

# Kicks Hurt Less: Discrimination Predicts Distress Beyond Trauma Among Undocumented Mexican Immigrants

Luz M. Garcini, Michelle A. Chen,  
and Ryan L. Brown  
Rice University

Thania Galvan  
University of Denver

Levi Saucedo  
Rice University

Jodi A. Berger Cardoso  
University of Houston

Christopher P. Fagundes  
Rice University

**Objective:** This study aimed to assess for the prevalence of interpersonal discrimination among undocumented Mexican immigrants residing in high-risk neighborhoods near the California–Mexico border, identify relevant vulnerabilities, and determine its association with clinically significant psychological distress after controlling for sociodemographics, immigration characteristics, and history of trauma.

**Method:** Respondent-driven sampling was used in this cross-sectional study to collect and analyze data from clinical interviews with 246 undocumented Mexican immigrants. The 53-item Brief Symptom Inventory was used as the primary outcome measure to assess for clinically significant psychological distress. For all analyses, inferential statistics accounted for design effects and sample weights to produce weighted estimates. Logistic regression was used in the multivariate analyses. **Results:** In all, 69% of the participants reported interpersonal discrimination due to being undocumented with significant differences observed across sex, educational attainment, and income. Among participants with a history of interpersonal discrimination due to their undocumented status, 52% met criteria for clinically significant psychological distress with significant differences observed across age groups, years living in the United States, and history of trauma. After controlling for relevant covariates, having experienced interpersonal discrimination due to being undocumented was the strongest significant predictor of clinically significant psychological distress, odds ratio = 5.47, 95% confidence interval [2.56, 11.7],  $p < .001$ , even beyond history of trauma. **Conclusion:** Overall, our findings emphasize the need for policies, advocacy, and the development and provision of contextually sensitive interventions to address the high prevalence of interpersonal discrimination and its negative health effects among undocumented Mexican immigrants.

**Keywords:** discrimination, distress, undocumented, Mexican, immigrant

The undesirable effects of interpersonal discrimination on well-being are widely documented, with discrimination being consistently associated with diminished physical and mental health and damaging health behaviors (Pascoe & Smart Richman, 2009).

Interpersonal discrimination pertains to interpersonal interactions in which biases are conveyed for different reasons, not exclusively due to race/ethnicity (Jones, Peddie, Gilrane, King, & Ray, 2013). Stress coping frameworks have identified interpersonal discrimination as a social stressor that is often unpredictable and uncontrollable, increasing psychological distress (Pascoe & Smart Richman, 2009). Repeated or chronic exposure to interpersonal discrimination may cause heightened psychologically and physiological reactions to stressful situations that compromise well-being over time (Pascoe & Smart Richman, 2009). People who face constant interpersonal discrimination report diminished mental health when compared with those without such experiences (Pascoe & Smart Richman, 2009). The damaging effects of interpersonal discrimination on health are more profound among populations facing social disadvantage (e.g., restricted socioeconomic opportunities and mobility; Williams, 1999), which is often prevalent among undocumented immigrants. This study assessed the prevalence of interpersonal discrimination among undocumented

This article was published Online First August 6, 2018.

Luz M. Garcini, Michelle A. Chen, and Ryan L. Brown, Department of Psychology, Rice University; Thania Galvan, Department of Psychology, University of Denver; Levi Saucedo, Department of Psychology, Rice University; Jodi A. Berger Cardoso, Graduate College of Social Work, University of Houston; Christopher P. Fagundes, Department of Psychology, Rice University.

Data collection and preparation of the manuscript were supported by the Ford Foundation Fellowship Program and a grant and diversity supplement from the National Heart, Lung and Blood Institute (1R01HL127260-01).

Correspondence concerning this article should be addressed to Luz M. Garcini, Department of Psychology, Rice University, 6100 Main Street, Houston, TX 77005. E-mail: [Luz.M.Garcini@rice.edu](mailto:Luz.M.Garcini@rice.edu)

Mexican immigrants residing in high-risk neighborhoods, relevant vulnerabilities, and its association to clinically significant psychological distress.

Diverging political opinions and growing hostility among people of different backgrounds have recently brought interpersonal discrimination to the forefront of the United States' political, economic, and social landscape (Krogstad & López, 2016). Interpersonal discrimination is a relevant stressor for a considerable proportion of the U.S. population, particularly those from disadvantaged backgrounds (Carter & Forsyth, 2010). Undocumented immigrants are an immigrant subgroup recently targeted for interpersonal discrimination in the United States, particularly those of Latino origin. A report by Krogstad and López (2016) identified undocumented legal status as a primary reason for discrimination among Latinos. Given that undocumented status cannot be determined by visually assessing a person, any immigrant displaying characteristics typically attributed to the "undocumented" stereotype (e.g., limited or no English proficiency, low socioeconomic status, and brown skin) is at risk of interpersonal discrimination regardless of his or her immigration status (Morey, 2018). Moreover, salient stereotypes that portray undocumented immigrants as a burden to society have also contributed to the increase in interpersonal discrimination against Latinos (Krogstad, Passel, & Cohn, 2017).

Undocumented immigrants make up a considerable proportion of the U.S. immigrant population, with about half of these immigrants being of Mexican origin. It is estimated that there are approximately 5.6 million undocumented Mexican immigrants in the United States, with the majority residing in California and Texas (Krogstad et al., 2017). Although unauthorized migration from Mexico has declined over the past year, estimates show that most undocumented Mexican immigrants have established long-term residence in the United States (Gonzalez-Barrera & Krogstad, 2017), with approximately 78% of these immigrants having lived in the United States for over a decade. Also, the majority of undocumented Mexican immigrants are living in mixed-status families, in which at least one member of the family is undocumented (Gonzalez-Barrera & Krogstad, 2017). Given that the undocumented experience not only affects the undocumented individuals but also influences the lives of their U.S.-born families and the communities in which they live (Berger Cardoso, Scott, Faulkner, & Barros Lane, 2018), it is important to inform how salient contextual stressors, including interpersonal discrimination, may affect the health and well-being of undocumented Mexican immigrants, their families, and their communities. This study aims to fill a gap in the literature by documenting the effect of interpersonal discrimination on the mental health of this at-risk population.

