Immigration Policy Changes and the Mental Health of Mexican-American Immigrants



Robin E. Gearing¹ · Micki Washburn² · Luis R. Torres³ · L. Christian Carr⁴ · Alberto Cabrera⁴ · Reyna Olivares⁴

Received: 4 January 2020 / Revised: 28 May 2020 / Accepted: 5 July 2020 / Published online: 13 July 2020 \odot W. Montague Cobb-NMA Health Institute 2020

Abstract

In recent years, significant policy changes focused on immigrants migrating through the southern United States border have been implemented. To determine if there was an association between time since immigration and increases in negative mental health symptomology, 249 Mexican-American immigrants ages 18–65 were field recruited to participate in a survey exploring their physical and mental health. Results indicate that inconsistent with the Hispanic Health Paradox, the psychological health of immigrants arriving since 2015 was significantly worse than that of more established immigrants. New arrivals had a .38 increased risk of experiencing clinically significant depression and a .47 increased risk of experiencing global psychological distress. Time since immigrants are explored, and suggestions on how better identify and assist Mexican-American immigrants with mental health concerns are offered.

Keywords Immigrants · Mexican-Americans · Latinos · Mental health · Immigration policy

Background

In recent years, the USA has seen an upturn of negative sentiment toward immigrants, particularly those from nations with developing economies in Central and South America [1, 2]. Most individuals migrating to the USA from these regions do so to increase legal economic opportunities and ensure safety for themselves and their families [3]. However, they are increasingly portrayed as threats to national security and characterized as criminals involved with violent crime and trafficking of illegal narcotics. This is especially true of immigrants from Mexico. In this context, increasingly restrictive and anti-immigration policies and enforcement procedures have been enacted at the federal and local levels.

Micki Washburn micki.washburn@uta.edu

Robin E. Gearing rgearing@central.uh.edu

Luis R. Torres Luis.torreshostos@utrgv.edu

L. Christian Carr lccarr@central.uh.edu

Alberto Cabrera alcabrera3@central.uh.edu Since 2016, significant policy changes and increased enforcement of existing statutes, including the "zero-tolerance" border policy, have been enacted in relation to the deportation of undocumented immigrants from Mexico and other areas of Central and South America [2]. Families trying to cross the border without documentation, if apprehended, are frequently separated and detained. These changes have left Latinx and other immigrant communities distrustful of governmental entities and fearful about potential deportation of themselves and their children, creating a stressful and often unsafe environment for these immigrants regardless of their legal status [4]. Initiatives to control and exclude immigrants have made their lives much more difficult through the normalization of macroaggressions and race/ethnicity-based discrimination

² University of Texas Arlington School of Social Work, 211 S. Cooper St. Building A #201D, Arlington, TX 76019, USA

- ³ University of Texas Rio Grande Valley School of Social Work, Edinburgh, TX, USA
- ⁴ University of Houston Graduate College of Social Work, Houston, TX, USA

¹ Center for Mental Health Research and Innovations in Treatment Engagement and Services (MH-RITES Center), University of Houston Graduate College of Social Work, 301 Social Work Building, Houston, TX, USA

and oppression. Furthermore, these initiatives serve to block access to various forms of public and private assistance, including health care, leading to poorer health outcomes for this population and exacerbation of already existing health and mental health disparities for the Latinx community as a whole [4–6]. Taken together, these policy changes may be associated with decreases in health and well-being for both recent and well-established immigrants from Mexico, and especially those who are undocumented or in mixed documentation status families.

Conceptual Framework

There is a large body of longitudinal research focused on the health of Latinx immigrants, and how the mental and physical health of immigrants changes over time. These changes are thought to result from multiple intersecting factors such as acculturation, dietary changes, decreased physical activity, poverty, and racial or ethnic-based discrimination [7–11]. Existing research has consistently found that recent immigrants' exhibit lower levels of mortality associated with several major health and mental health conditions than their American-born Latinx peers [12, 13]. This research also indicates that recent immigrants retain some protective health effects carried over from their country of origin during the first 5 years post-immigration [9], but as time in the USA increases, these protective effects diminish, and these immigrants become more at risk of developing a variety of physical and mental health-related concerns, including depression and anxiety [13, 14]. Over time, these effects dissipate somewhat, resulting in a bell-shaped curve of health-related risks for this population. This phenomenon, known as the Hispanic Health Paradox, is well documented [15-17] and has remained consistent over the last 30 years [18]. However, the potential role of immigration policies on the Hispanic Health Paradox has not been examined. Given the amount and intensity of antiimmigration rhetoric in the political and social arenas during the past few years, it is possible that prior trends in the physical and mental health of Mexican-American immigrants may have been affected, meriting further examination.

This line of research is of particular importance considering the continued growth of the Latinx population in the US Latinx individuals currently comprise 17.6% of the US population [19] and are expected the comprise 24% to 29% of the total US population by 2050 [13, 20]. Immigrants from Mexico alone comprise 25% of the total American immigrant population, making them the largest immigrant group in the USA [21].

