than foreign-born Latinos. Hypothesis 4 was partially supported. Hypothesis 4a was not supported, such that U.S.-born Latinos reported comparable amounts of IM. However, Hypothesis 4b was supported and U.S.-born Latinos reported significantly lower levels of intragroup stereotyping than foreign-born Latinos. It may be consistent with previous literature that U.S.-born and foreign-born Latinos report comparable amounts of IM. Ferenzi, Marshall, and Bejanyan (2015) conducted a study where bicultural individuals reported high levels of IM despite being highly oriented to both U.S. and Latino cultures. Moreover, when the bicultural individuals were primed with “independent self-construal” (i.e., Western culture), they were more likely to report higher levels of IM. In contrast, when they were primed with interdependent self-construal (i.e., Latino culture), they

reported little to no levels of within-group discrimination. This provides support that enculturated or bicultural Latinos may not be protected from experiencing IM, and it may depend on their context.

Notably, foreign-born Latinos reported higher levels of intragroup stereotyping than their U.S.-born counterparts. Previous qualitative studies have alluded to this phenomenon (Buriel & Vasquez, 1982; Niemann et al., 1999). Foreign-born Latinos may be at a higher risk for experiencing within-group discrimination since they tend to have more disadvantaged statuses than U.S.-born Latinos. For example, it may be more common for foreign-born Latinos to be more fluent in Spanish than English, of a lower socioeconomic background, and from a lower education level (Lopez, 2009). Coinciding with minority stress theory, more disadvantages could lead to increased amounts of stressors, such as within-group discrimination.

U.S.-born Latinos may also have a higher tendency to discriminate against their foreign-born counterparts. U.S.-born Latinos live in a culture where a negative stereotypes of Latinos being portrayed as temperamental, subordinate, undocumented immigrants with thick accents occur in various medias (Mastro & Behm-Morawitz, 2005; Roman, 2000). Cross (1991) describes a phenomenon in African American ethnic identity, where individuals go through a stage of self-hatred. This stage consists of individuals having low self-esteem because they have internalized the stereotypes in the media regarding their own identities. Then, in turn, they may hold a strong dislike, or hatred, for others in their family, social class, or ethnic group that may validate aspects of those stereotypes. U.S.-born Latinos may be experiencing some degree of stereotype threat, where they are avoidant of validating negative stereotypes of other Latinos (Steele,

& Aronson, 1995). Another explanation could be that some U.S.-born Latinos may have lived in the U.S. for so long that they do not see themselves as, “foreign” or “different” from others in the United States. As Buriel and Vasquez (1982) stated, each successive Latino generation in the U.S. may become less familiar and be more distanced from the traditional culture. Therefore, they may see more differences between themselves and foreign-born Latinos (Ayón et al., 2010). As a result, U.S.-born Latinos may be more likely to discriminate foreign-born Latinos.

The current study reported that both foreign- and U.S.-born Latinos report comparable levels of IM. Therefore, IM seems to fit under the umbrella of within-group discrimination. However, this study may begin to provide empirical evidence for a gap in the within-group discrimination literature by coining and providing additional evidence for a concept where Latinos reject other Latinos for being too enculturated, or intragroup stereotyping. Similar to acculturative stress, within-group discrimination appears to affect Latinos from mainstream and traditional sources, which IM alone fails to recognize. With immigration issues being a hot-topic in recent politics, English proficiency, legal documentation, and migrant work may be matters where recent immigrants are experiencing discrimination from both their U.S.-born counterparts and the rest of the country, which subsequently leads to higher feelings of betrayal, depression and lack of belonging (Basañez et al., 2014; Buriel, & Vasquez, 1982; Cordova & Cervantes, 2010). Intragroup stereotyping may be a unique cultural stressor experienced by foreign-born Latinos in addition to IM, and it requires more research attention.

## Limitations

This study had several limitations. First, the obtained sample was not generalizable to the Latino population of the U.S. Majority of the sample was females of Mexican descent born in the U.S. and residing in a moderately sized Midwestern city. Because there were significantly more U.S.-born Latinos than foreign-born Latinos, there was insufficient power in analyses that compared U.S.- and foreign-born Latinos. Second, self-report measures were utilized, and majority of the participants completed the survey in the presence of others at a cultural event. Participants may have been unable to correctly recall past experiences of discrimination or moods. Moreover, they may have responded differently due to the community festival setting.

