### **ORIGINAL PAPER**



# Why Culture and Context Matters: Examining Differences in Mental Health Stigma and Social Distance Between Latino Individuals in the United States and Mexico

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#### **Abstract**

This study examines the influence of cultural context on social distance and perceptions of stigma towards mental health conditions among Latino populations in Houston, TX, USA and Mexico City, Mexico. We employed a community-based experimental vignette survey to assess perceptions towards individuals experiencing symptoms of alcohol misuse, depression, and psychosis. Participants (n=513) from Houston and Mexico City were asked about their willingness to accept community members experiencing mental health symptoms in various social roles, their perceptions of stigma related to these symptoms, anticipated danger, possible positive outcomes, and the community member's ability to change. Findings demonstrate significant differences in stigma perceptions between Latino respondents in the US and in Mexico. Houston participants reported lower public stigma and perceived dangerousness of someone with mental health concerns compared to respondents in Mexico City. Furthermore, the cultural context may influence the association between various dimensions of stigma, with some inverse relationships occurring based on location of data collection. Findings illuminate the complex interplay between cultural context, mental health symptoms, and stigma, and underscores the need for culturally nuanced interventions to reduce mental health stigma and promote service utilization in Latino communities.

Keywords Stigma · Mental health · Latino/Hispanic · Cultural context · Vignette survey

Stigma research has progressed significantly during the last five decades and the accumulated evidence clearly highlights that stigma can be even more detrimental to a person's well-being than their psychiatric symptomatology [1, 2]. Prior research indicates that stigma is one of the most significant barriers for service utilization [3–6].

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While stigma research has progressed significantly, there are still crucial gaps that continue to hinder our understanding of stigma across various diagnostic and cultural groups. There are very few studies that examine stigma and social distancing towards mental illness within Latino communities in North and Central America (e.g., 7, 8, 9]. Social distance refers to the degree of acceptance and willingness of individuals to interact in varying degrees of intimacy with people who have a stigmatized identity [10]. It is a measure of the perceived 'distance' people feel from others based on stigmatized attributes or conditions, with greater social distance indicating more avoidance or reluctance to engage. In the realm of mental health, social distance can manifest as hesitancy to form close relationships with, hire, or even be neighbors with someone with a mental health problem. Accordingly, further research is needed on the varying perceptions of stigma across often heterogenous cultural groups and how they differ based on psychiatric diagnostic categories [3].



Within nations, regions, and even cities, stigma does not emerge in a vacuum. Socioeconomic dynamics, historical factors, access to education, and cultural beliefs all converge to shape the context through which mental health is viewed [11]. Existing evidence highlights crucial differences in mental healthcare accessibility, utilization, and stigma between non-Hispanic Whites and racial/ethnic minorities. For example, racial ethnic minorities are less likely to receive the needed mental healthcare as compared to their non-Hispanic White counterparts [12-14]. This discrepancy in mental healthcare utilization is partly due to differences in attitudes and stigma regarding mental illness. Racial ethnic minorities are more likely to report high anticipated stigma concerning mental health symptomology as compared to their White counterparts, which can lead to lower mental healthcare utilization [15]. However, many studies that examine differences in stigma or mental healthcare utilization between Whites and racial/ethnic minorities and categorize racial/ethnic minorities into one group as if all the racial/ethnic minorities share the same background and culture. Prior research in this area indicates that stigma towards psychiatric diagnoses is different between various racial/ethnic minority groups [1, 11, 16], and suggests there may also be differences within specific, and often heterogenous ethnic/minority groups such as those identifying as "Hispanic" or "Latino" [17, 18]. Yet, there are very few studies that attempt to understand the nuances that underlie the culture and context of stigma between or among racial ethnic minorities. Such evidence is urgently needed to critically understand the distinct mechanisms of stigma among diverse cultural groups, as such evidence can yield measurement and intervention strategies that can help reduce mental healthcare gap among Latinos. Thus, to address this gap, the primary purpose of this study is to understand differences in stigma and social distance regarding depression and alcohol misuse among Latino communities in the United States and Mexico. The research team hypothesized that:

- Measures of stigma, such as social distance and public perceived stigma, towards depression, psychosis, and alcohol misuse will differ between the participants from Houston and Mexico City.
- Participant demographics, such as education and gender, will play a role in explaining the differences in perceptions of stigma and social distance between the participants from Houston and Mexico City.