A number of factors related to immigration, including acculturation stress and discrimination, are a positive correlation with depression and anxiety [7, 22, 23]. Acculturative stress and depression which can also be linked to increased suicidal ideation and suicidal risk [22, 24]. Trauma, which frequently accompanies immigration from Mexico to the USA, may also be associated with a higher risk of developing postimmigration symptoms of depression [25, 26]. Discrimination experienced by Latinx immigrants may also play a key role in the health and wellness of this population [2, 27]. More than half of immigrant and non-immigrant Latinx individuals living within the USA spend a substantial amount of time worrying about deportation and its possible effects on friends or family [2, 28]. However, social support is thought to decrease the risk of developing depressive symptomology [7, 12, 20]. It is thus imperative to explore the potential impact that anti-immigration discourse may have on Latinx mental health.

There remains a gap in the current literature concerning depression, anxiety, or other mental health issues for recent immigrants since this negative discourse has taken on national prominence. Accordingly, our research focuses specifically on depression, and the overall psychological distress Mexican-American immigrants are facing in the current political environment, to determine if the Hispanic Health Paradox holds true for recent Mexican-American immigrants and to describe the current mental health needs of this population so that appropriate responses can be formulated. Our research aims were to (1) investigate the incidence of past 30-day alcohol use, elevated levels of psychological distress, and clinically significant depression in a community sample of Mexican-American immigrants and to (2) examine if the length of time since immigration was related to these health outcomes.

Methods

Gatekeepers at local community-based organizations serving a large number of Mexican-American immigrants were contacted by the research team about a collaborative research opportunity focusing on the mental health of Mexican-American immigrants in the local community. These gatekeepers included direct service providers, executive leadership, and board members from local service organizations, local community organizers and activists, and clergy. While these partnerships were being developed, IRB approval was secured from the first author's university. One community provider agency, serving as the primary recruitment partner, also requested that the proposed research be formally reviewed by their own internal review board. This additional review was conducted to evaluate any additional risks to the agency and potential participants, as well as to continually provide a "non-academic" voice throughout the research process. Once approval was received from this agency's IRB, data collection commenced.

Data Collection

Four bilingual Latinx research assistants were recruited from a clinical graduate program at the authors' university. In addition, one full-time Latinx bilingual research staff member and one bilingual Latinx recent MSW graduate also assisted with community-based outreach and data collection efforts. Mexican-American immigrants were recruited from local community-based social service agencies and places of worship, such as ESL (English as a Second Language) classes, church social events, and community-based health screening events. The research staff verbally engaged potential participants in a group-based setting, to participate in a two-part research project investigating the health and mental health of Mexican-American immigrants.

Participants

Participants, all immigrants from Mexico, were asked to complete a 45-min survey about their current substance use and mental health status, as well as questions about cultural values and identity, to better understand their current health needs. Inclusion criteria were being born in Mexico and immigrating to the USA, self-identification as Latinx, ages 18–65 at the time of survey completion, and able to speak English or Spanish. Participants received a \$15 gift card for completing the survey.

Interested participants were asked verbally as a group if they met each of the inclusion criteria and were advised to not fill out the survey if they did not meet all the criteria. A waiver of written consent was granted for this project to ensure the anonymity of the participants, both documented and undocumented. Consent to participate in the study was reviewed verbally in English and in Spanish, and participants gave verbal consent to participate in the study. The paper and pencil survey instrument was self-administered in English or Spanish, based on the preference of the participant. Participants were also given the choice of having a research assistant read the questions to them aloud and fill-in their verbal responses, to account for low levels of literacy or vision difficulties. The research assistants remained on site to answer any questions about the instrument during the data collection process. Overall, data were collected from 16 sites during a 6month period in Spring 2018.

Measures

The survey instrument consisted of two sections that investigated various aspects of physical and mental health. Section one included demographic questions covering age, place of birth, years since migration, family composition, living arrangements, monthly income, employment type, education level, and religiosity. Documentation status and gender were not asked at the request of our primary community partner to encourage participation, to limit the collection of any potentially identifiable information, and to protect the privacy of participants. Section two was comprised of three standard mental health outcome measures that have been used extensively with Latinx populations and have been validated for use with both English and Spanish speaking populations. These were the Brief Symptom Inventory (BSI), the revised Center for Epidemiological Study Depression Scale (CES-D-R), and the substance use section of the Addiction Severity Index (ASI).

The Brief Symptom Inventory [29] is a 53-item instrument covering nine symptom dimensions including Depression, Anxiety Somatization, Obsession-Compulsion, Interpersonal Sensitivity, Hostility, Phobic Anxiety, Paranoid Ideation, and Psychoticism. It offers three global indices of psychological distress (Positive Symptom Distress Index (PSDI); Global Severity Index (GSI); and Positive Symptom Total (PST)) which measure the current number of symptoms reported, current levels of symptomology, and intensity of symptoms, respectively. Respondents rate their level of distress related to each item during the past 7 days, on a 5-point Likert-type scale ranging from 0 (not at all) to 4 (extremely). For example, participants would indicate how distressed they were by "feeling lonely" or "feeling no interest in things." Directions for scoring the subscales and each of the global indices can be found in the BSI [29]. The Spanish version of this instrument was evaluated by Ruiperez et al. [30], as well as Pereda et al. [31], and was determined to be a reliable and valid tool for the assessment of mental health symptomology in community-based Spanish speaking samples. Reliability for this instrument has ranged from .68–.91 [30], and prior work on the BSI's factor structure has found factor structures ranging from 5 to 8, in addition to the originally proposed 9 factors. Accordingly, the Global Severity Index (GSI), the BSI is the most commonly used index assessing overall psychological distress.