Third, no measure of within-group discrimination exists to date. Instead, both the IMI and items from the MASI were employed to measure this construct. For the IMI, the ethnic group had a very weak reliability score. While a PCA was conducted to omit the problematic items on the scale, only a portion of the scale was used. Therefore, all analyses conducted with the ethnic group IMI subscale should be interpreted with caution. However, a weakness to using solely the family IMI is that the content did not address Latinos being rejected for being too acculturated by their Latino peers (i.e., ethnic group IM). Further, intragroup stereotyping has not been named or examined to date. Thus, researchers performed a replication of the modification of the MASI from a previous study that examined within-group discrimination with acceptable reliability coefficients (Basañez et al., 2014). Though, modification and partial use of any survey may decrease the reliability and validity of the self-report measure, yet this was

preferable relative to using qualitative methods or creating yes-or-no questions that lack strong psychometric properties.

### **Future Directions and Conclusion**

Future studies should continue examining the ways in which within-group discrimination is associated with negative mental and physical health. This study provides evidence that Latinos are also endorsing within-group discrimination for being “too Latino,” or intragroup stereotyping. Therefore, future studies may consider further exploring the idea of intragroup stereotyping and creating a measure to capture how often it truly occurs. Having a validated measure for intragroup stereotyping could allow researchers to further explore its effects and relations to other variables.

Moreover, other mechanisms aside from acculturation and nativity status should be examined to determine as to why or under what conditions within-group discrimination occurs. Though Latino or Anglo cultural orientation and nativity status were not moderators, previous studies have determined that language proficiency, skin color, and geography may be other variables that affect how Latinos are viewed by in-group and out-group sources (Canache, Hayes, Mondak, & Seligson, 2014; Wilton et al., 2013). As for geography, Araújo and Borrell (2006) suggest within-group discrimination may be a more common phenomenon in areas with a high concentration of one ethnicity or cultural identity. Lastly, while within-group discrimination seems to occur within Latino groups, others should continue to examine other negative effects of within-group discrimination or its prevalence in other minority groups.

Examining these underlying mechanisms to why and under what conditions within-group discrimination occurs and exacerbates psychological consequences could

assist mental health workers to have a better understanding of how to decrease these mental health symptoms. In sum, gaining knowledge of the effects of within-group discrimination will generate a more holistic understanding of what stressors Latinos face in the U.S. and fill a void currently in the research of cultural stressors of Latinos.

## BIBLIOGRAPHY

- Aráujo, B. Y., & Borrell, L. N. (2006). Understanding the link between discrimination, mental health outcomes and life chances among Latinos. *Hispanic Journal of Behavioral Sciences, 28*(2), 245-266. doi:10.1177/0739986305285825
- Aronson, J., & Steele, C. M. (2005). Stereotypes and the fragility of academic competence, motivation, and self-concept. In A. J. Elliot & C. S. Dweck (Eds.), *Handbook of Competence and Motivation*, (pp. 436-455). Guilford Press: New York.
- Ayón, C., Marsiglia, & Bermudez-Parsai, M. (2010). Latino family mental health: Exploring the role of discrimination and familismo. *Journal of Community Psychology, 38*(6), 742-756. doi:10.1002/jcop.20392
- Babor, T. F., de la Fuente, J., Saunders, J., & Grant, M. (1989). AUDIT: The alcohol use disorders identification test: Guidelines for use in primary health care. Geneva: World Health Organization.
- Babor, T. F., Higgins-Biddle, J. C., Saunders, J. B., & Monteiro, M. G. (2001). AUDIT: The Alcohol Use Disorders Identification Test: Guidelines for Use in Primary Care: Department of Mental Health and Substance Dependence. *World Health Organization*.
- Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychology research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology, 51*(6), 1173-1182. Retrieved from: <http://www.psych.uncc.edu/pagoolka/Jpsp1986p1173.pdf>
- Basañez, T., Warren, M. T., Crano, W. D., & Unger, J. B. (2014). Perceptions of within-group discrimination and coping strategies: Malleable factors affecting Hispanic adolescents' emotional and academic outcomes. *Journal of Youth and Adolescence, 43*(8), 1266-1280. doi:20.1007/s10964-013-0062-y
- Bauman, S. (2005). The reliability and validity of the brief acculturation rating scale for Mexican Americans-II for children and adolescents. *Hispanic Journal of Behavioral Sciences, 27*(4), 426-441. doi:10.1177/0739986305281423.
- Baumeister, R. F., & Leary, M. R. (1995). The need to belong: Desire for interpersonal attachments as a fundamental human motivation. *Psychological Bulletin, 117*(3), 497-529. doi:10.1037/0033-2909.117.3.497
- Beck, A. T., Epstein, N., Brown, G. & Steer, R. A. (1988). An inventory for measuring clinical anxiety: Psychometric properties. *Journal of Consulting and Clinical Psychology, 56*(6), 893-897. doi:10.1037/0022-006X.56.6.893