Although interpersonal discrimination among undocumented Mexican immigrants has been identified as a salient contextual stressor in this population (Cobb, Xie, Meca, & Schwartz, 2017; Garcini et al., 2016), there is limited knowledge on its association with clinically significant distress. Primary factors that have been identified as sources of interpersonal discrimination associated with distress among undocumented Latino immigrants include immigration policies and city ordinances (Negi, 2013); however, less attention has been given to other relevant factors such as sociodemographics, immigration characteristics, and contextual experiences (e.g., trauma history) that may increase vulnerability

for interpersonal discrimination and its associated distress in this population. Given that undocumented Mexican immigrants are a heterogeneous population, disparities in the experiences of interpersonal discrimination and its associated distress among undocumented Mexican immigrants are important to identify. Epidemiological research to quantify the prevalence of interpersonal discrimination, including discrimination due to undocumented status, and its association with clinically significant psychological distress is necessary to inform the development of much-needed advocacy and policy efforts. Likewise, identifying vulnerabilities associated with interpersonal discrimination and distress in this population is essential to inform context-sensitive interventions.

### Purpose of the Study

Consistent with a need to identify the prevalence of interpersonal discrimination as a contextual stressor associated with clinically significant psychological distress among undocumented Mexican immigrants, this study aimed to (a) assess the prevalence of interpersonal discrimination among undocumented Mexican immigrants residing in high-risk neighborhoods near the California–Mexico border, (b) identify vulnerabilities associated with interpersonal discrimination, and (c) identify the association of interpersonal discrimination and clinically significant psychological distress, after controlling for relevant sociodemographics, immigration characteristics, and history of trauma.

### Method

#### Design and Sample

This cross-sectional study used respondent-driven sampling (RDS) as the sampling and data analysis method, given its effectiveness with the target population (Heckathorn, 1997; Montealegre, Risser, Selwyn, Sabin, & McCurdy, 2012; Tyldum & Johnston, 2014; Zhang, 2012). RDS uses a structured referral system in which successive waves of participants are recruited to achieve a diverse sample. To produce population estimates, RDS uses weights that are based on the size of the respondent's social network to determine the probability of selection. In this way, each participant is weighted by the inverse of their probability of selection so that units with small chance of being selected (those with smaller networks) are weighted more heavily than those with larger networks in the analyses (Tyldum & Johnston, 2014). Although RDS began with a convenience sample of undocumented Mexican immigrants, a structured process was used to obtain unbiased estimates of undocumented Mexican immigrants in the study location. Further details about RDS methodology are described elsewhere (Garcini et al., 2017b).

Participants included 257 undocumented Mexican immigrant adults (ages 18 and older). However, 11 were excluded from the study, as six participants were not of Mexican origin and five participants had missing data pertaining to discrimination. The analytical sample is based on data from 246 undocumented Mexican immigrants residing in a medium-sized city, near the California–Mexico border. To provide the most conservative estimates, analyses were conducted using the 15% population estimate in the target location as reference ( $N = 22,000$ ). Participants'

average age was 38 years ( $SD = 11.2$ ). Most were female, were married, had low educational attainment, and lived in poverty. Approximately half were employed. On average, participants had lived in the United States for 16 years ( $SD = 7.9$ ), with the majority living in the United States for  $>10$  years. Also, the majority reported a history of trauma (83%).

## Data Collection

Data were collected from November 2014 to January 2015. Recruitment for this study began with three previously selected undocumented Mexican immigrants or *seeds* identified during formative research. *Seeds* were selected to represent the diversity of the community, including sex, age, place of residence, and relevant immigration characteristics. Each *seed* was provided three referral coupons to recruit other undocumented Mexican immigrants for participation. The next waves of participants recruited were also given three referral coupons to recruit additional undocumented Mexican immigrants. Sampling continued until the desired sample size was reached and equilibrium was achieved, with a maximum chain length of 11 waves. Equilibrium was verified empirically through the use of RDS Analyst (Handcock, Fellows, & Gile, 2014), which showed that the final subjects recruited no longer had identical characteristics to the initial *seeds*.

A brief screener was provided to assess for the participant's immigration legal status and Spanish proficiency. Undocumented status was determined using a question modeled from the San Diego Labor Trafficking Survey Questionnaire (Zhang, 2012), which asked, "At present, are you living here without a visa or legal documentation to live in the U.S.?" Other inclusion criteria were being Spanish-speaking and not having acute psychotic symptoms (i.e., hallucinations, delusions, and disorganized speech/thought) as assessed via clinical judgment. Participants were compensated \$30 for completing the clinical interview and \$10 (for a maximum total of \$30) for each recruited peer. Participants provided verbal consent before the interviews, and the study was approved by the San Diego State University and University of California San Diego Institutional Review Boards.

Data were collected using face-to-face semistructured clinical interviews conducted by psychology trainees working under the direct supervision of mental health clinicians. Interviews ranged from 1 to 3 hr depending on the extent of distress reported. To minimize error and increase efficiency, data were collected using a computer-assisted program (CAPI; Nova Research Company, 2014). All interviews were conducted in Spanish by native Spanish speakers at a convenient and private location identified during formative research.

## Measures

**Interpersonal discrimination.** This was assessed using four questions previously developed and validated for use with undocumented Mexican immigrants and deportees (Peña, Garcini, Gutierrez, Ulibarri, & Klonoff, 2017). The first two questions assessed for general day-to-day interpersonal discrimination while residing in the United States (Yes/No), whereas the last two questions specifically assessed for interpersonal discrimination due to being undocumented. Also, among participants experiencing interpersonal discrimination (Yes), a second question assessed how stress-

ful the experience of interpersonal discrimination has been and responses were given on a 4-point Likert scale ranging from 0 (*not difficult*) to 3 (*extremely difficult*). To assess for interpersonal discrimination due to being undocumented, participants were asked, "Have you experienced a change in how you are treated by other people for not having a visa or for being undocumented?" Answers to this question were given using a dichotomous answer (Yes/No). Among participants experiencing interpersonal discrimination due to being undocumented (Yes), a second question assessed how stressful the experience has been. Responses were given on a 4 point Likert scale ranging from 0 (*not difficult*) to 3 (*extremely difficult*). The Cronbach's  $\alpha$  for the aforementioned items was 0.92.