The CES-D-R [32] is a 20-item measure that asks participants to rate how often over the past week they experienced symptoms associated with depression. Responses range from 0 (rarely or none of the time) to 3 (most or almost all the time). There are 4 subscales measuring somatic symptoms (7 questions), depressed affect (7 questions), interpersonal problems (2 questions), and well-being (4 questions). The well-being subscale is reverse scored. Responses from each question are summed for a total score ranging from 0 to 60, with higher scores indicating greater depressive symptoms. Scores of 16 or greater indicate being at risk for clinical depression. This measure has been found to have good sensitivity and specificity, as well as high internal consistency [32-34]. The full CES-D-R [35] and shorter CES-D-10 [36] have both been found reliable for use in Hispanics/Latinx community populations speaking both English and Spanish. Although the factor structure of this measure has shown minimal nonequivalence by ethnicity in multi-ethnic samples, individuals of Mexican dissent are at low risk of misclassification as determined by Crockett et al. [35].

The ASI is a comprehensive assessment for substance use disorders and problematic substance use. The alcohol/drug use screening section was included as part of the survey. Participants were given a list of substances identified in the 5th edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-5) [37] and then asked to indicate if they have ever used that substance if they had used it within the past 30 days, and frequency of use.

Analyses

All analyses were executed using R and M^+ software. Data were cleaned and checked for assumptions of normality. Frequencies and percentages were calculated for all dichotomous variables. Means and standard deviations were then computed for all continuous demographic characteristics. A composite variable for religiosity was constructed by summing the scores on the three religiosity questions, with a score of two or less indicating low religiosity, a score of 3 indicating moderate religiosity. Data on place of origin were recoded from nominal data to ordinal data, based on whether the State was considered a moderate, high, or very high conflict area as defined by the United States Department of State Bureau of Consular Affairs travel advisory level [38].

For Aim 1, ASI scores were calculated based on whether an individual endorsed use within the last 30 days and were dichotomized. For the BSI, raw scores were calculated and converted to t-scores as per Derogatis [29]. Scores for the Positive Symptom Total (PST), Positive Symptom Distress Index (PSDI), and Global Severity Index (GSI) were computed. Caseness was determined by a GSI-T-score greater or equal to 63. For the CES-D-R, scores for each question were summed to determine the total scale score. Caseness was determined by a full-scale score of 16 or greater. Exploratory factor analyses were then conducted for the BSI and the CES-D-R to determine if the instruments performed in the same way with this sample as was proposed by the measures' authors and to determine if subscale scores were appropriate for interpretation with this sample.

For Aim 2, regular bivariate and bivariate Poisson regression were used to determine if demographic characteristics and were related to 30-day alcohol use, levels of depression, and overall psychological distress. Time since immigration was then dichotomized (those arriving in the USA prior to 2015 vs. those arriving between 2015 and present) to determine if new arrivals differed from those who arrived prior to 2015 on demographic characteristics and key outcome indicators.

Results

Approximately 310 survey instruments were completed. Eight surveys were eliminated as the participants were born in a country other than Mexico, and one was eliminated due to the participant being over age 65. In addition, 52 responses were eliminated due to excessive amounts of missing data, yielding a final sample size of 249 usable surveys.

As detailed in Table 1, the mean age of participants was 40.37 years (SD = 11.04), and on average they had resided in the USA for 17.03 years (SD = 10.16) years, and in Texas for 15.86 years (SD = 10.21). The data collection team reported that almost all participants were female which is consistent with the profile of clients who seek services from or participate in activities organized by our community recruitment partners. Participants were approximately 23 years old at the age of immigration (SD = 9.49). Almost three-quarters (73.4%) reported having a spouse or domestic partner, and 83.3% reported having children that they were physically or financially responsible for. The mean number of children per respondent was 2.48 children (SD = 1.73). Just over a third (34.3%) indicated that they were homemakers, and 35.6% reported 30+ hours per week of paid employment outside of the home. Total monthly income ranged from zero to \$8000 per month, with a median income of \$1500 per month. Over half (57.0%) of the sample reported having at least a high school education, and 14.1% reported having a bachelor's degree or higher. Almost three-quarters (72.3%) of participants reported speaking Spanish as their primary language, and 21.1% reported speaking both English and Spanish. A total of 72.3% of participants completed the survey instrument in Spanish. A total of 92.35 of the participants opted to complete the instrument in Spanish. Seven-in-ten (70.3%) of participants reported high levels of religiosity, with 87.8% identifying as catholic. The majority of participants also reported moving to the USA from a high (57.5%) or very high (21.5%) conflict area of Mexico.

Testing of Factor Structures

Exploratory factor analyses (EFA) of the BSI and CES-D-R were conducted to determine if the factor structure of each instrument was consistent with the factor structure put forth by the measures' authors. The BSI was evaluated to determine if the theoretical nine-factor structure [29] was maintained. Items were specified as ordered categorical, and the default robust weighted least squares estimator (WLSMV) was used. Missing data handling with WLSMV is analogous to pairwise deletion [39]. Results indicate that a two-factor model was the best fit for this data. However, all subscales loaded on to one factor with the exception of the well-being subscale, which was reverse scored. There was significant cross-loading on all items across two or more factors, and all items loaded

