

“A High Price Paid”: Migration-Related Loss and Distress Among Undocumented Mexican Immigrants

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This study aimed at identifying the prevalence of migration-related loss and its association with psychological distress among undocumented Mexican immigrants. Respondent Driven Sampling (RDS) was used to collect and analyze data from clinical interviews with 248 undocumented Mexican immigrants residing near the California-Mexico border. All participants reported a history of migration-related loss with an average of 13 different types of losses experienced ($SD = 4.59$, range = 2 to 25). Significant differences in type of migration-related loss were observed across sociodemographic and immigration characteristics. After controlling for relevant covariates, loss of interdependence, specifically being treated differently by others for not having a visa, was the strongest predictor of clinically significant distress ($OR = 4.97$, 95% CI [2.18, 11.34], $p < .001$). Given the current anti-immigrant climate that serves to further marginalize undocumented immigrants, it is necessary to increase advocacy efforts and develop new alternatives that facilitate access to context-sensitive mental health services aimed at diminishing distress associated with discrimination among these at-risk immigrants.

Public Significance Statement

This study documents the high prevalence of migration-related loss and its association with distress among undocumented Mexican immigrants in high-risk neighborhoods. Findings from this study emphasize the need for culturally and contextually sensitive interventions and services to address distress from migration-related loss in this at-risk population.

Keywords: loss, distress, mental health, undocumented, Mexican

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Approximately 13.1% of the U.S. population is foreign-born, with a considerable proportion being of Mexican origin (Pew Research Center, 2015). Increases in global mobility, advances in communication infrastructure, demand-pull factors in the United States (e.g., family unification, economic opportunity), and supply push factors in sending countries (e.g., poverty, violence), make it likely that international migration to the United States will continue to grow. Although migration has a number of advantages and benefits, the immigration experience often involves a set of difficulties and losses associated with transitioning to a new country. Specifically, three major sets of transitions have been identified as part of the migration process, namely changes in personal ties and social networks, move from one socioeconomic system to another, and a shift from one cultural system to another (Solheim, Zaid, & Ballard, 2016). The aforementioned transitions may become particularly difficult for immigrants who also face personal, social, and economic disadvantage in the host country, such as marginalization and discrimination (Achotegui, 2014). One such subgroup are undocumented immigrants, that is, immigrants who reside in a host country, either temporarily or permanently, without proper documentation. Although undocumented immigration to the United States has declined since 2009, there are approximately 11 million undocumented immigrants in the United States, with the majority being of Mexican-origin (Krogstad, Passel, & Cohn, 2017). While some undocumented immigrants eventually return to their home country, many establish permanent residence in the United States, particularly after family reunification or once they have children born in the United States (Passel & Cohn, 2016).

Undocumented immigrants are a population at-risk for distress given the multiple stressors and losses that these immigrants face above and beyond those of their documented counterparts (Garcini et al., 2016). According to the Minority Stress Model, individuals from stigmatized groups, such as undocumented immigrants, face chronic stressors imposed by social and cultural structures that require them to exert greater effort to cope with stress, which in turn increases vulnerability for psychological distress (Meyer, 2003). For instance, salient stressors and losses among undocumented immigrants include pro-

longed separation from family and friends, a sense of voicelessness, invisibility, loss of social status, limited opportunities, and loss of rights due to their undocumented status (Garcini et al., 2016; Solheim et al., 2016). Shifts in gender roles, variations in family expectations, and changes in self-perception, as well as strenuous work conditions and loss of wellbeing due to limited access to health services are also salient experiences among undocumented immigrants (Garcini et al., 2016; Joseph, 2011). The aforementioned stressors and losses are often experienced over time and endured under harsh living conditions, which further increase risk for diminished health (Hadley et al., 2008; Miranda & Matheny, 2000).