- Bernstein, M. J., Sacco, D. F., Young, S. G., Hugenberg, K., & Cook, E. (2010). Being “in” with the in-crowd: The effects of social exclusion and inclusion are enhanced by the perceived essentialism of ingroups and outgroups. *Personality and Social Psychology Bulletin*, *36*(8), 999-1009. doi:10.1177/0146167210376059
- Berry, J. W. (1997). Immigration, acculturation, and adaptation. *Applied Psychology*, *46*(1), 5-34. doi:10.1111/j.1464-0597.1997.tb01087.x
- Brewer, M. B., & Campbell, D. T. (1976). *Ethnocentrism and intergroup attitudes: East African Evidence*. Beverly Hills, CA: Sage.
- Brondolo, E., Kelly, K. P., Coakley, V., Gordon, T., Thompson, S.,...& Contrada, R. J. (2005). The perceived ethnic discrimination questionnaire: Development and preliminary validation of a community version. *Journal of Applied Social Psychology*, *35*(2), 335-365. doi:10.1037/a0016059
- Buriel, R., & Vasquez, R. (1982). Stereotypes of Mexican descent persons: Attitudes of three generation of Mexican Americans and Anglo-American adolescents. *Journal of Cross-Cultural Psychology*, *13*(1), 59-70. doi:10.1177/0022022182131006
- Cabassa, L. J. (2003). Measuring acculturation: Where we are and where we need to go. *Hispanic Journal of Behavioral Sciences*, *25*(2), 127-146. doi:10.1177/0739986303025002001
- Canache, D., Hayes, M., Mondak, J. J., & Seligson, M. A. (2014). Determinants of perceived skin-color discrimination in Latin America. *The Journal of Politics*, *76*(2), 506-520. doi:10.1017/S0022381613001424
- Cano, M. A., Castillo, L. G., Castro, de Dios, M. A., & Roncancio, A. M., (2014). Acculturative stress and depressive symptomatology among Mexican and Mexican American students in the U.S.: Examining associations with cultural incongruity and intragroup marginalization. *International Journal for the Advancement of Counselling*, *36*(2), 136-149. doi:10.1007/s10447-013-9196-6
- Cano, M. A., de Dios, M. A., Castro, Y., Vaughan, E. L., Castillo, L. G....Cruz, R. A. (2015). Alcohol use severity and depressive symptoms among late adolescent Hispanics. Testing associations of acculturation and enculturation in a bicultural transaction model. *Addictive Behaviors*, *49*, 78-82. doi:10.1016/j.addbeh.2015.06.002
- Cattell, R. B. (1966). The scree test for the number of factors. *Multivariate Behavioral Research*, *1*(2), 245-276. doi:10.1207/s15327906mbr0102\_10
- Castillo, L. G., Cano, M. A., Chen, S. W., Blucker, R. T., & Olds, T. S. (2008). Family conflict and intragroup marginalization as predictors of acculturative stress in