Table 1 Sample demographics

Continuous variables	Valid <i>n</i>	Mean (SD)	Median	Range
Current age in years	247	40.37 (11.04)	40.00	18–65
Age at immigration	246	23.28 (9.49)	22.50	0–50
Years in the USA	248	17.03 (10.16)	16.00	1–46
Years in Texas	222	15.86 (10.21)	15.00	0.50-46.00
Number of children	245	2.48 (1.73)	2.00	0-11
Average monthly income in dollars	209	1665 (1297)	1500	0-8000
Categorical Variables	Valid <i>n</i> (%)			
Homemaker	82 (34.3)			
Employed 30+ hours	85 (35.6)			
Has domestic partner/spouse	182 (73.4)			
Has children	204 (83.3)			
Instrument given in Spanish	230 (92.4)			
At least high school education	142 (57.0)			
Bachelor's degree or higher	35 (14.1)			
Religiosity				
Low	27 (10.8)			
Medium	47 (18.9)			
High	175 (70.3)			
Identifies as catholic religion	207 (87.7)			
Language				
English	6 (2.4)			
Spanish	180 (72.3)			
Both	53 (21.3)			
Birthplace threat level				
Moderate	51 (21.1)			
High	132 (57.5)			
Very High	50 (21.5)			

583

positively and significantly in the one-factor model, indicating that for this sample a one-factor solution was most appropriate. Accordingly, only the full-scale score of this measure was used in subsequent analyses.

The psychometric properties of the CES-D-R were also evaluated via exploratory factor analysis (EFA) methods to determine if the theoretical four-factor structure [32] was maintained. As with the BSI, the items were specified as ordered categorical, and the default robust weighted least squares estimator (WLSMV) was used. Results indicate that a two-factor model was the best fit for this data. However, with this solution, all subscales loaded on to one factor, with the exception of the well-being subscale, which was reverse scored. However, since overall score indicating caseness, rather than subscale scores, were of most interest for this investigation, this measure was treated as a single-factor measure and only full-scale indices, rather than the subscales, were used as outcome measures.

Aim 1 Investigate the incidence of past 30-day alcohol use, elevated levels of psychological distress, and clinically

significant depression in a sample of Mexican-American immigrants. Table 2 shows T-scores for the BSI-Global Severity Index for the entire sample, ranging between 33 and 80, with a median T-score of 50 and a mean of 49.78 (SD = 12.49). Over a quarter (26.5%) indicated significant levels of current psychological distress. Mean CES-D-R scores ranged between zero and 75, with a median of 10 and a mean of 11.02 (SD = 7.18), with 20% of the participants meeting the clinical cutoff for depression. Approximately 20.1% of the sample indicated drinking alcohol in the past 30 days.

Aim 2 Determine if the length of time since immigration is related to last 30-day alcohol use, levels of depression, and overall psychological distress in a community sample of Mexican-American immigrants. Bivariate Poisson regression was used to determine if caseness for the CES-D-R and BSI were related to demographic variables. As seen in Table 3, significant differences were seen on the BSI measure for those reporting a life partner, indicating that having a life partner has a .56 times reduced risk of experiencing clinically

Continuous outcomes				
Variable	Valid n	Mean (SD)	Median	Range
BSI-Global Severity Index (BSI_GSI)	249	0.44 (0.57)	0.25	0.00-3.77
BSI-Global Severity Index T-score (BSI_GSIT)	249	49.78 (12.49)	50.00	33.00-80.00
BSI-Positive Symptom Total (BSI_PST)	249	13.49 (12.92)	10.00	0.00-53.00
BSI-Positive Symptom Total T-score (BSI_PSTT)	249	49.02 (13.40)	50.00	30.00-80.00
BSI-Positive Symptom Distress Index (BSI_PSDI)	249	1.29 (0.73)	1.12	0.00-4.00
BSI-Positive Symptom Distress T-score (BSI_PSDT)	249	51.11 (10.43)	49.00	41.00-80.00
CES-D total score (CES-DTOT)	249	11.02 (7.18)	10.00	0.00-57.00
Categorical outcomes	Valid n (9	%)		
Alcohol use in last 30 days (ALC30)	47 (20.1%	6)		
BSI clinical cutoff (BSI_CASE)	66 (26.5%	6)		
CES-D clinical cutoff (CES-DCASE)	50 (20.1%	6)		

significant depression. Although having a medium or high level of religiosity or being employed more than 30 h per week outside the home were predictive of lower BSI scores, they were not predictive of decreased risk of clinically significant psychological distress. Similarly, reporting alcohol use within the last 30 days was associated with higher BSI scores, but alcohol use within the last 30 days was not predictive of increased risk for clinically significant psychological distress. No other demographic characteristics such as age, language, religiosity, or threat level in place of origin were predictive of increased or decreased risk of mental health symptomology. Accordingly, no-multivariate analyses were performed on these data due to the lack of significant bivariate predictors. An additional variable was derived to determine if any significant differences in mental health outcomes were found for new arrivals (those coming to the USA since 2015) compared with those who had resided in the USA for longer periods of time. As seen in Table 4, those who were considered "new arrivals" had significantly higher mean BSI and CES-D scores than those who had lived in the USA for longer periods of

	Effect size (SD units)				Effect size (RR)	
Predictor	BSI_GSI	BSI_PSTT	BSI_PSDT	CES- DTOT	BSI_CASE	CES- DCASE
Age in years	-0.01	n.s.	-0.01	-0.01	n.s.	n.s.
Years in the USA	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Years in Texas	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Age at immigration	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Employed 30+ hours	n.s.	n.s.	-0.26	n.s.	n.s.	n.s.
Homemaker	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Med/high religiosity	n.s.	-0.42	-0.67	n.s.	n.s.	n.s.
Spanish only speaker	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Has partner	-0.51	-0.47	-0.47	n.s.	0.56	n.s.
Has child (ren)	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Alcohol last 30 days	0.37	0.50	n.s.	n.s.	n.s.	n.s.
High school education	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Monthly income	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Came from high conflict area	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.