Research to explore determinants of health among undocumented immigrants has increased considerably within the past decade, with psychological distress identified as a salient concern (Garcini et al., 2016). Nonetheless, given that undocumented immigrants are a hidden population which is highly stigmatized and that public acknowledgment of this population's immigration status can be threatening (Heckathorn & Cameron, 2017), research to identify the prevalence of contextual stressors (i.e., migration-related loss) and distress in this population is limited. Psychological distress in response to loss involves a unique discomforting emotional state associated with "the process of restructuring [one's sense of identity] when there is a separation or a loss of something that is meaningful" (Achotegui, 2014, p. 21). Within the context of migration, several loss domains associated with distress have been identified including loss or separation from family and/or friends, loss of language and culture, loss of sense of homeland and belonging, loss of social status, and physical risks (Achotegui, 2014). Research that incorporates the use of innovative sampling methodologies to identify prevalent migration-related losses and their association with psychological distress among undocumented immigrants is needed to inform advocacy and policy efforts, as well as guide the development of context-sensitive interventions.

Purpose of Study

Consistent with a need to identify migration-related loss associated with psychological distress among undocumented immigrants, this

study aimed at: (1) assessing the prevalence of different types of migration-related loss and associated vulnerabilities among undocumented Mexican immigrants residing in high-risk neighborhoods near the California-Mexico border; and (2) identifying the association of clinically significant distress and different types of migration-related losses, after controlling for relevant sociodemographic and immigration characteristics.

Method

Design and Sample

This study used Respondent Driven Sampling (RDS) as the sampling and data analysis method, which is the most effective method to study hidden populations (Heckathorn & Cameron, 2017). RDS relies on a structured referral system that uses successive waves of participant recruitment and weighted estimates to achieve diversity so that initial samples no longer mirror later samples. Although RDS begins with a convenience sample of undocumented immigrants, a structured process is used in recruitment to obtain unbiased estimates of the undocumented population in the study location. RDS has been previously used to obtain prevalence estimates to inform the health needs of migrant populations, including undocumented immigrants in the United States (Montealegre, Risser, Selwyn, Sabin, & McCurdy, 2012; Tyldum & Johnston, 2014; Zhang, 2012). Inclusion criteria included being 18 years of age or older, of Mexican-origin, and undocumented. A question modeled from the San Diego Labor Trafficking Survey Questionnaire (Zhang, 2012) was used to determine undocumented status. The question asked "At present, are you living here without a visa or legal documentation to live in the United States? Each respondent was compensated \$30 for participation and received \$10 (for a maximum total of \$30) for each recruited peer. Verbal consent was obtained prior to participation, and the study received approval by the San Diego State University/University of California San Diego Institutional Review Board.

Data Collection

Data were collected from November 2014 to January 2015. Recruitment began with three

previously selected undocumented Mexican immigrants varying in sociodemographic and immigration characteristics. Each of these three participants was provided with three referral coupons to recruit other undocumented immigrants for participation. The next waves of recruits were provided with another set of three referral coupons to recruit additional participants. Sampling continued until the desired sample size was reached and *equilibrium* 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 participants.

To collect the data, face-to-face semistructured clinical interviews were conducted by psychology trainees working under direct supervision of mental health clinicians. All interviews were conducted in Spanish by native Spanish speakers at a convenient and private location identified during formative research. Participants included 257 undocumented immigrants; however, six participants were not of Mexican origin and were excluded. Additionally, three participants had missing data on the outcome of interest and were also excluded. This study was based on data from 248 undocumented Mexican immigrants residing in a medium sized city, near the California-Mexico border. The target location for this study was chosen based on formative research. To provide the most conservative estimates, analyses were conducted using the 15% population estimate in the target location as reference ($N = 22,000$).

Measures

Migration-related loss. This was assessed using an adapted version of the Multidimensional Loss Scale (MLS) (Vromans, Schweitzer, & Brough, 2012). This scale consists of 24-items assessing history of migration-related losses along five domains: (a) symbolic self, which assesses the loss of traditional cultural beliefs, values, and behaviors; (b) interdependence, which assesses the loss of social position and support; (c) home, which assesses the loss of house, land, country and possessions; (d) interpersonal, which assesses the death or separation from friends or family; and (e) intrapersonal integrity, which assesses the loss of au-

Table 1
Demographic and Immigration Characteristics by History of Migration-Related Loss