**Psychological distress.** This was assessed using the Spanish version of the 53-item Brief Symptom Inventory (BSI; Derogatis, 1993). The BSI assesses psychological distress using symptom patterns along nine dimensions and a global severity index (GSI) to provide an overall assessment of distress. Each item was rated on a 5-point scale to denote distress from 0 (*not at all*) to 4 (*extremely*). Using sex-specific community nonpatient norms, raw scores for each scale and the GSI were converted to standardized  $T$  scores ( $M = 50$ ,  $SD = 1.0$ ). Clinically significant psychological distress was denoted with a  $t$ -score of 63 or above on the GSI or on any two subscale dimension scores. The BSI is widely used, has well-established psychometric properties, and has been previously validated for use with Mexican immigrants (Cervantes, Fisher, Padilla, & Napper, 2015). In our study, the Cronbach's  $\alpha$  for the BSI was 0.95.

**Sociodemographics, immigration characteristics, and trauma history.** Demographic and immigration questions were modeled from the 2009 San Diego Prevention Research Center and the San Diego Labor Trafficking Survey Questionnaire (Zhang, 2012). Demographic questions included sex (women = 0, men = 1), age (categorized in four groups: 18–25 years = 0, 26–35 years = 1, 36–45 years = 2,  $\geq 46$  years = 3), marital status (married = 0, single = 1), educational attainment (less than high school = 0, high school or higher = 1), employment (not employed = 0, employed = 1), and monthly household income ( $\geq \$2,000 = 0$ ,  $< \$2,000 = 1$ ). Immigration history included length of time living in the United States (categorized in three groups:  $\leq 10$  years = 0, 11–20 years = 1, and  $> 20$  years = 2). Trauma history was assessed using an adapted version of the Traumatic Events Inventory of the Harvard Trauma Questionnaire (HTQ), which was designed to assess traumatic experiences among at-risk immigrants (Mollica, Mcdonald, Massagli, & Silove, 2004). This inventory assessed participants' experience and/or witnessing of common forms of human rights violations that may lead to psychological distress (Mollica et al., 2004). The adapted version consisted of 25 items assessing traumatic events along seven main domains, and two additional items assessing history of deportation and domestic violence. Responses to the HTQ inventory were dichotomous (Yes/No). In our study, the Cronbach's  $\alpha$  for the HTQ was 0.83.

**RDS questions.** To identify participants' networks for mapping recruitment and calculate RDS weights, six questions were used. These questions were modeled from the San Diego Labor Trafficking Survey Questionnaire (Zhang, 2012) and adapted from results of pilot testing with members of the target population. The questions assessed (a) the estimated size of the respondent's per-

sonal network that is undocumented, resides within the participant's community, is well-known to the participant, and has had contact with the participant within the past 30 days (two questions); (b) relationship to the referral source (three questions); and (c) length of time knowing the referral source (one question).

All measures in this study were validated and adapted for content and language based on results from formative research and pilot testing with recently deported undocumented Mexican immigrants (Garcini et al., 2017a; Peña et al., 2017).

## Analyses

**RDS assumptions and weights.** For the testing of RDS assumptions, generation of RDS weights, and analysis of population estimates and 95% confidence intervals (CIs), the RDS Analyst, including the Successive Sampling estimator, was used (Gile, 2011; Handcock et al., 2014). A diagnostic test for RDS assumptions showed that the sample reached equilibrium at the 11th wave of recruitment, showed little homophily bias (e.g., for sex recruitment homophily = 1.03), and met basic RDS assumptions. This suggests that the characteristics of the recruited, weighted sample approximated the characteristics of the larger networks of undocumented Mexican immigrants in the target area (midsize population estimate  $N = 22,000$ ; San Diego Association of Governments, 2015).

**Statistical analyses.** To estimate the sample size needed, a priori power analysis was conducted using OpenEpi, Version 3.01 (Dean, Sullivan, & Soe, 2013). For all analyses, inferential statistics accounted for design effects and sample weights to produce weighted population estimates. Weights were calculated based on the undocumented Mexican immigrant population in the target region. To address the first aim of this study, descriptive statistics were used and weighted frequencies along with 95% CIs were calculated. To identify vulnerabilities associated with interpersonal discrimination, including interpersonal discrimination due to undocumented status, chi-square tests were conducted to assess for differences in interpersonal discrimination due to undocumented status across sociodemographics, immigration characteristics, and trauma history ( $p \leq .05$ ). Standardized residuals were used in post hoc comparisons for variables with more than two categories (Siegel & Castellan, 1988). Analyses of variance tested for group differences in stress perceived from interpersonal discrimination, including interpersonal discrimination due to being undocumented, across sociodemographics, immigration characteristics, and trauma history ( $p \leq .05$ ). To address the third aim, multivariate logistic regression was used to assess the association of interpersonal discrimination due to undocumented status and clinically significant psychological distress after controlling for sociodemographics, immigration characteristics, and trauma history ( $p \leq .05$ ).

## Results

### Prevalence of Interpersonal Discrimination

Approximately, 55% of the participants reported experiencing general interpersonal discrimination, which on average was described as "somewhat stressful" ( $M = 0.7$ ,  $SD = 0.5$ ). No significant differences in general interpersonal discrimination were ob-

served across sex, age, marital status, educational attainment, employment, monthly household income, or years living in the United States; however, significant differences in general interpersonal discrimination were observed by history of trauma. Specifically, undocumented Mexican immigrants with a history of trauma were significantly more likely to report general interpersonal discrimination when compared with those without a history,  $\chi^2(1, N = 246) = 17.34, p < .001$ . Moreover, undocumented Mexican immigrants with a history of trauma were significantly more likely to report experiencing general interpersonal discrimination as stressful when compared with their counterparts without a history of trauma,  $F(1, 245) = 15.10, p < .001$ . No significant differences in perceived distress from general interpersonal discrimination were found across sex, age, marital status, educational attainment, employment, monthly household income, or years living in the United States (Table 1).