 Table 3 Demographic predictors

 of mental health outcomes

SD, standard deviation; *RR*, risk ratio. *p* values calculated using bivariate regression for continuous outcomes and bivariate Poisson regression for binary outcomes. All regressions computed using robust maximum likelihood estimation in M*plus* 8.2. Effect size for continuous measures computed using standard deviation of the outcome variable for the whole sample (STDY standardization). All listed effect sizes significant at p < .05 (two-tailed)

Table 4	Mental health	outcomes b	by time	in the	USA
---------	---------------	------------	---------	--------	-----

Continuous outcomes				
Variable	< 3 years (<i>n</i> = 19) Mean (SD)	3+ years (<i>n</i> = 230) Mean (SD)	Sig.	Effect size (SD units)
BSI-Global Severity Index (BSI_GSI)	1.10 (0.99)	0.38 (0.49)	.002	- 1.25
BSI-Positive Symptom Total (BSI_PSTT)	57.90 (14.78)	48.29 (13.01)	.010	-0.68
BSI-Positive Symptom Distress Index (BSI_PSDT)	60.53 (12.30)	50.34 (9.87)	.001	- 0.95
CES-D Total Score (CES-DTOT)	16.58 (12.63)	10.56 (6.31)	.040	-0.84
Binary Outcomes				
Variable	<3 years Valid <i>n</i> (%) yes	3+ years Valid n (%) yes	Sig.	Effect size (RR)
BSI Case (BSI_CASE)	12 (63.2)	54 (23.5)	<.001	0.38
CES-D Case (CES-DCASE)	8 (42.1)	42 (18.3)	.021	0.47
Alcohol use in last 30 days	4 (25.0)	43 (19.7)	.50	n.s.

SD, standard deviation; *RR*, risk ratio. *p* values calculated using bivariate regression for continuous outcomes and bivariate Poisson regression for binary outcomes. All regressions computed using robust maximum likelihood estimation in M*plus* 8.2. Effect size for continuous measures computed using standard deviation of the outcome variable for the whole sample (STDY standardization)

time. Effect sizes for these differences were largely based on Cohen's [40] criteria. Nearly three times as many recent immigrants (62.3%) than established immigrants (23.5%) met the clinical cutoff for significant psychological distress as measured by the GSI of the BSI. Similarly, more than twice of new immigrants (42.1%) reported clinically significant depressive symptomology than more established immigrants (18.3%) as measured by the CES-D-R. New arrivals had a .38 increased risk of developing clinically significant depression and a .47 increased risk of developing overall clinically significant psychological distress than those residing in the USA for longer periods of time. Thus, the overall psychological health of recent immigrants was significantly worse than that of more established immigrants.

Discussion

The overall occurrence of clinically significant depression and psychological distress was *approximately double for recent arrivals* than for more established Mexican-American immigrants, indicating that this group of new arrivals did not appear to exhibit the same levels of psychological health that would be expected based on the Hispanic Health Paradox. These data lend support to the hypothesis that changes in immigration policy, which are more restrictive and "anti-immigrant" may have an important impact on the psychological health and well-being of Mexican-American immigrants, especially recent arrivals.

This is of critical importance when we consider that for historical, geographic, and demographic reasons, immigration from Mexico will continue regardless of how restrictive immigration policies may become. There are currently 57.5 million Hispanics/Latinx individuals in the USA, and two-thirds of these are US-born citizens [27] most of them with deep connections to Mexico and other areas of Central and South America. These "Latinx-Americans" will continue to travel to Mexico and beyond to stay connected to local communities in their countries of origin and will continue to petition for family members to join them in the USA and to support visa requests from family members. As such, legal immigration will continue.

In addition, as long as the Central and South American economies continue to underperform and fail to provide growth opportunities for their citizens, and as long as safety and security continue to place the lives of families in the regions at risk, Mexicans (along with Central and South Americans) will continue to attempt the often treacherous journey across their land to reach the US border and request asylum and/or will continue to attempt to enter the USA without documentation. Anti-immigrant policies and rhetoric adversely impact undocumented and documented immigrants alike and have broader implications for health and behavioral health in all immigrant and established communities. Community-based social service providers and faith-based organizations that still have the trust of these communities are well positioned to provide prevention and early intervention services and to connect the community to specialty services when needed.

We investigated religiosity and its relationship to the study outcomes and found no differences among those with differing levels of religiosity. Having a medium or high level of religiosity was predictive of lower BSI scores but did not predict a decreased risk of clinically significant psychological distress. We had hypothesized that religiosity would be a protective factor, as is often found in the literature, and this was not the case. One explanation could be the low variability/range restriction on the religiosity measure. Most participants (70.3%) scored high on religiosity, and an even larger percentage (87.8%) identified as catholic. In a sample with more religious variability religiosity might indeed emerge as a protective factor.