### Methods

# **Participants and Procedures**

To examine the role of cultural context in relation to mental health stigma, the authors used data from two communitybased experimental vignette surveys investigating Latino individuals' perceptions of those experiencing mental health symptomology, stigma toward mental health conditions, and related help seeking preferences. These studies conducted at two research sites using the same protocols and procedures drew participants from Mexico City (N=265) and Houston (N=248) with individuals self-identifying as Mexican American. The study received ethics approval from (University in Mexico blinded for review) and approval from the Institutional Review Board (IRB) of (University in USA blinded for review). At both sites, participants were recruited in public spaces such as local churches, bus stations, community centers, open air markets and English as a second language (ESL) classes using convenience sampling. Following the verbal consent procedures, participants completed a 45-minute paper and pencil survey, consisting of demographic questions, standardized scales, and two vignettes and associated questions related to stigma and help seeking beliefs. For more detailed information on recruitment and enrollment methods please see Washburn, Brewer [17], [19, 20].

## Measures

The experimental vignettes for this study were designed to investigate community attitudes and beliefs related to health and mental health needs. Each vignette described an individual struggling with symptoms related to one of the following conditions: alcohol misuse, depression, or psychosis. Each vignette topic varied by gender of the subject (male, female). Study participants were randomly assigned to receive a total of two vignettes which featured the following symptoms: suicidal ideation, psychosis, depression, or alcohol misuse. An example of the depression vignette is included in the supplemental materials.

#### **Demographics**

Prior to receiving the vignettes, participants were asked demographic questions including age, gender, marital status, parental status, highest level of education completed, and subjective financial circumstances, and the importance of spirituality/religiosity in their lives.



#### **Immigration**

Participants in Houston were also asked about their generation of immigration and level of acculturation. Acculturation was measured using the 12-item *Linguistic Proficiency* subscale of the Bidimensional Acculturation Scale [21] as this subscale can be used alone to quickly measure participants' acculturation level. This scale provides two major cultural domains, *Hispanic* and *non-Hispanic*. Respondents were asked 12 questions on how well they use English (6 questions) and Spanish (6 questions) in daily life. The 12 items were rated on a four-point Likert-type scale (1: Almost never, 4: Almost always). Higher scores on the *non-Hispanic* domain indicate higher levels of acculturation, scores that are similar on both domains indicate that the person is bicultural, and higher scores on the *Hispanic* domain is indicative of lower levels of acculturation.

## Stigma

Following each vignette, participants completed questions assessing the level of stigma and types of stigma the participant held toward the individual in the vignette [22]. All items were measured on a 7-point scale. Personal acceptance was measured as the average of four items related to personal social relationships (Cronbach's  $\alpha = 0.85$ ). Each item asked participants about their willingness to accept the individual in the vignette as: their child's schoolmate (v4), their friend (v5), someone they would hire to work with them (v6), and their child's spouse (v7). Perceived public stigma was measured as the average of three items asking whether the vignette subject would have difficulty: making friends (v8), finding a job (v9), and finding someone to marry (v10; Cronbach's  $\alpha = 0.82$ ). Perceptions of danger was measured as the average of two items asking participants whether they thought it likely that the individual would "do something violent toward other people" (v11) or that they would "end up in trouble with the law" (v14; Cronbach's  $\alpha = 0.78$ ). Positive outcomes were measured as the average of three items asking participants about the vignette subject's likelihood of developing into a successful person (v12), becoming someone respected in the community (v13), and of being happy (v15; Cronbach's  $\alpha = 0.84$ ). Ability to change was measured by two items asking about participants perception of the likelihood that the vignette subject would be able to change (v16) or would be able to change if they received help (v17; Cronbach's  $\alpha = 0.70$ ).

## **Analysis Plan**

To examine the effect of cultural context on personal and community stigma, we utilized a rigorous multi-stage approach that involved several analytic forms. We provide univariate statistics (Table 1) for all relevant variables by site. Then, our second stage of analytic comparison involved both exploratory factor analyses, to determine of the factor structure of our stigma variables was consistent across sites, and t-tests and correlations to determine any significant baseline differences in stigma perceptions across sites. In our final stage, we analyze hierarchical linear modeling on data collected from each site. Since respondents were given multiple vignettes to assess, we fit linear mixed-effect models with maximum likelihood allowing for the analyses of fixed and random effects. We specified random effects at the individual level. Models included the following control variables: age, gender, marital status, education, number of children, financial status, and vignette subject's gender.