Factor	Sample		Population		Migration-Related Loss				
	<i>(n = 248)</i>		<i>(N = 22,000)</i>		<i>(N = 22,000)</i>				
	<i>n</i>	<i>%</i>	<i>%</i>	<i>95% CI</i>	Symbolic Self	Interdependence	Home	Interpersonal	Intrapersonal
					<i>%</i>	<i>%</i>	<i>%</i>	<i>%</i>	<i>%</i>
Gender									
Women	172	69.4	69.4	[63.2, 75.5]	94.7	86.0	98.2	96.5	80.7
Men	76	30.6	30.6	[24.5, 36.8]	96.1	90.8	98.7	97.4	81.6
Age (years)									
18–25	35	14.1	14.1	[8.9, 19.3]	94.3	74.3	94.3	85.7***	65.7
26–35	61	24.6	25.5	[19.3, 31.8]	96.7	88.3	100.0	96.7	86.7
36–45	103	41.5	40.2	[31.9, 48.2]	94.2	89.3	99.0	99.0	80.6
≥46	49	19.8	20.3	[14.6, 26.0]	95.9	91.8	98.0	100.0	85.7
Education									
< High School	161	64.9	63.3	[56.1, 70.6]	95.0	90.7*	98.8	98.1	81.4
≥ High School	87	35.1	36.7	[29.4, 43.9]	95.3	81.4	97.7	94.2	80.2
Monthly Income									
<\$2,0000	164	66.1	67.0	[59.3, 74.8]	94.5	91.5**	99.4	97.0	83.5
≥\$2,0000	84	33.9	33.0	[25.2, 40.7]	96.4	79.5	96.4	96.4	75.9
Marital status									
Married	169	68.1	68.0	[61.1, 74.8]	96.4	91.1*	98.8	97.6	84.5*
Single	79	31.9	32.0	[25.2, 38.9]	92.4	79.7	97.5	94.9	73.4
Years in U.S.									
≤10 years	55	22.4	21.8	[16.1, 27.4]	98.2	96.4	100.0	98.2	87.3
11–20 years	125	50.8	50.8	[44.7, 57.0]	96.0	84.8	98.4	95.2	79.2
>20 years	66	26.8	27.5	[20.5, 34.3]	90.9	84.8	97.0	98.5	78.8

* *p* < .05. ** *p* < .01. *** *p* < .001.

tonomy, well-being, and familiar food (See Table 2). Responses were provided using dichotomous answers (Yes/No). For each loss experienced, participants rated the distress associated with the loss using categories ranging from 0 (*no distress*) to 3 (*severe distress*). Cronbach’s alpha for the MLS was 0.82.

Psychological distress. This was assessed using the Brief Symptom Inventory (BSI), a 53-item scale that assesses psychological distress along nine dimensions of symptoms and a global severity index (GSI) to provide an overall estimation of distress over the past 7 days (Derogatis, 1993). Each symptom was rated on a five-point scale to denote distress from 0 = *not at all* to 4 = *extremely*. Using gender specific community norms, raw scores for each subscale and the GSI were converted to standardized *T* scores (*T* score *M* = 50; *SD* = 10). Clinically significant distress or a “case for positive diagnosis” was denoted by a GSI *T* score ≥63 or any two subscale dimension scores with a *T* score ≥63. The choice for using

a dichotomous score versus a continuous score was made to denote clinical significance, which identifies subjects’ scores that are elevated to the point of functional impairment and clinical concern in need of treatment. The BSI is widely used in research and clinical practice, has well-established psychometric properties, and has been previously used with Mexican immigrants (Cervantes, Fisher, Padilla, & Napper, 2016). Cronbach’s alpha for the BSI was 0.95.

Demographics and immigration history. These questions were modeled from the 2009 San Diego Prevention Research Center (SDPRC) and the San Diego Labor Trafficking Survey Questionnaire (Zhang, 2012). Demographic questions included gender, age, educational attainment, monthly household income, and marital status. Immigration history included length of time in the United States.