Of course, there are factors other than immigration policy and anti-immigrant sentiments than can adversely impact mental health. Discrimination has been consistently found to be a risk factor for mental health concerns and social support as a protective factor. Unfortunately, discrimination and social support were not directly measured as part of this study. As such, we were unable to determine the impact, if any, that they had on these mental health outcomes. Future studies should include a broader array of risk and protective factors and a larger, more diverse sample, to be able to disentangle the relative contribution of these factors. Moreover, there is the phenomenon of withingroup discrimination, with the larger Mexican/Mexican American community holding discriminatory views about Central Americans or longer-term immigrants about more recent arrivals. A more diverse group would allow for studying this phenomenon. Nevertheless, there is ample anecdotal and empirical evidence of the detrimental role of discrimination and the positive role of social support on mental health outcomes across many different groups.

Limitations

This project focused exclusively on immigrants from Mexico; thus, the conclusions reached may not be generalizable to all Latinx immigrants or to the larger multi-national immigrant community. Participants in this study live in a "majority minority" city which has high levels of racial and ethnic diversity. Only 36% of the city's estimated 6.9 million residents are non-Hispanic white; 2.6 million (38%) of Houston's residents identify as Latinx, with 612,000 (8.9%) reporting that they had immigrated from Mexico [3]. As such, the mental health of these residents may not generalize the mental health of Mexican-American immigrants living in areas that are predominantly Caucasian or that have smaller immigrant communities [41]. At the same time, this makes our results even more concerning, in that our respondents reside in communities where there may be access to extensive support from the large immigrant communities, the larger Houston Latinx community, and a large network of social services and faith-based organizations. These data were drawn from a community-based sample of individuals who were engaging with social service organizations and faithbased communities. It is possible that the data derived from these participants could be different from the data that would be gathered from other Mexican-American immigrants who choose not to interact with these institutions.

Although language spoken was used as a proxy measure for acculturation, future research in this area may wish to directly measure acculturation as a multi-dimensional construct that impacts physical and mental health. There were significant amounts of missing data due to incomplete surveys. Future data collection efforts should be mindful about participant burden and how that may impact the data collection process. All analyses were descriptive or univariate and cross sectional in nature. Due to the small sample size of the recent immigrant group, multivariate analyses were not able to be performed. Similarly, these data are associational and do not represent a causal relationship between changes in immigration policy and changes in mental health symptomology in Mexican-American immigrants.

Implications

Our findings are inconsistent with what would be expected based on the Hispanic Health Paradox. It appears that the protective effects usually seen in recent Latinx immigrants may be missing, or operating in a different way, for current Mexican-American immigrants arriving into an intense antiimmigrant climate, even in a place considered to be a "welcoming" city [41]. Our data also indicate that recent immigrants are experiencing significantly more acute psychological distress than ever before. This may be due, in part, to the current anti-immigrant sentiment sweeping many areas of the nation. Future studies in this area should collect longitudinal data on immigrants of Mexican origin to determine if the trends found in these data hold consistent over time.

While our results need to be interpreted with caution, given the cross-sectional nature of the study, the homogeneous sample, and the methodological limitations that impacted our ability to establish a strong correlation between our independent and dependent variables, some recommendations can be derived. First, there remains a need for ongoing research addressing the overall mental health needs of Latinx immigrants, and how these needs may be related to discrimination and marginalization as new policies are implemented. As this population continues to grow, and mixed status families are the reality for many of Latinx origin, practitioners must practice cultural humility in order to build trust with members of their more vulnerable communities exhibiting significant mental health needs. Present and future practitioners need to be continually self-reflective about implicit bias or outright prejudice concerning the Mexican-American community that may be operating at the individual and structural levels. This is imperative if we as a profession are going to adequately meet the community's behavioral health needs.

Part of this critical self-reflection (and good clinical practice) is having a firm understanding of one's own cultural values and norms, and how the cultural values or norms of this population may or may not align with them. Having a strong understanding of how to effectively engage Latinx clients, particularly immigrant clients, for mental health screening and service provision is paramount for competent practice [42, 43]. This study indicates that having a domestic partner may decrease the risk of developing depressive symptomology, highlighting the potential protective effect that social support may have on mental health.

Providing further education and ongoing supervision for future health care professionals about the needs of immigrant communities and the importance of interpersonal relationships may help decrease some of the existing disparities in the current health care setting [25–27].

Second, this community continues to have consistently low engagement with traditional health care systems, and specifically with preventive health care [5, 46], and greater difficulty accessing mental health services [4–6] and remaining engaged in treatment [27, 45, 47]. As such, we continue to see a need for new evidence-informed intervention approaches that are culturally informed, relevant, and acceptable to this community, and for existing evidence-based interventions to be thoughtfully and appropriately adapted to meet individual and community needs. The continuing growth of the Hispanic/Latinx population locally and nationwide highlights the urgent need to address mental health disparities, specifically improving identification of, access to, and engagement with appropriate mental health services.

Finally, it is always good practice for community-based health provider organizations to review their policies and procedures to determine any systemic issues that may be impacting those from immigrant communities from engaging with needed mental health care. For example, policies around documentation requirements, a lack of fully bilingual providers, and a lack of culturally grounded mental health intervention approaches may all serve as impediments to competently serving this community and meeting their mental health needs [4, 44, 48]. Resources must be available, and services must be inclusive in order to promote the health and wellness of all those living in the USA.

New Contribution to the Literature

Individuals migrating from Mexico to the USA since 2015 have increased the risk of developing clinically significant depression and global psychological distress when compared with immigrants arriving in the USA prior to 2015. These findings are inconsistent with the *Hispanic Health Paradox*. Recent changes to immigration policy and enforcement may be associated with increased risk.