- Latino college students. *International Journal of Stress Management*, 15(1), 43-52. doi:10.1037/1072-5245.14.1.43
- Castillo, L. G., Conoley, C. W., Brossart, D. F., & Quiros, A. E. (2007). Construction and validation of the intragroup marginalization inventory. *Cultural Diversity and Ethnic Minority Psychology*, 13(3), 232-240. doi:10.1037/1099-9809.13.3.23
- Contreras, S., Fernandez, S., Malcarne, V. L., Ingram, R. E., & Vaccarino, V. R. (2004). Reliability and validity of the Beck depression anxiety inventories in Caucasian Americans and Latinos. *Hispanic Journal of Behavioral Sciences*, 26(3), 446-462. doi:10.1177/0739986304269164
- Cordova, D. & Cervantes, R. C. (2010). Intergroup and within-group perceived discrimination among U.S.-born and foreign-born Latino youth. *Hispanic Journal Behavioral Sciences*, 32(2), 259-274. doi:10.1177/0739986310362371
- Crawford, J. R., & Henry, J. D. (2003). The depression anxiety stress scale (DASS): Normative data and latent structure in a large non-clinical sample. *British Journal of Clinical Psychology*, 42, 111-131. doi:10.1438/014466503321903544
- Creamer, M., Foran, J., & Bell, R. (1994). The beck anxiety inventory in a non-clinical sample. *Behaviour Research and Therapy*, 33(4), 477-485. doi:10.1016/0005-7967(95)00082-U
- Cross, W. E. Jr. (1991). *Shades of Black: Diversity in African-American Identity*. Philadelphia, PA: Temple University Press.
- Cruz, D. (2007). Research report: Application of data screening procedures in stress research. *The New School Psychology Bulletin*, 5(2), 41-45.
- Cuéllar, I., Arnold, B., & Maldonado, R. (1995). Acculturation rating scale for Mexican Americans-II: A revision of the original ARSMA scale. *Hispanic Journal of Behavioral Sciences*, 17(3), 275-304. doi:10.1177/07399863950173001
- de Meneses-Gaya, Zuardi, A. W., Loureiro, S. R., & Crippa, J. A. S. (2009). Alcohol use disorders identification test (AUDIT): An updated systemic review of psychometric properties. *Psychology & Neuroscience*, 2(1), 83-97.
- Eidelman, S., & Biernat, M. (2003). Derogating black sheep: Individual or group protection? *Journal of Experimental Social Psychology*, 39(6), 602-609. doi:10.1016/S0022-1031(03)00042-8
- Ferenczi, N., Marshall, T. C., & Bejanyan, K. (2015). The protective and detrimental effects of self-construal on perceived rejection from heritage cultural members. *Frontiers in Psychology*, 6, 1-12. doi:103389/fpsyg.2015.00100.

- Frazier, P. A., Tix, A. P., & Barron, K. E. (2004). Testing moderator and mediator effects in counseling psychology research. *Journal of Counseling Psychology, 51*(1), 115-134. doi:10.1037/0022-01667.51.1.115
- Fydrich, T., Dowdall, D., & Chambless, D. L. (1992). Reliability and validity of the beck anxiety inventory. *Journal of Anxiety Disorders, 6*(1), 55-61. doi:10.1016/0887-6185(92)90026-4
- Gonzales, N. A., Knight, G. P., Birman, D., & Sirolli, A. A. (2004). Acculturation and enculturation among Latino youth. In K. I. Maton, C. J. Schellenbach, B. J. Leadbeater, & A. L. Solarz (Eds.), *Investing in children, youth, families, and communities: Strengths-based research and policy* (pp. 285-302). Washington, DC: American Psychological Association.
- Grzywacz, J. G., Hovey, J. D., Seligman, L. D., Arcury, T. A., & Quandt, S. A. (2006). Evaluating short-form versions of the CES-D for measuring depressive symptoms among immigrants from Mexico. *Hispanic Journal of Behavioral Sciences, 28*(3), 404-424. doi:10.1177/0739986306290645
- Hayes, A. F. (2012). PROCESS: A versatile computational tool for observed variable mediation, moderation, and conditional process modeling [White paper]. Retrieved from: <http://www.afhayes.com/public/process/2012.pdf>
- Hewstone, M., Rubin, M., & Willis, H. (2002). Intergroup bias. *Annual Review of Psychology, 53*, 575-604. doi:10.1146/annurev.psych.53.100901.135109
- Jamieson, J. P., Koslov, K., Nock, M. K., & Mendes, B. (2012). Experiencing discrimination increases risk taking. *Psychological Science, 24*(2), 131-139. doi:10.1177/0956797612448194
- Jetten, J., Branscombe, N. R., & Spears, R. (2006). Living on the edge: Dynamics of intragroup and intergroup rejection experiences. In R. Brown & D. Capozza (Eds.), *Social Identities: Motivational, emotional, cultural influences* (pp. 91-107). Hove, East Sussex: Psychology Press.
- Johnson, R. W. (1981). Perceived physical attractiveness of supporters of Canada's political parties: Stereotype or in-group bias? *Canadian Journal of Behavioral Science, 13*(4), 320-325. doi:10.1037/h0081203
- Johnson, J. D., & Kaiser, C. R., (2012). Racial identity denied: Are wealthy black victims of racism rejected by their own group? *Social Psychological and Personality Science, 4*(3), 376-382. doi:10.1177/1948550612456709
- Kaiser, H. F. (1974). An index of factorial simplicity. *Psychometrika, 39*(1), 31-36. doi:10.1007/BF02291575