In regard to interpersonal discrimination specifically due to being undocumented, the majority of participants reported being discriminated due to their legal status (69%). Significant differences in interpersonal discrimination for being undocumented were found across sex, educational attainment, and monthly household income. Specifically, when compared with undocumented Mexican women, undocumented Mexican men reported greater interpersonal discrimination for being undocumented,  $\chi^2(1, N = 246) = 5.24, p = .022$ . Also, undocumented Mexican immigrants with lower education and income were significantly more likely to experience greater interpersonal discrimination for being undocumented when compared with those with higher education,  $\chi^2(1, N = 246) = 4.30, p = .038$ , and greater income,  $\chi^2(1, N = 246) = 4.29, p = .038$ . Moreover, on average, participants reported this type of interpersonal discrimination as "quite distressing" ( $M = 1.9$ ,  $SD = 0.9$ ). Among those with a history of interpersonal discrimination for being undocumented, significant differences in perceived distress were found across sex, educational attainment, and trauma history. Specifically, women were more likely to report interpersonal discrimination for being undocumented as stressful when compared with undocumented Mexican men,  $F(1, 168) = 6.80, p = .010$ . Also, undocumented immigrants with higher education were more likely to report interpersonal discrimination for being undocumented as stressful when compared with their counterparts with lower education,  $F(1, 168) = 4.65, p = .032$ . Similarly, undocumented immigrants with a history of trauma reported interpersonal discrimination for being undocumented as distressing when compared with those without a trauma history,  $F(1, 168) = 7.93, p = .005$ . No significant differences in perceived distress from interpersonal discrimination for being undocumented were found across age, marital status, employment, income, or years living in the United States (Table 2).

### Interpersonal Discrimination for Being Undocumented and Psychological Distress

Among undocumented Mexican immigrants with a history of interpersonal discrimination for being undocumented, approximately 52% met criteria for clinically significant psychological distress. Also, significant differences in clinical psychological distress among undocumented immigrants with a history of dis-

Table 1  
*Sample Characteristics by General Interpersonal Discrimination*

Factor	Sample ( <i>n</i> = 246) %	Population ( <i>N</i> = 22,000) %	95% confidence interval	Interpersonal discrimination ( <i>n</i> = 136) %	Mean distress from general interpersonal discrimination ( <i>n</i> = 136) <i>M</i> ( <i>SD</i> )
Total				55.3	0.7 (0.5)
Sex					
Female	69.1	69.4	[63.2, 75.5]	52.4	1.1 (1.2)
Male	30.9	30.6	[24.5, 36.8]	61.8	1.3 (1.3)
Age (years)					
18–25	14.2	14.1	[8.9, 19.3]	54.3	0.9 (1.1)
26–35	24.4	25.5	[19.3, 31.8]	53.3	1.0 (1.1)
36–45	41.9	40.2	[31.9, 48.2]	57.3	1.3 (1.3)
≥46	19.5	20.3	[14.6, 26.0]	54.2	1.2 (1.4)
Education					
Less than high school	65.0	63.3	[56.1, 70.6]	54.4	1.6 (1.2)
High school or higher	35.0	36.7	[29.4, 43.9]	57.0	1.6 (1.2)
Marital status					
Married	67.9	68.0	[61.1, 74.8]	56.3	1.1 (1.3)
Single	32.1	32.0	[25.2, 38.9]	53.2	1.2 (1.2)
Monthly income					
<\$2,000	65.9	67.0	[58.8, 75.3]	56.4	1.2 (1.3)
≥\$2,000	34.1	33.0	[24.7, 41.2]	53.0	1.0 (1.1)
Employment					
Not employed	48.8	47.2	[40.4, 54.0]	54.2	1.2 (1.3)
Employed	51.2	52.8	[46.0, 59.6]	56.3	1.2 (1.2)
Years in the United States					
≤10	22.4	21.7	[15.7, 27.8]	54.5	1.1 (1.2)
11–20	51.0	50.8	[44.5, 57.1]	55.2	1.2 (1.3)
>20	26.5	27.4	[20.3, 34.6]	56.9	1.2 (1.2)
Trauma history					
No	17.1	17.9	[11.4, 24.5]	26.2***	0.5 (0.9)***
Yes	82.9	82.1	[75.5, 88.6]	61.3	1.3 (1.3)

\*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

crimination for being undocumented were observed across age, years living in the United States, and history of trauma. Specifically, undocumented immigrants of ages 18–25 years who had a history of interpersonal discrimination for being undocumented were more likely to meet criteria for clinically significant psychological distress when compared with their undocumented counterparts of ages 26–45 years,  $\chi^2(1, N = 169) = 9.31, p = .025$ . Also, undocumented immigrants who have lived in the United States for >10 years and who have a history of interpersonal discrimination for being undocumented were more likely to meet criteria for clinically significant psychological distress when compared with their undocumented counterparts who have lived in the United States for ≤10 years,  $\chi^2(2, N = 169) = 5.89, p = .053$ . Similarly, undocumented immigrants with a history of trauma and interpersonal discrimination for being undocumented were more likely to meet criteria for clinically significant psychological distress when compared with their undocumented counterparts without a trauma history,  $\chi^2(1, N = 169) = 7.664, p = .006$ . No significant differences in clinically significant distress among those with a history of interpersonal discrimination for being undocumented were found across sex, marital status, education, employment, or income (Table 2).

After controlling for sex, age, education, employment, monthly household income, years in the United States, and history of

trauma, the full model to assess for the association of interpersonal discrimination for being undocumented (Yes/No) and clinically significant psychological distress was statistically significant,  $\chi^2(12, N = 246) = 63.92, p < .001$ . The model fit using Cox and Snell *R* square was 0.23 and 0.31 when using Nagelkerke *R* squared. The model correctly classified 58.1% of the cases. In this model, having experienced interpersonal discrimination for being undocumented was the strongest significant predictor of clinically significant psychological distress, odds ratio = 5.47, 95% CI [2.56, 11.7],  $p < .001$ , even beyond having a history of trauma, odds ratio = 3.53, 95% CI [1.39, 8.92],  $p = .008$ . Specifically, undocumented Mexican immigrants who have experienced discrimination for being undocumented were 5.47 times more likely to meet criteria for clinically significant psychological distress when compared with those who have not experienced discrimination ( $p < .001$ ). In this model, age, years living in the United States, and history of trauma were also significantly associated with clinical psychological distress in that younger undocumented immigrants, those with longer time living in the United States, and those with a history of trauma were more likely to meet criteria for clinically significant psychological distress when compared with their older counterparts, those residing in the United States for <10 years, and those without a history of trauma (Table 3).