Funding Information Health and Psychosocial Emotional Identity in Migrants and Non-migrants in Mexico and the U.S. Research Program on Migration and Health"; Co-PI Dr. Rosario Silva. Award period: 2016 to 2018, Research Program on Migration and Health (PIMSA, for its Spanish acronym: Programa de Investigación en Migración y Salud).

References

 Pierce S, Bolter J, Selee A. Trump's First Year on Immigration Policy: Rhetoric vs. Reality. Washington, DC: Migration Policy Institute. 2018a. Retrieved May 4, 2019 www.migrationpolicy. org/research/trump-first-year-immigration-policy-rhetoric-vs reality.

- Pierce S, Bolter J, Selee A. U.S. Immigration Policy under Trump: Deep Changes and Lasting Impacts. Washington, DC: Migration Policy Institute. 2018b. Retrieved May 4, 2019 from www. migrationpolicy.org/research/us-immigration-policy-trump-deep changes-impacts.
- Capps R, Ruiz Soto AG. A profile of Houston's Divers immigrant population in a rapidly changing policy landscape. Washington, D.C: Migration Policy Institute. 2018. Retrieved November 6, 2018 from https://www.migrationpolicy.org/research/profilehouston-immigrant-population-changing-policy-landscape.
- Rhodes SD, Mann L, Simán FM, Song E, Alonzo J, Downs M, et al. The impact of local immigration enforcement policies on the health of immigrant Hispanics/Latinos in the United States. Am J Public Health. 2015;105(2):329–37.
- Bustamante AV, Fang H, Garza J, Carter-Pokras O, Wallace SP, Rizzo JA, et al. Variations in healthcare access and utilization among Mexican immigrants: the role of documentation status. J Immigr Minor Health. 2012;14(1):146–55.
- DuBard CA, Gizlice Z. Language spoken and differences in health status, access to care, and receipt of preventive services among US Hispanics. Am J Public Health. 2008;98(11):2021–8.
- Arbona C, Olvera N, Rodriguez N, Hagan J, Linares A, Wiesner M. Acculturative stress among documented and undocumented Latino immigrants in the United States. Hisp J Behav Sci. 2010;32(3):362– 84.
- Alegría M, Mulvaney-Day N, Torres M, Polo A, Cao Z, Canino G. Prevalence of psychiatric disorders across Latino subgroups in the United States. Am J Public Health. 2007;97(1):68–75.
- Jasso G, Massey DS, Rosenzweig MR, Smith JP. Immigrant health: selectivity and acculturation. In: Anderson NB, Bulatao RA, Cohen B, editors. Critical perspectives on racial and ethnic differences in health in late life. Washington: The National Academic Press; 2004. p. 227–66.
- Pérez DJ, Fortuna L, Alegría M. Prevalence and correlates of everyday discrimination among U.S. Latinos. J Commun Psychol. 2008;36:421–33. https://doi.org/10.1002/jcop.20221.
- Portes A. Conclusion: theoretical convergencies and empirical evidence in the study of immigrant transnationalism. Int Migr Rev. 2003;37:874–92. https://doi.org/10.1111/j.1747-7379.2003. tb00161.x.
- Alcántara C, Chen CN, Alegría M. Do post-migration perceptions of social mobility matter for Latino immigrant health? Soc Sci Med. 2014;101:94–106.
- Alegría M, Canino G, Shrout PE, Woo M, Duan N, Vila XL, et al. Prevalence of mental illness in immigrant and non-immigrant US Latino groups. Am J Psychiatr. 2008;165(3):359–69.
- Gonzalez H, Ceballos M, Tarraf W, West B, Bowen M, Vega W. The health of older Mexican Americans in the long run. Am J Public Health. 2009;99:1879–85 doi:AJPH.2008.133744 [pii].
- Franzini L, Ribble J, Keddie A. Understanding the Hispanic paradox. Ethn Dis. 2001;11:496–518.
- Markides K, Eschbach K. Aging, migration, and mortality: current status of research on the Hispanic paradox. J Gerontol B Psychol Sci Soc Sci. 2005;60(Special Issue 2):S68–75. https://doi.org/10. 1093/geronb/60.Special_Issue_2.S68.
- Pallone A, Morenoff J. Interpreting the paradoxical in the Hispanic paradox. Ann N Y Acad Sci. 2001;954:140–74. https://doi.org/10. 1111/j.17496632.2001.tb02751.x.
- Teruya SA, Bazargan-Hejazi S. The immigrant and Hispanic paradoxes: a systematic review of their predictions and effects. Hisp J Behav Sci. 2013;35(4):486–509.
- Pew Hispanic Center. (2017). Facts on U.S. Latinos, 2015. Retrieved March 4, 2019 from https://www.pewhispanic.org/ 2017/09/18/facts-on-u-s-latinos/