- Lee D. L., & Ahn, S. (2009). Discrimination against Latina/os: A meta-analysis of individual-level resources and outcomes. *The Counseling Psychologist, 40*(1), 28-65. doi:10.1177/0011000011403326
- Llamas, J. D., & Consoli, M. (2012). The importance of Latina/o college students: Examining the role of familial support in intragroup marginalization. *Cultural Diversity and Ethnic Minority Psychology, 18*(4), 395-403. doi:10.1037/a0029756
- Llamas, J., & Ramos-Sanchez, L. (2011). Role of peer support on intragroup marginalization for Latino undergraduates. *Journal of Multicultural Counseling and Development, 41*, 158-168. doi:10.1002/j.2161-1912.2013.00034.x
- Lopez, M. H. (2009). Latinos and education: Explaining the attainment gap. *Pew Hispanic Center*. Retrieved from: <http://files.eric.ed.gov/fulltext/ED506715.pdf>
- Magán, I., Sanz, J. & García-Vera, M. P. (2008). Psychometric properties of a Spanish version of the Beck Anxiety Inventory (BAI) in a general population. *The Spanish Journal of Psychology, 11*(02), 626-640. doi:10.1017/S1138741600004637
- Marin, G., Sabogal, F., Marin, F. V., Otero-Sabogal, R., & Perez-Stable, E. (1987). Development of a short acculturation scale for Hispanics. *Hispanic Journal of Behavioral Sciences, 9*(2), 183-205. doi:10.1177/07399863870092005
- Mastro, D. E., & Behm-Morawitz, E. (2005). Latino representation on primetime television. *Journalism and Mass Communication Quarterly, 82*(1), 110-130. Retrieved from: [http://syndicatemizzou.org/resources/behm-morawitz/Latinos\\_on\\_TV.pdf](http://syndicatemizzou.org/resources/behm-morawitz/Latinos_on_TV.pdf)
- Meyer, D. (2012). *Social Psychology, 11<sup>th</sup> edition*. McGraw-Hill: Colorado, Springs, CO.
- Neal, D. J., & Simons, J. S. (2007). Inference in regression models of heavily skewed alcohol use data: A comparison of ordinary least square,s generalized linear models, and bootstrap resampling. *Psychology of Addictive Behaviors, 21*(4), 441-452. doi:10.1037/0893-164X.21.4.441
- Niemann, Y. F., Romero, A. J., Arredondo, J., & Rodriguez, V. (1999). What does it mean to be “Mexican”? Social construction of an ethnic identity. *Hispanic Journal of Behavioral Sciences, 21*(1), 47-60. doi:10.1177/0739986399211004
- O’Brien, L. T., Major, B., & Simon, S. (2012). Why did you choose that person over me? Ingroup rejection and attributions to discrimination. *Journal of Experimental Social Psychology, 48*(6), 1225-1233. doi:10.1016/j.esp.2012.04.007
- Okamoto, J., Ritt-Olson, A., Soto, D., Baezconde-Garbanati, L., & Unger, J. B. (2009). Perceived discrimination and substance use among Latino adolescents. *American*