Table 2  
*Interpersonal Discrimination Due to Undocumented Status and Its Association to Psychological Distress*

Factor	Interpersonal discrimination		Mean distress from interpersonal discrimination <i>M (SD)</i>	Clinical distress among those with interpersonal discrimination		
	Sample %	Population %		%	$\chi^2$	<i>p</i>
Total	68.8	67.6	1.9 (.9)	51.5		
Sex						
Female	64.3*	63.1	2.1 (.8)**	47.3	1.901	.168
Male	78.9	77.6	1.7 (.9)	58.3		
Age						
18–25	60.0	61.6	1.9 (1.0)	66.7	9.307	.025
26–35	68.3	65.1	1.8 (.9)	34.1		
36–45	71.8	70.7	2.0 (.8)	50.0		
≥46	69.4	68.9	2.0 (.9)	64.7		
Education						
Less than high school	73.3*	71.2	1.8 (.9)*	47.5	2.135	.144
High school or higher	60.5	61.4	2.1 (.8)	59.6		
Marital status						
Married	70.8	70.3	2.0 (.9)	47.9	1.705	.192
Single	64.6	62.0	1.8 (.9)	58.8		
Employment						
Not employed	64.7	64.0	2.0 (.9)	45.5	1.844	.174
Employed	72.7	70.9	1.9 (.9)	55.9		
Monthly income						
<\$2,000	73.2*	72.1	2.0 (.9)	50.8	.019	.890
≥\$2,000	60.2	58.5	1.6 (.9)	52.0		
Years in the United States						
≤10	72.7	73.7	1.9 (.9)	37.5	5.889	.053
11–20	69.6	66.8	1.8 (.9)	51.7		
>20	63.6	63.8	2.1 (.8)	64.3		
Trauma						
No	57.1	55.3	1.5 (.7)**	25.0	7.664	.006
Yes	77.2	70.2	2.0 (.9)	55.5		

\*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

## Discussion

The first aim of our study was to assess the prevalence of interpersonal discrimination, including interpersonal discrimination specifically due to being undocumented, among undocumented Mexican immigrants residing in high-risk neighborhoods near the California–Mexico border. Our results showed a high prevalence of interpersonal discrimination in this population, particularly interpersonal discrimination for being undocumented, which is somewhat consistent with findings from a recent study conducted among undocumented Latino immigrants in two metropolitan cities of the U.S. South (Cobb et al., 2017). Nevertheless, our estimates are somewhat higher (63% vs. 69% in our study; Cobb et al., 2017). The higher prevalence of interpersonal discrimination obtained in our study may be associated to the sociopolitical context of the area our study was conducted in, which has been documented as being extremely conservative with prevalent punitive action and policies against undocumented immigrants (Bay Area Center for Voting Research, 2005).

Another interesting finding in our study was the disparities observed between general interpersonal discrimination and interpersonal discrimination specifically due to being undocumented. In our study, not only was there a much higher prevalence of interpersonal discrimination due to being undocumented when

compared with general interpersonal discrimination, which is a more generalized measure, but also interpersonal discrimination due to being undocumented was described as a much more stressful event than general interpersonal discrimination that is not exclusive to being undocumented. Although respondents described, on average, experiences of general interpersonal discrimination as “somewhat” stressful, they reported interpersonal discrimination due to being undocumented as “quite” distressing. The aforementioned finding highlights that although any source of interpersonal discrimination is experienced as stressful, for this immigrant group, feeling rejected due to being undocumented can be particularly distressing. Prevalent stereotypes that portray undocumented Mexican immigrants as a burden to society and a danger to public safety are not only making these immigrants targets for interpersonal discrimination, but it is also possible that these negative stereotypes may lead undocumented Mexican immigrants to internalize feelings of guilt, shame, and blame associated to such stereotypes, which in turn may increase distress (Heijnders & Van Der Meij, 2006). These findings emphasize the importance of incorporating the assessment of interpersonal discrimination due to undocumented status when conducting research with this population, as well as the need for the development of intrapersonal, interpersonal, and community-level interventions

Table 3  
*Adjusted and Unadjusted Analyses for the Association of Interpersonal Discrimination With Clinically Significant Psychological Distress*

Variable	Unadjusted			Adjusted		
	Odds ratio	95% confidence interval	<i>p</i>	Odds ratio	95% confidence interval	<i>p</i>
Sex						
Women (Ref)						
Men	1.92	[1.11, 3.32]	.019	1.58	[0.79, 3.17]	.193
Age						
18–25 (Ref)						
26–35	0.20	[0.08, 0.49]	<.001	0.19	[0.06, 0.59]	.004
36–45	0.32	[0.14, 0.71]	.005	0.25	[0.08, 0.72]	.011
≥46	0.50	[0.21, 1.23]	.130	0.40	[0.13, 1.28]	.122
Education						
Less than high school (Ref)						
High school or higher	0.65	[0.39, 1.11]	.114	0.65	[0.32, 1.30]	.220
Marital status						
Married (Ref)						
Single	1.86	[1.08, 3.20]	.024	1.20	[0.52, 2.76]	.667
Employment						
Not employed (Ref)						
Employed	1.54	[0.92, 2.56]	.098	1.55	[0.76, 3.17]	.231
Monthly income						
≥\$2,000 (Ref)						
<\$2,000	1.24	[0.72, 2.12]	.432	1.40	[0.73, 2.69]	.312
Years in the United States						
≤10 (Ref)						
11–20	1.87	[0.96, 3.67]	.067	3.02	[1.33, 6.84]	.028
>20	1.75	[0.83, 3.71]	.143	2.77	[1.06, 7.29]	.008
Trauma						
No (Ref)						
Yes	4.53	[1.93, 10.65]	.001	3.53	[1.39, 8.92]	.008
Interpersonal discrimination						
No (Ref)						
Yes	4.00	[2.13, 7.48]	<.001	5.47	[2.56, 11.7]	<.001

aimed to ameliorate the negative effects of interpersonal discrimination among undocumented Mexican immigrants.