# Results

# **Sample Demographics**

Houston participants were slightly older (M=44.7 years, SD=16.1, Range: 18–86) and included a higher percentage of females (72.9%) compared to Mexico City participants (M=36.4 years, SD=14.68, Range: 18–81; 48.5% female). In the Houston sample, 62.1% of participants reported being married and 76.5% were parents. Whereas 46.1% of Mexico City participants reported being married and 58.1% were parents. About half of participants from Mexico City (45.9%) had some post-secondary education or more compared to only 36.9% of Houston participants.

One critical point of examination is the extent to which our Mexican respondents and Houston respondents differed on the baseline interpretation of our stigma measures across sites, thus we conducted an exploratory factor analysis (EFA). In Table 2, we report the factor loadings at both sites, utilizing a ProMax rotation (given the likely correlation between our factors) and only showing factor loadings above 0.3 for clarity. By comparing the factor loadings between sites, we can see that the factor loadings are nearly identical across sites, with only minor additions to public stigma (Factor 2) in the Houston sample (items v7 and v16). After establishing that the items were being perceived similarly across sites, we performed two-sample t-tests to determine if the means of our stigma variables significantly varied between sites (see Table 3). Our results show that average perceptions of public stigma in Houston (M=4.12) were significantly lower than those in Mexico City (M=5.03), t(510) = -6.52, p < .001. Additionally, Houston (M = 4.63) respondents reported lower average perceptions of danger than respondents in Mexico City (M=4.99), t(507)=2.39, p = .017. In a final comparison, we conducted bivariate



Table 1 Participant characteristics and variable descriptives by sample

	Dom Samples		Houston			Mexico City		Range	ge
	N Mean / %	SD	N Mean	un SD		N	Mean SD	Min	Max
Personal Stigma	512 3.94	1.46	247	4.01	1.48	265	3.87	1.43	1 7
Public Stigma	512 4.59	1.56	247	4.12	1.71	265	5.03	1.43	1 7
Perceptions of Danger	509 4.82	1.79	244	4.63	1.88	265	4.99	1.55	1 7
Positive Outcomes	511 3.97	1.61	246	4.11	1.66	265	3.85	1.56	1 7
Ability to Change	509 5.44	1.40	244	5.51	1.48	265	5.38	1.18	1 7
Vignette Topic	513		248			265			
Alcohol Misuse	50.7%	0.49		49.6%	0.50		51.7%	0.50	0 1
Major Depressive Disorder	24.8%	0.40		26.2%	0.44		23.4%	0.42	0 1
Psychosis	24.6%	0.40		24.2%	0.43		24.9%	0.43	0 1
Female Vignette	513 50.1%	0.50	248	52.8%	0.50	265	48.7%	0.50	0 1
Age	507 40.4	15.38	242	44.72	16.10	265	36.4	14.68	$18 81(86)^a$
Female	512 60.5%	0.49	247	72.9%	0.45	265	48.5%	0.50	0 1
Marital Status	513 53.6%	0.50	248	62.1%	0.49	265	46.1%	0.50	0 1
Parental Status	512 67%	0.46	247	76.5%	0.42	265	58.1%	0.49	0 1
Financial Circumstances	504 2.91	1.08	239	2.70	1.00	265	3.10	1.16	1 5
Education	509		244			265			
None	2.0%	0.14		3.3%	0.18		0.8%	0.09	0 1
Primary	10.0%	0.30		13.5%	0.34		%8.9	0.25	0 1
Secondary	21.2%	0.41		22.5%	0.42		20.0%	0.40	0 1
High School	25.1%	0.43		23.8%	0.43		26.4%	0.44	0 1
Vocational School	16.5%	0.37		20.5%	0.40		12.8%	0.34	0 1
Some College	10.2%	0.30		7.4%	0.26		12.8%	0.34	0 1
College Graduate	11.6%	0.32		4.9%	0.22		17.7%	0.38	0 1
Post-graduate	3.3%	0.18		4.1%	0.20		2.6%	0.16	0 1
Immigrant Generation			206	1.36	0.67				1 3
Acculturation – Hispanic			220	3.47	0.65				1 4
Acculturation - Non-Hispanic			211	2.42	0.98				1 4