All measures were adapted for content and language based on results from pilot testing (Peña, Garcini, Gutierrez, Ulibarri, & Klonoff,

Table 2
Prevalence of Migration-Related Loss and Its Association With Clinically Significant Psychological Distress

Type of Loss	Sample	Population		Perceived Distress from Loss		Clinically Significant Distress Among Those With Migration-Related Loss		
	(<i>n</i> = 248)	(<i>N</i> = 22,000)		<i>M</i>	<i>SD</i>	%	χ^2	<i>p</i>
Symbolic Self	95.1	94.8	[92.3, 97.4]			42.6	1.447	.229
Language (Spanish)	3.2	3.4	[-.11, .18]	1.1	.6	62.5	1.471	.225
Traditional ceremonies/festivities	21.5	21.5	[16.0, 27.0]	1.6	1.0	47.2	.830	.432
Familiar music	11.3	11.0	[3.2, 18.8]	1.2	1.0	60.7	4.696	.041
Traditional values	51.0	50.6	[45.9, 55.3]	1.9	.8	42.5	1.324	.302
Dreams/plans for life	46.6	46.4	[42.1, 50.9]	1.9	.9	54.8	15.149	<.001
Hopes for the family	35.6	36.6	[31.9, 41.3]	2.0	.9	61.4	21.741	<.001
Opportunities	33.6	33.9	[28.8, 38.9]	2.0	.8	50.6	4.075	.054
Life philosophy	74.5	73.4	[69.5, 77.3]	1.6	.9	44.6	2.435	.139
Separation from community	82.7	82.3	[78.3, 86.1]	2.0	.9	42.0	.031	1.000
Type of work	60.5	59.8	[55.5, 64.1]	1.7	1.0	44.7	1.382	.291
Wealth/Inheritance	17.3	16.9	[10.4, 23.5]	1.8	1.1	46.5	.496	.500
Interdependence	87.1	87.4	[84.1, 90.7]			44.4	5.330	.021
Social support system	57.5	57.5	[53.1, 61.9]	1.9	.9	47.9	5.259	.026
Treatment from others	68.8	67.7	[63.2, 71.9]	1.9	.9	51.2	20.142	<.001
Change in role/position	58.1	57.5	[53.0, 61.9]	1.8	.9	45.1	1.679	.239
Home	98.0	98.6	[95.7, 1.01]			41.6	.115	.734
House/home	91.9	92.0	[88.8, 95.1]	1.8	1.0	42.9	.402	.526
Land	96.4	96.8	[94.5, 99.0]	1.9	1.0	40.8	2.390	.122
Country	97.6	97.8	[95.2, 1.0]	1.9	1.0	41.5	.174	.676
Possessions in home country	54.3	51.1	[59.8, 49.2]	1.8	.9	41.0	.052	.820
Interpersonal	96.4	96.4	[92.9, 99.8]			41.8	.060	.806
Long separation from family	89.1	88.5	[85.0, 92.0]	2.4	.8	43.0	1.428	.295
Death of family abroad	73.8	72.6	[68.5, 79.6]	2.5	.8	40.4	.464	.556
Death of friends abroad	57.3	56.6	[51.8, 61.3]	2.0	.9	48.6	6.525	.013
Intrapersonal Integrity	80.6	80.6	[76.2, 85.0]			42.5	.276	.599
Freedom of choice/authority	70.9	70.5	[65.9, 75.1]	2.0	.8	42.3	.085	.887
Physical health	33.6	34.4	[29.8, 39.1]	2.0	.9	62.7	22.568	<.001
Familiar food	39.3	39.0	[34.2, 43.6]	1.7	.9	43.3	.168	.694

2017). Established methodology was used in the adaptation of all measures (Beaton, Bombardier, Guillemin, & Ferraz, 2002).

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 percentage of undocumented immigrants expected to reside in the target location. Descriptive statistics were used, and weighted frequencies along with 95% confidence intervals were calculated. Chi-square statistics were used for bivariate analysis

($p \leq .05$). Standardized residuals were used in post hoc comparisons for variables with more than two categories (Siegel & Castellan, 1988). Multivariate logistic regression was used to assess the association of loss and psychological distress after controlling for relevant covariates.

RDS assumptions and weights. For the testing of RDS assumptions, generation of RDS weights, and analysis of population estimates and 95% confidence intervals, RDS Analyst (i.e., Successive Sampling (SS) estimation) was used (Handcock et al., 2014). A diagnostic testing for RDS assumptions showed that the sample reached equilibrium at the 11th wave of recruitment, showed little homophily bias (e.g., for gender 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 (midsized population estimate $N = 22,000$) (San Diego Association of Government, 2016).