The second aim of our study was to identify vulnerabilities associated with interpersonal discrimination among undocumented Mexican immigrants. Our study showed that men were more likely than women to experience interpersonal discrimination due to their undocumented status. It is possible that exposure to different work settings between men and women may partially account for the aforementioned discrepancy. For instance, Mexican immigrant men are more likely than their female counterparts to spend more time “in the streets” pursuing jobs outside the home, which in turn may place them at increased risk for experiencing interpersonal discrimination (Knap, Muller, & Quiroz, 2015). In contrast, undocumented women are more likely to spend time at home or pursuing jobs within home environments, which may serve as a protective factor (Knap et al., 2015). Another interesting finding is that regardless of reporting a lower prevalence of interpersonal discrimination, women were more likely to report these experiences as stressful when compared with their male counterparts. Research shows that men tend to hold back their expression of emotional distress more so than women (Ridge, Emslie, & White, 2011), which could partially explain why women described their experiences of interpersonal discrimination as more distressing than men did. Although no significant sex differences were found in meeting criteria for clinical levels of psychological distress

among those with a history of interpersonal discrimination because of their undocumented status, future studies should continue to explore sex differences in interpersonal discrimination among undocumented immigrants as to inform culturally and contextually sensitive interventions.

Another vulnerability associated with interpersonal discrimination due to undocumented status was length of time living in the United States. Undocumented Mexican immigrants who have lived in the United States for more than decade and have experienced interpersonal discrimination for being undocumented were significantly more likely to meet criteria for clinical level of psychological distress when compared with more recently arrived immigrants. Although a greater percentage of undocumented Mexican immigrants who have lived in the United States for less than a decade reported experiencing interpersonal discrimination due to their undocumented status when compared with those who have lived longer in the United States, our findings suggest that, over time, chronic exposure to interpersonal discrimination may take a toll on the mental health of undocumented Mexican immigrants. This is consistent with the acculturation literature that supports the association between diminished mental health and longer time living in the United States among Latino immigrants (Lara, Gamba, Kahramanian, Morales, & Hayes-Bautista, 2005). Recent estimates show that majority of undocumented Mexican immigrants (78%) have resided in the United States for over a decade

(Gonzalez-Barrera & Krogstad, 2017); thus, our findings shed light on how interpersonal discrimination is at the forefront of many undocumented Mexican immigrants' lives.

The last aim of our study was to identify the association of interpersonal discrimination due to undocumented status and clinically significant psychological distress, after controlling for relevant covariates. A particularly relevant finding in our study is the increased vulnerability to psychological distress among undocumented Mexican immigrants with a comorbid history of trauma and interpersonal discrimination. Specifically, our findings showed that undocumented Mexican immigrants with a history of trauma experienced greater interpersonal discrimination, including interpersonal discrimination for being undocumented, perceived their experiences of interpersonal discrimination as more stressful, and were more likely to meet criteria for clinically significant psychological distress when experiencing trauma and interpersonal discrimination. This is consistent with research on the stress response, which suggests that when individuals with history of trauma become exposed to subsequent stressors, they are more likely to show a stronger psychological response (van der Kolk, 1999). In the case of undocumented Mexican immigrants, it is likely that exposure to interpersonal discrimination for being undocumented may lead to a stronger stress response among those with a history of trauma when compared with those without a history, thus potentially explaining differences in clinically significant psychological distress between these two groups. Similarly, individuals with a history of trauma may be hypervigilant of stimuli that may be threatening, such as interpersonal discrimination, potentially making them more aware of instances of discrimination (van der Kolk, 1999).

### Limitations

Our study makes a timely and significant contribution regarding the prevalence of interpersonal discrimination and its effect on the mental health among undocumented Mexican immigrants. Nevertheless, this study has some limitations. First, RDS is an effective method to study hidden populations (Heckathorn, 1997), yet it is not free from limitations (Goel & Salganik, 2010). Nonetheless, a representative sample was established through formative research, preselection of diverse seeds, long recruitment chains, and accurate assessment of social network size. Also, experiences of psychological distress may differ in undocumented Mexican immigrants in other part of the United States or immigrants from other countries, and follow-up studies with populations of undocumented immigrants residing in other regions of the United States are needed. Moreover, our sample was predominately female, and participants had lived in the United States for >10 years on average; thus, our data are representative of established undocumented Mexican women mostly living in mixed-status families. Furthermore, assessments were based on self-report and retrospective reporting, which may lead to biases and imprecise estimates of events and distress than contemporaneous reporting (Brewin, Andrews, & Gotlib, 1993). In addition, the primary outcome used in this study provided a generalized measure of clinically significant psychological distress. Follow-up studies need to identify specific symptoms of distress prevalent in this population to understand symptom presentation associated with experiencing discrimination

in this population. Finally, this study was cross-sectional; thus, causation cannot be inferred.

### Research Implications

There are several noteworthy implications for future research. Given the current sociopolitical context, it is possible and of concern that the prevalence of interpersonal discrimination among undocumented Mexican immigrants may be even higher than the estimates obtained in our study. Widespread research supports the negative effects of interpersonal discrimination on health, particularly among vulnerable populations such as undocumented Mexican immigrants (Pascoe & Smart Richman, 2009). Future studies should continue to document the prevalence of interpersonal discrimination in this population and how anti-immigrant rhetoric and policies may increase its occurrence. This research is essential to inform much-needed advocacy efforts and interventions. Moreover, research to identify protective factors that ameliorate the effect of interpersonal discrimination on psychological distress among undocumented immigrants, particularly among those with a history of trauma, is essential to inform the development of interventions aimed to prevent further harm. Previous studies suggest that various aspects of the self, such as self-esteem, ethnic identity, and cultural orientation, as well as having a strong social support network, have been shown to buffer the negative health effects of discrimination among Latinos (Martinez, 2006). A deeper understanding of how the aforementioned protective factors may facilitate coping with interpersonal discrimination among undocumented Latino immigrants, particularly those with a history of trauma, is needed to increase cultural competence in organizations, health-care settings, and enforcement agencies that come into contact with these at-risk immigrants. Finally, future studies should also consider the effect that other aspects of acculturation (e.g., English proficiency, preservation of cultural values, and ethnic identity) may have on the mental health of undocumented Mexican immigrants experiencing interpersonal discrimination, which would render knowledge to inform the development of contextually sensitive interventions.