<sup>a</sup> Maximum age for Mexico City sample is 81 while it is 86 for the Houston sample, noted in parenthesis



Table 2 Comparison of factor structure for stigma measures

		Houston				
Variable	Factor1	Factor2	Factor3	Factor4	Factor5	Uniqueness
v4	0.645					0.558
v5	0.771					0.309
v6	0.793					0.323
v7	0.683					0.360
v8		0.614				0.368
v9		0.986				0.139
v10		0.722				0.392
v11			0.901			0.209
v14			0.738			0.401
v12				0.779		0.242
v13				0.866		0.401
v15				0.748		0.378
v16					0.523	0.550
v17					0.678	0.520

Promax rotation, 0.3 threshold, iterative principal factors 5

		Houston				
Variable	Factor1	Factor2	Factor3	Factor4	Factor5	Uniqueness
v4	0.649					0.552
v5	0.760					0.288
v6	0.713					0.327
v7	0.704					0.498
v8		0.660				0.572
v9		0.788				0.334
v10		0.786				0.369
v11			0.698			0.393
v14			0.812			0.376
v12				0.892		0.222
v13				0.750		0.298
v15				0.622		0.437
v16					0.621	0.337
v17					0.787	0.418
Promax rotation	n. 0.3 threshold, iterati	ve principal factors 5				

Table 3 Comparison of stigma scores for Houston and Mexico

	Houston		Mexico C	ity			
	n	M	n	M	$\overline{df}$	t	p
Personal Stigma	247	4.01	265	3.87	510	1.05	0.292
Public Stigma	247	4.12	265	5.03	510	-6.52	< 0.001
Perceptions of Danger	244	4.63	265	4.99	507	-2.39	0.017
Positive Outcomes	246	4.11	265	3.85	509	1.79	0.074
Ability to Change	244	5.51	265	5.38	509	1.07	0.284

analyses between the dependent variables to determine if stigma perceptions are associated similarly across sites which we present in Table 4. While most items share similar associations across sites, results reveal that the relationship between personal acceptance and public stigma, public stigma and positive outcomes, and positive outcomes and perceptions of danger run in opposite directions depending on site. These relationships were all positively associated in the Houston sample and negatively associated in the Mexico City sample. Additionally, whereas ability to change is

significantly correlated to public stigma and perceptions of danger in the Houston sample, there seems to be no such significant association in the Mexico City sample.

After having established baseline contextual differences between sites, our regression results reveal important predictive differences and similarities across sites as well. As shown in Table 5, Models 1 and 2 compare the Houston and Mexico City samples as they relate to personal acceptance. Compared to the alcohol condition, Houston respondents were more likely to be personally accepting



Table 4 Correlations between stigma dimensions by sample

	Houston				Mexico Cit	y		
Variables	Personal	Public	Danger	Positive	Personal	Public	Danger	Positive
Personal Stigma								
Public Stigma	0.399*				-0.108			
Perceptions of Danger	0.097	0.297*			-0.272*	0.310*		
Positive Outcomes	0.467*	0.383*	0.157*		0.602*	-0.163*	-0.193*	
Ability to Change	0.319*	0.202*	0.148*	0.298*	0.478*	0.080	-0.024	0.456*