*Journal of Health Behavior*, 33(6), 718-727. Retrieved from:  
<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3769114/pdf/nihms500038.pdf>

- Parsai, M., Voisine, S., Marsiglia, F. F., Kulis, S., & Nieri, T. (2009). The protective and risk effects of parents and peers on substance use, attitudes and behaviors of Mexican and Mexican American female and male adolescents. *Youth and Society*, 40(3), 353-376. doi:10.1177/0044118X08318117
- Pascoe, E. A., & Smart Richman, L. (2009). Perceived discrimination and health: A meta-analytic review. *Psychological Bulletin*, 135(4), 531-554. doi:10.1037/a0016059
- Postmes, T., & Branscombe, N. R. (2002). Influence of long-term racial environmental composition on subjective well-being in African Americans. *Journal of Personality and Social Psychology*, 83(3), 735-751. doi:10.1037//0022-3514.83.3.735
- Radloff, L. S. (1977). The CES-D Scale: A self-report depression scale for research in the general population. *Applied Psychological Measurement*, 1(3), 385-401. doi:10.1177/014662167700100306
- Rodriguez, N., Myers, H. F., Mira, C. B., Flores, T., & Garcia-Hernandez, L. (2002). Development of the multidimensional acculturative stress inventory for adults of Mexican origin. *Psychological Assessment*, 14(4), 451-461. doi:10.1037/1040-3590.14.4.451
- Roman, E. (2000). Who exactly is living la vida loca: The legal and political consequences of Latino-Latina ethnic and racial stereotypes in Film and other media. *Journal of Gender, Race, and Justice*, 4, 37-65. Retrieved from:  
<http://heinonline.org/HOL/LandingPage?handle=hein.journals/jgrj4&div=8&id=&page=>
- Sanchez, D. T., & Chavez, G. (2010). Are you minority enough? Language ability affects targets' and perceivers' assessments of a candidate's appropriateness for affirmative action. *Basic and Applied Social Psychology*, 32(1), 99-107. doi:10.1080/01973530903435896
- Sanchez, D. T., Chavez, G., Good, J. J., & Wilton, L. S. (2012). The language of acceptance: Spanish proficiency and perceived within-group discrimination among Latinos. *Journal of Cross-Cultural Psychology*, 43(6), 1019-1033. doi:10.1177/0022022111416979
- Schmitt, M. T., Branscombe, N. R., Postmes, T., & Garcia, A. (2014). The consequences of perceived discrimination for psychological well-being: A meta-analytic review. *Psychological Bulletin*, 140(4), 921-948. doi:10.1037/a0035754

- Tabachnick, B. G., & Fidell, L. S. (2001). *Using Multivariate Statistics* (4<sup>th</sup> ed.). Needham Heights, MA: Pearson.
- Tajfel, H. & Turner, J. C. (1979). An integrative theory of intergroup conflict. In M. A. Hogg, D. & Abrams (Eds.) *The Social Psychology of Intergroup Relations* (pp. 94-109). New York: NY.
- U.S. Census Bureau. (2010). *Profile of selected social characteristics: United States*. Retrieved April 9, 2015 from <http://factfinder.census.gov>
- Weissman, M. M., Sholomskas, D., Pottenger, M., Prusoff, B. A., & Locke, B. Z. (1977). Assessing depressive symptoms in five psychiatric populations: A validation study. *American Journal of Epidemiology*, *106*(3), 203-214. Retrieved from: <http://aje.oxfordjournals.org/content/106/3/203.short>.
- Wiley, S. (2013). Rejection-identification among Latino immigrants in the United States. *International Journal of Intercultural Relations*, *37*, 375-384. doi:10.1016/j.ijintrel.2012.08.018.
- Wilton, L. S., Sanchez, D. T., & Chavez, G. F. (2013). Speaking the language of diversity: Spanish fluency, White ancestry, and skin color in the distribution of diversity awards to Latinos. *Basic and Applied Social Psychology*, *35*, 346-359. doi:10.1080/01973533.2013.803969.
- Williams, D. R., Neighbors, H. W., & Jackson, J. S. (2003). Racial/ethnic discrimination and health: Findings from community studies. *American Journal of Public Health*, *93*(2), 200-208. doi:10.2105/AJPH.93.2.200