### Clinical and Policy Implications

Our findings have important policy, public health, and clinical implications. The high prevalence of interpersonal discrimination among undocumented Mexican immigrants due to their immigration legal status and its association to clinically significant psychological distress beyond trauma underscore the importance of an immigration reform aimed to provide a path to legal residency and/or temporary migration programs that could protect these at-risk immigrants from the damaging effects of discrimination. Nonetheless, given that policy change is often a lengthy process, the prompt development of psychosocial interventions at different levels of influence, including the intrapersonal and the interpersonal level, is needed to build resilience in this population and protect against the negative effects of interpersonal discrimination. The use of strategies such as empowerment, care and support groups, assertiveness training, and values-based interventions could be particularly effective in reducing the negative health effects of stigma and interpersonal discrimination (Heijnders & van der Meij, 2006). Furthermore, recommendations to consider in



the development of intrapersonal and interpersonal interventions for this population include being sensitive to emotions that may stem from experiences of discrimination (e.g., anger and guilt) and validating the immigrant's experience (e.g., trauma history), using techniques that facilitate the integration of context in therapy (e.g., life narrative), and being aware of interpersonal dynamics and sex variations in the expression of distress to facilitate processing within a culturally sensitive environment. Moreover, psychoeducational interventions at the institutional and organizational levels are needed to disseminate information about the detrimental effects of interpersonal discrimination on this population and to reduce stigmatization, such as training programs to increase knowledge and skills to decrease interpersonal discrimination among providers and officials (Heijnders & van der Meij, 2006). Despite the many challenges and chronic stressors that they face, undocumented Mexican immigrants are a highly resilient population (Garcini et al., 2017a). Nonetheless, to preserve their resilient spirit and well-being, it is important to provide undocumented Mexican immigrants with the necessary and culturally appropriate resources to facilitate healing in the face of adversity, although the fear of outing themselves as undocumented immigrants will continue unless a favorable immigration reform is achieved.

### Conclusions

Overall, our findings emphasize the need for advocacy and the development of culturally and contextually sensitive interventions to address the high prevalence of interpersonal discrimination and its associated negative health effects among undocumented Mexican immigrants. Our findings have important implications, including the need for access to services aimed to build resilience and empowerment in the face of interpersonal discrimination, particularly in the current sociopolitical climate. Likewise, our results underscore the need to train providers and law enforcement agents to meet the complex needs of undocumented Mexican immigrants, including how interpersonal discrimination may influence behaviors such as seeking needed health services, legal assistance, or social services, especially in cases of domestic violence, sex trafficking, or job exploitation. Despite being a highly resilient population that faces many challenges and daily stressors, it is necessary to provide undocumented Mexican immigrants with avenues to prevent further harm and facilitate healing in the face of discrimination to protect their health and preserve their resilient spirit.

### References

- Bay Area Center for Voting Research. (2005). *The most conservative and liberal cities in the U.S.* Retrieved from <https://alt.coxnewsweb.com/statesman/metro/081205libs.pdf>
- Berger Cardoso, J., Scott, L., Faulkner, M., & Barros Lane, L. (2018). Parenting in the context of deportation risk. *Journal of Marriage and Family, 80*, 301–316. <http://dx.doi.org/10.1111/jomf.12463>
- Brewin, C. R., Andrews, B., & Gotlib, I. H. (1993). Psychopathology and early experience: A reappraisal of retrospective reports. *Psychological Bulletin, 113*, 82–98. <http://dx.doi.org/10.1037/0033-2909.113.1.82>
- Carter, R. T., & Forsyth, J. (2010). Reactions to racial discrimination: Emotional stress and help-seeking behaviors. *Psychological Trauma: Theory, Research, Practice, and Policy, 2*, 183–191. <http://dx.doi.org/10.1037/a0020102>
- Cervantes, R. C., Fisher, D. G., Padilla, A. M., & Napper, L. E. (2015). The Hispanic Stress Inventory Version 2: Improving the assessment of acculturation stress. *Psychological Assessment, 28*, 509–522. <http://dx.doi.org/10.1037/pas0000200>
- Cobb, C. L., Xie, D., Meca, A., & Schwartz, S. J. (2017). Acculturation, discrimination, and depression among unauthorized Latinos/as in the United States. *Cultural Diversity and Ethnic Minority Psychology, 23*, 258–268. <http://dx.doi.org/10.1037/cdp0000118>
- Dean, A. G., Sullivan, K. M., & Soe, M. M. (2013). *OpenEpi: Open source epidemiologic statistics for public health, version. 3.01*. Retrieved from [www.OpenEpi.com](http://www.OpenEpi.com)
- Derogatis, L. R. (1993). *BSI Brief Symptom Inventory: Administration, scoring, and procedure manual* (4th ed.). Minneapolis, MN: National Computer Systems.
- Garcini, L. M., Murray, K., Zhou, A., Klonoff, E. A., Myers, M., & Elder, J. P. (2016). Mental health of undocumented immigrants in the United States: A systematic review of methodology and findings. *Journal of Immigrant and Refugee Studies, 14*, 1–25. <http://dx.doi.org/10.1080/15562948.2014.998849>
- Garcini, L. M., Peña, J. M., Galvan, T., Fagundes, C. P., Malcarne, V., & Klonoff, E. A. (2017a). Mental disorders among undocumented Mexican immigrants in high-risk neighborhoods: Prevalence, comorbidity, and vulnerabilities. *Journal of Consulting and Clinical Psychology, 85*, 927–936. <http://dx.doi.org/10.1037/ccp0000237>
- Garcini, L. M., Peña, J. M., Galvan, T., Fagundes, C. P., & Klonoff, E. A. (2017b). DREAMers living in the United States: A contextual perspective and clinical implications. *The American Journal of Psychiatry, 174*, 623–625. <http://dx.doi.org/10.1176/appi.ajp.2017.17040395>
- Gile, K. J. (2011). Improved inference for respondent-driven sampling data with application to HIV prevalence estimation. *Journal of the American Statistical Association, 106*, 135–146. <http://dx.doi.org/10.1198/jasa.2011.ap09475>
- Goel, S., & Salganik, M. J. (2010). Assessing respondent-driven sampling. *Proceedings from the National Academy of Sciences, 107*, 6743–6747. <http://dx.doi.org/10.1073/pnas.1000261107>
- Gonzalez-Barrera, A., & Krogstad, J. M. (2017). What we know about illegal immigration from Mexico. *Pew Research Center*. Retrieved from <http://www.pewresearch.org/fact-tank/2017/03/02/what-we-know-about-illegal-immigration-from-mexico/>
- Handcock, M. S., Fellows, I. E., & Gile, K. J. (2014). *RDS analyst: Software for the analysis of respondent-driven sampling data, Version 0.42*. Retrieved from <http://hpmrg.org>
- Heckathorn, D. D. (1997). Respondent driven sampling: A new approach to the study of hidden populations. *Social Problems, 44*, 174–199. <http://dx.doi.org/10.2307/3096941>
- Heijnders, M., & Van Der Meij, S. (2006). The fight against stigma: An overview of stigma-reduction strategies and interventions. *Psychology Health and Medicine, 11*, 353–363. <http://dx.doi.org/10.1080/13548500600595327>
- Jones, K. P., Peddie, C. I., Gilrane, V. L., King, E. B., & Ray, A. L. (2013). Not so subtle: A meta-analytic investigation of the correlates of subtle and overt discrimination. *Journal of Management, 43*, 1588–1613. <http://dx.doi.org/10.1177/0149206313506466>
- Knap, J., Muller, B., & Quiroz, A. (2015). *Women Men and the Changing Role of Gender in Immigration*. Retrieved from Institute for Latino Studies University of Notre Dame [https://latinostudies.nd.edu/assets/95245/original/3.3\\_gender\\_migration.pdf](https://latinostudies.nd.edu/assets/95245/original/3.3_gender_migration.pdf)
- Krogstad, J. M. (2017). *DACA has shielded nearly 790,000 young unauthorized immigrants from deportation*. Retrieved from <http://www.pewresearch.org/fact-tank/2017/09/01/unauthorized-immigrants-covered-by-daca-face-uncertain-future/>
- Krogstad, J. M., & López, G. (2016). *Roughly half of Hispanics have experienced discrimination*. Retrieved from <http://www.pewresearch.org/fact-tank/2016/06/29/roughly-half-of-hispanics-have-experienced-discrimination/>