<sup>\*</sup> p < .05

Table 5 Regression models for Personal Stigma and Public Stigma

	Personal S	tigma			Public St	igma		
	1 Houston		2 Mexico (	City	3 Housto	n	4 Mexico	City
Vignette Topic (ref. Alcohol Misuse)								
Depression	0.32***	(0.25)	0.39***	(0.20)	0.001	(0.29)	-0.018	(0.21)
Psychosis	0.24**	(0.27)	0.048	(0.19)	0.067	(0.31)	0.044	(0.20)
Female Vignette	-0.08	(0.22)	0.005	(0.17)	-0.097	(0.26)	0.11	(0.18)
Age	-0.11	(0.01)	0.057	(0.01)	-0.015	(0.01)	0.049	(0.01)
Female	0.07	(0.27)	-0.12*	(0.17)	-0.052	(0.33)	-0.14*	(0.18)
Married	-0.09	(0.31)	0.026	(0.22)	-0.018	(0.37)	0.1	(0.23)
Parent	0.26*	(0.37)	-0.081	(0.27)	0.099	(0.45)	-0.13	(0.29)
Financial Circumstances	-0.087	(0.11)	0.035	(0.07)	-0.024	(0.14)	0.091	(0.08)
Education (ref. No formal)								
Primary	0.34	(1.06)	0.032	(0.99)	0.39*	(1.28)	-0.061	(1.04)
Secondary	0.30	(1.04)	0.020	(0.97)	0.59*	(1.25)	-0.20	(1.03)
High School	0.45	(1.05)	-0.10	(0.98)	0.49	(1.26)	-0.15	(1.03)
Vocational School	0.54	(1.04)	0.003	(0.98)	0.59	(1.25)	-0.18	(1.04)
Some College	0.35	(1.10)	-0.052	(0.98)	0.25	(1.32)	-0.24	(1.04)
College Graduate	0.22	(1.16)	-0.068	(0.98)	0.39*	(1.40)	-0.15	(1.03)
Post-graduate	0.33	(1.14)	0.026	(1.08)	0.36	(1.38)	-0.14	(1.14)
Immigrant Generation	-0.15	(0.27)			-0.19	(0.33)		
Acculturation - Hispanic Orientation	-0.28**	(0.22)			-0.11	(0.27)		
Acculturation - Non-Hispanic Orientation	-0.02	(0.20)			0.22	(0.25)		
Observations	162		265		162		265	

<sup>\*</sup> p < .05; \*\* p < .01; \*\*\* p < .001

of the depression (Model 1:  $\beta = 0.32$ , p < .001) and psychosis (Model 1:  $\beta = 0.24$ , p < .01) conditions whereas in the Mexico condition this was only true for depression (Model 2:  $\beta = 0.39$ , p < .001). Additionally, we find that Houston respondents who had children were significantly more likely to be personally accepting than those who did not (Model 1:  $\beta = 0.26$ , p < .01), a finding not seen in the Mexico City sample. Greater Hispanic orientation acculturation was associated with less personal acceptance in the Houston sample (Model 1:  $\beta$ =-0.28, p<.01). In Mexico City, females were less likely to be personally accepting than males (Model 1:  $\beta$ =-0.12, p<.05). Models 3 and 4 examine the perceived likelihood of public stigma for fictional individuals from the vignettes (Table 5). No significant differences were found for type of condition on the dimension of community difficulty (i.e., public stigma) in either Houston or Mexico City.

Perceptions of danger across sites is assessed in Models 5 and 6 (Table 6). These models illustrate broad similarities,

all our vignette conditions (compared to alcoholism) predicted significantly less perceived danger regardless of site, indicating that, relative to threat, cultural context appears less differentiated. However, one major difference regarding perceived danger across sites occurs in relation to education. Compared to those with no education, each level of education in Mexico City was associated with significantly less perceived stigmatized danger. In addition, and like the public stigma models, non-Hispanic orientation is associated with more perceptions of danger (Model 5:  $\beta$ =0.28, p<.01).

Lastly, Table 7 presents results for Models 7 through 10 which present results for positive outcomes (Models 7 and 8) and ability to change (Models 9 and 10). For positive outcomes, compared to the alcohol condition, respondents in Houston were significantly more likely to report positive outcomes for the fictional individuals in the psychosis vignettes (Model 7:  $\beta = 0.15$ , p < .05). In contrast, in



Table 6 Regression models for Perceptions of Danger

	Perception	ns of Dar	nger	
	5. Houston	n	6. Mexico	City
Vignette Topic (ref. Alcohol				
Misuse)				
Depression	-0.44***	(0.30)	-0.57***	(0.20)
Psychosis	-0.18*	(0.32)	-0.18***	(0.19)
Female Vignette	-0.1	(0.26)	0.011	(0.16)
Age	-0.033	(0.01)	0.069	(0.01)
Female	-0.039	(0.32)	-0.047	(0.16)
Married	0.063	(0.37)	0.082	(0.21)
Parent	0.053	(0.44)	-0.12	(0.26)
Financial Circumstances	0.098	(0.14)	-0.14**	(0.07)
Education (ref. No formal)				
Primary	0.03	(1.27)	-0.34*	(0.96)
Secondary	-0.08	(1.25)	-0.49*	(0.94)
High School	-0.15	(1.26)	-0.56*	(0.95)
Vocational School	-0.12	(1.25)	-0.43*	(0.95)
Some College	-0.089	(1.32)	-0.45*	(0.96)
College Graduate	-0.0091	(1.40)	-0.44	(0.95)
Post-graduate	-0.12	(1.38)	-0.28*	(1.04)
Immigrant Generation	-0.22	(0.32)		
Acculturation - Hispanic	0.01	(0.26)		
Orientation				
Acculturation - Non-His-	0.28*	(0.24)		
panic Orientation				
Observations	162		265	