- Caplan S, Escobar J, Paris M, Alvidrez J, Dixon JK, Desai MM, et al. Cultural influences on casual beliefs about depression among Latino immigrants. J Transcult Nurs. 2013;24(1):68–77.
- Zong J, Batalove J. Mexican Immigrants in the United States. Migration Policy Institute. 2018. https://www.migrationpolicy. org/article/mexican-immigrants-united-states.
- Cervantes RC, Padilla AM, Napper LE, Goldbach JT. Acculturation-related stress and mental health outcomes among three generations of Hispanic adolescents. Hisp J Behav Sci. 2013;35(4):451–68.
- Hiott A, Grzywacz JG, Arcury TA, Quandt SA. Gender differences in anxiety and depression among immigrant Latinos. Fam Syst Health. 2006;24(2):137–46.
- Hovey JD. Acculturative stress, depression, and suicidal ideation in Mexican American immigrants. Cultur Divers Ethnic Minor Psychol. 2000;6:134–51.
- Bridges AJ, de Arellano MA, Rheingold AA, Danielson CK, Silcott L. Trauma exposure, 30mental health, and service utilization rates among immigrant and United States-born Hispanic youth: results from the Hispanic family study. Psychol Trauma Theory Res Pract Policy. 2010;2:40–8.
- Fortuna LR, Porche MV, Alegria M. Political violence, psychosocial trauma, and the context of mental health services use among immigrant Latinos in the United States. Ethn Health. 2008;13(5): 435–63.
- Kouyoumdjian H, Zamboanga BL, Hansen DJ. Barriers to community mental health services for Latinos: treatment considerations. Clin Psychol Sci Pract. 2003;10(4):394–422.
- Pew Research Center: Hispanic Trends: More Latinos have serious concerns about their place in America under Trump. 2018. Retrieved March 18, 2019 from https://www.pewhispanic.org/ 2018/10/25/more-latinos-have-serious-concerns-about-their-placein-america-under-trump/
- Derogatis LR. BSI Brief Symptom Inventory: Administration, scoring and procedures manual. 4th ed. National Computer Systems: Minneapolis; 1993.
- Ruiperez M, Ibáñez MI, Lorente E, Moro M, Ortet G. Psychometric properties of the Spanish version of the BSI: contributions to the relationship between personality and psychopathology. Eur J Psychol Assess. 2001;17(3):241–50.
- Pereda N, Forns M, Peró M. Dimensional structure of the Brief Symptom Inventory with Spanish college students. Psicothema. 2007;19(4):634–9.
- 32. Eaton WW, Smith C, Ybarra M, Muntaner C, Tien A. Center for Epidemiologic Studies Depression Scale: review and revision (CESD and CESD-R). 2004.
- Roth DL, Ackerman ML, Okonkwo OC, Burgio LD. The fourfactor model of depressive symptoms in dementia caregivers: a structural equation model of ethnic differences. Psychol Aging. 2008;23(3):567–76.
- Van Dam NT, Earleywine M. Validation of the Center for Epidemiologic Studies Depression Scale—Revised (CESD-R):

pragmatic depression assessment in the general population. Psychiatry Res. 2001;186(1):128–32.

- Crockett LJ, Randall BA, Shen YL, Russell ST, Driscoll AK. Measurement equivalence of the center for epidemiological studies depression scale for Latino and Anglo adolescents: a national study. J Consult Clin Psychol. 2005;73(1):47–58.
- González P, Nuñez A, Merz E, Brintz C, Weitzman O, Navas EL, et al. Measurement properties of the Center for Epidemiologic Studies Depression Scale (CES-D 10): findings from Hchs/sol. Psychol Assess. 2017;29(4):372–81.
- American Psychiatric Association. Diagnostic and statistical manual of mental disorders. 5th ed. Arlington: American Psychiatric Publishing; 2013.
- 38. United States Department of State Bureau of Consular Affairs. 2018. https://travel.state.gov/content/travel/en/about-us.html
- Muthén LK, Muthén BO. Mplus User's Guide. Muthén & Muthén: Los Angeles; 2017.
- Cohen J. A power primer. Psychol Bull. 1992;112:155–9. https:// doi.org/10.1037/0033-2909.112.1.155.
- Shell AM, Peek MK, Eschbach K. Neighborhood Hispanic composition and depressive symptoms among Mexican-descent residents of Texas City, Texas. Soc Sci Med. 2013;99:56–63.
- 42. Fortuna, L. Best Practice Highlights Latino/as and Hispanics. American Psychiatric Association ND Retrieved May 9, 2019 from https://www.psychiatry.org/psychiatrists/cultural-competency/ treating-diverse-patient-populations/working-with-latino-patients
- Suárez-Orozco MM, Suárez-Orozco C. Taking perspective: context, culture, and history. New Dir Child Adolesc Dev. 2018;2013(141):9–23.
- Nadeau L, Measham T. Immigrants and mental health services: increasing collaboration with other service providers. Can Child Adolesc Psychiatr Rev. 2005;14(3):73–6.
- Polo AJ, Alegría M, Sirkin JT. Increasing the engagement of Latinos in services through community-derived programs: the right question project-mental health. Prof Psychol Res Pract. 2012;43(3): 208–16.
- 46. Alegria M, Canino G, Ríos R, Vera M, Calderón J, Rusch D, et al. Mental health care for Latinos: inequalities in use of specialty mental health services among Latinos, African Americans, and non-Latino Whites. Psychiatr Serv. 2002;53(12):1547–55.
- 47. Gearing RE, Townsend L, Elkins J, El-Bassel N, Osterberg L. Strategies to predict, measure, and improve psychosocial treatment adherence. Harv Rev Psychiatry. 2014;22(1):31–45.
- Zayas LH, Torres LR, Cabassa LJ. Diagnostic, symptom, and functional assessments of Hispanic outpatients in community mental health practice. Community Ment Health J. 2009;45(2):97–105.

Publisher's Note Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.