- Krogstad, J. M., Passel, J. S., & Cohn, D. (2017). *5 facts about illegal immigration in the U.S.* Retrieved from <http://www.pewresearch.org/fact-tank/2017/04/27/5-facts-about-illegal-immigration-in-the-u-s/>
- Lara, M., Gamboa, C., Kahramanian, M. I., Morales, L. S., & Hayes-Bautista, D. E. (2005). Acculturation and Latino health in the United States: A review of the literature and its sociopolitical context. *Annual Review of Public Health, 26*, 367–397. <http://dx.doi.org/10.1146/annurev.publhealth.26.021304.144615>
- Martinez, C. R. (2006). Effects of Differential Family Acculturation on Latino Adolescent Substance Use. *Family Relations, 55*, 306–317. <http://dx.doi.org/10.1111/j.1741-3729.2006.00404.x>
- Mollica, R. F., McDonald, L., Massagli, M., & Silove, D. M. (2004). *Measuring trauma, measuring torture*. Cambridge, MA: Harvard University.
- Montealegre, J. R., Risser, J. M., Selwyn, B. J., Sabin, K., & McCurdy, S. A. (2012). HIV testing behaviors among undocumented Central American immigrant women in Houston, TX. *Journal of Immigrant and Minority Health, 14*, 116–123. <http://dx.doi.org/10.1007/s10903-011-9534-x>
- Morey, B. N. (2018). Mechanisms by which anti-immigrant stigma exacerbates racial/ethnic health disparities. *American Journal of Public Health, 108*, 460–463. <http://dx.doi.org/10.2105/AJPH.2017.304266>
- Negi, N. J. (2013). Battling discrimination and social isolation: Psychological distress among Latino day laborers. *American Journal of Community Psychology, 51*, 164–174. <http://dx.doi.org/10.1007/s10464-012-9548-0>
- Nova Research Company. (2014). *Questionnaire Development System V. 3.0*. Retrieved from <http://www.novaresearch.com/Products/index.cfm>
- Pascoe, E. A., & Smart Richman, L. (2009). Perceived discrimination and health: A meta-analytic review. *Psychological Bulletin, 135*, 531–554. <http://dx.doi.org/10.1037/a0016059>
- Peña, J. M., Garcini, L. M., Gutierrez, A. P., Ulibarri, M. D., & Klonoff, E. A. (2017). Traumatic events and symptoms among Mexican deportees in a border community. *Journal of Immigrant and Refugee Studies, 15*, 36–52. <http://dx.doi.org/10.1080/15562948.2016.1158341>
- Ridge, D., Emslie, C., & White, A. (2011). Understanding how men experience, express and cope with mental distress: Where next? *Sociology of Health and Illness, 33*, 145–159. <http://dx.doi.org/10.1111/j.1467-9566.2010.01266.x>
- San Diego Association of Governments. (2015). *Demographic data*. Retrieved from <http://www.sandag.org/index.asp?classid=26&fuseaction=home.classhom>
- Siegel, S. C., & Castellan, J. (1988). *Nonparametric statistics for the behavioural sciences*. New York, NY: McGraw-Hill.
- Tyldum, G., & Johnston, L. G. (2014). *Applying respondent driven sampling to migrant populations: Lessons from the field*. London, United Kingdom: Palgrave MacMillan. <http://dx.doi.org/10.1057/9781137363619>
- van der Kolk, B. A. (1999). The body keeps the score: Memory and the evolving psychobiology of posttraumatic stress. In M. J. Horowitz (Ed.), *Essential papers on posttraumatic stress disorder* (pp. 301–326). New York: New York University Press.
- Williams, D. (1999). Race, socioeconomic status, and health: The added effects of racism and discrimination. *Socioeconomic Status and Health in Industrial Nations: Social, Psychological, and Biological Pathways* (e-book), 896, 173–188. <http://dx.doi.org/10.1111/j.1749-6632.1999.tb08114.x>
- Zhang, S. X. (2012). *Trafficking of migrant laborers in San Diego County: Looking for a hidden population*. San Diego, CA: San Diego State University.

Received December 30, 2017

Revision received April 16, 2018

Accepted May 7, 2018 ■