<sup>\*</sup> p < .05; \*\* p < .01; \*\*\* p < .001

Mexico City there was no significant association for psychosis (Model 8:  $\beta = 0.076$ , p = .202), yet this site was significantly more likely to report positive outcomes for the depression vignettes (Model 8:  $\beta = 0.26$ , p < .001). Results relating to ability to change also reveal a critical contrast between sites. Mexico City respondents were significantly more likely to endorse the ability to change for those with depression (Model 10:  $\beta = 0.14$ , p < .01) compared to those in the alcohol condition, whereas in Houston there was no difference by illness condition. In an emerging pattern of results, Houston respondents with children were again more likely to report positive outcomes (Model 7:  $\beta = 0.18$ , p < .05) and ability to change (Model 9:  $\beta = 0.21$ , p < .05) like they were more likely to report personal acceptance in Model 1. Again, this was not something seen in any of Mexico City respondent models.

# **Discussion**

The primary objective of this study was to investigate differences in stigma relating to mental health among Latino communities in the USA and Mexico. Our findings provide a nuanced understanding of stigma towards mental health issues across diverse cultural contexts. The results highlight significant cultural variations in perceptions of stigma, illuminating the influence of culture and societal context in shaping attitudes towards mental health.

Table 7 Regression models for Positive Outcomes and Ability to Change

	Positive (	Outcomes			Ability to	Change		
	7. Housto	n	8. Mexico	City	9. Housto	n	10. Mexic	co City
Vignette Topic (ref. Alcohol Misuse)							'	
Depression	0.088	(0.22)	0.26***	(0.22)	-0.007	(0.24)	0.15*	(0.17)
Psychosis	0.15*	(0.24)	0.076	(0.21)	-0.032	(0.26)	0.011	(0.15)
Female Vignette	-0.053	(0.20)	-0.013	(0.19)	-0.022	(0.21)	0.023	(0.14)
Age	0.037	(0.01)	-0.027	(0.01)	-0.21*	(0.01)	0.089	(0.01)
Female	-0.064	(0.30)	-0.009	(0.19)	-0.002	(0.28)	-0.093	(0.15)
Married	0.013	(0.35)	-0.057	(0.25)	0.042	(0.32)	0.02	(0.20)
Parent	0.13	(0.41)	-0.01	(0.31)	0.25*	(0.38)	-0.041	(0.25)
Financial Circumstances	-0.13	(0.13)	-0.062	(0.08)	0.083	(0.12)	0.11	(0.07)
Education (ref. No formal)								
Primary	0.45*	(1.17)	-0.17	(1.11)	0.11	(1.09)	-0.16	(0.87)
Secondary	0.55	(1.15)	-0.32	(1.09)	0.3	(1.07)	-0.25	(0.86)
High School	0.57	(1.15)	-0.46	(1.10)	0.33	(1.07)	-0.29	(0.86)
Vocational School	0.64*	(1.14)	-0.34	(1.11)	0.35	(1.07)	-0.22	(0.87)
Some College	0.37	(1.21)	-0.36	(1.11)	0.24	(1.13)	-0.25	(0.87)
College Graduate	0.38*	(1.29)	-0.55*	(1.10)	0.18	(1.20)	-0.36	(0.87)
Post-graduate	0.28	(1.26)	-0.16	(1.21)	0.18	(1.18)	-0.087	(0.96)
Immigrant Generation	-0.20	(0.30)			-0.14	(0.28)		
Acculturation - Hispanic Orientation	-0.18	(0.25)			-0.20	(0.23)		
Acculturation - Hispanic Orientation	0.036	(0.23)			-0.065	(0.21)		
Observations	162		265		162		265	

<sup>\*</sup> p < .05; \*\* p < .01; \*\*\* p < .001



Notably, study findings revealed distinct differences in stigma levels and types between the Houston and Mexico City samples. For instance, perceptions of public stigma and perceived danger were significantly higher among the Mexico City participants than their counterparts in Houston. These findings align with our first hypothesis, suggesting that cultural context can indeed play a significant role in shaping measures of stigma, including social distance and public perceived stigma, towards mental health conditions.

Moreover, demographic factors also emerged as important determinants of stigma, confirming our second hypothesis. Gender, parental status, and acculturation level were all significantly associated with personal acceptance of mental illness in the Houston sample. Interestingly, having children was associated with greater personal acceptance of mental illness, which could be attributed to increased awareness or empathy towards mental health issues among parents.

Further, the level of Hispanic orientation acculturation was inversely related to personal acceptance of mental illness. It implies that participants with stronger ties to their cultural roots might harbor more stigmatizing attitudes, likely influenced by cultural norms and beliefs regarding mental illness. These results underscore the need for culturally tailored mental health stigma reduction interventions. Potential approaches could include: [1] cultural education workshops that seek to explore and merge traditional beliefs with contemporary understandings of mental health, [2] organizing regular community meetings where people can ask question and share experiences related to mental health to create open dialogue to reduce stigma, or [3] collaboration with local leaders to reshape community perceptions. These specific strategies aim to integrate cultural nuances, making stigma reduction both effective and relatable.

Another remarkable finding was the distinct influence of the type of psychiatric condition on perceived stigma. In the Houston sample, respondents were more personally accepting of individuals with depression and psychosis as compared to those with alcohol misuse. However, in the Mexico City sample, only depression was more personally accepted compared to alcohol misuse, while psychosis did not have the same effect. This discrepancy might be explained by differing societal and cultural beliefs about these specific mental health conditions.

Furthermore, education emerged as a key determinant of perceived danger, particularly in Mexico City, where higher educational attainment was associated with lower perceived danger. This could indicate the protective role of education in reducing stigma, possibly by promoting greater understanding and acceptance of mental illness.

Despite the insightful findings, our study has limitations. Given the use of convenience sampling, the findings might not be representative of the wider Latino population in Houston and Mexico City. Furthermore, the study was cross-sectional, limiting our ability to draw causal inferences. Longitudinal studies could provide a more comprehensive understanding of the cultural factors influencing stigma over time.

In conclusion, this study novel provides an important contribution to the understanding of mental health stigma among diverse cultural groups. It emphasizes the critical role of culture and demographic characteristics in shaping stigma and points to the need for culturally and contextually tailored stigma reduction strategies. Future research should further explore the impact of specific cultural beliefs and attitudes on stigma towards different mental health conditions, which can inform the development of effective interventions to reduce stigma and improve mental health service utilization among diverse populations.

#### **New Contribution to the Literature**

This study makes several important contributions to the literature on stigma towards mental health conditions among Latino communities. The most significant novelty is its nuanced exploration of the influence of cultural context and psychiatric diagnoses on stigma and social distance. Previous studies have often treated racial and ethnic minority groups as a homogeneous entity, overlooking the rich diversity within these communities. By conducting this research in two distinct sites, Houston and Mexico City, this study unveils complex and varied perceptions of stigma associated with different mental health conditions, namely depression, psychosis, and alcohol use disorder, within the same ethnic group. It further illuminates how these perceptions are shaped by sociodemographic factors, such as education and gender, thus expanding our understanding of how stigma operates in different cultural contexts. The study also introduces new insights into how cultural orientation or acculturation, particularly among the immigrant population, influences the stigma towards mental health conditions. By shedding light on these intricate dynamics, this research helps fill a crucial gap in our understanding of mental health stigma and can inform the development of culturally sensitive interventions to reduce stigma and enhance mental health service utilization in Latino communities. Finally, this study highlights the need to recognize the diversity and uniqueness across Latino communities and the importance of more nuanced research.

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#### **Declarations**

**Competing Interests** The authors have no relevant conflicts of interest or competing interests to disclose.

Ethical Approval All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki Declaration and its later amendments or comparable ethical standards. The study was approved by the Institutional Review Board of the University of Houston, Approval # STUDY00000130, entitled, Engaging Latinos in Mental Health Services.

**Consent to Participate** Informed consent was obtained from all individual participants included in the study. The IRB at the University of Houston granted a waiver of documented written consent for this project. Participants gave verbal consent to participate.

**Consent for Publication** The authors consent for these materials to be published.

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