Results

Participants

Participants' average age was 38 years ($SD = 11.2$). The majority were female, married, had low educational attainment, and lived on a monthly household income of less than \$2,000. The majority of participants have been residing in the United States for more than 10 years ($M = 16$ years; $SD = 7.9$) (See Table 1).

Migration-Related Loss and Its Association With Socio-Demographic and Immigration Characteristics

All participants reported a history of migration-related loss (100%), with an average of 15 different types of losses experienced ($SD = 4.59$, range = 2 to 25). Significant differences in type of migration-related losses were observed across sociodemographic or immigration characteristics. Specifically, older immigrants were more likely to report a higher prevalence of interpersonal loss when compared to those ages 18 to 25 years, $\chi^2(3, N = 248) = 16.96, p = .001$. When compared to their single counterparts, participants who were married reported greater interdependence loss, $\chi^2(1, N = 248) = 6.28, p = .012$. Participants of lower socioeconomic status, particularly those with lower education, $\chi^2(1, N = 248) = 4.41, p = .036$ and lower income, $\chi^2(1, N = 248) = 7.17, p = .007$ also reported greater interdependence loss. Moreover, a higher prevalence of loss related to intrapersonal integrity was reported by participants who were married, $\chi^2(1, N = 248) = 4.30, p = .038$ (See Table 1).

Type of Migration-Related Loss, Perceptions of Distress, and Prevalence of Clinically Significant Distress

Interpersonal loss, particularly death of a family member abroad ($M = 2.5$; $SD = 0.8$), separation from family members ($M = 2.4$; $SD = 0.8$), and death of a friend abroad ($M = 2.0$; $SD = 0.9$), were reported as most distress-

ing (See Table 2). Bivariate analyses showed differences in the prevalence of clinically significant distress across different types of migration-related losses. For instance, among participants reporting a loss of symbolic self, there was a greater prevalence of clinically significant distress among those who had been cut off from listening to familiar music ($\chi^2 = 4.70, p = .041$), dreams or plans for the future ($\chi^2 = 15.15, p < .001$), hopes for the family ($\chi^2 = 21.74, p < .001$) and participants who perceived a loss of opportunities as a result of migration ($\chi^2 = 4.08, p = .05$). Likewise, among participants who had experienced loss of interdependence, there was a greater prevalence of clinically significant distress among those who had lost their social support system ($\chi^2 = 5.26, p = .03$) and participants who had experienced a change in how they were treated by others ($\chi^2 = 20.14, p < .001$). Among participants who had experienced interpersonal loss, clinically significant distress was more prevalent among those who had experienced the death of a friend abroad ($\chi^2 = 6.53, p = .013$). Among participants with loss of intrapersonal integrity, those who perceived a loss of physical health reported greater psychological distress ($\chi^2 = 22.57, p < .001$) (See Table 2).

Association of Migration-Related Loss and Psychological Distress

After controlling for gender, age, marital status, education, monthly income and years in the United States, the full model to assess for the association of migration-related loss with psychological distress was statistically significant $\chi^2(14, N = 248) = 43.16, p < .001$. When using Nagelkerke R squared, the model fit using Cox and Snell R square was 0.16 and 0.22. The model correctly classified 70.7% of cases. Pertaining to migration-related loss, loss of interdependence was a significant predictor of psychological distress ($OR = 4.78, 95\% CI [1.53, 15.0], p = .007$). Specifically, when compared to those without interdependence loss, participants who had experienced the loss of social position and support were 4.78 times more likely to meet criteria for clinically significant distress ($p = .007$). Post hoc analyses showed that after controlling for relevant covariates, participants who had experienced a change in how they are treated by others for not having a

Table 3
Adjusted and Unadjusted Analyses for the Association of Migration-Related Loss With Clinically Significant Distress

Variable	Unadjusted			Adjusted		
	OR	95% CI	<i>p</i>	OR	95% CI	<i>p</i>
Gender Man (Ref)						
Woman	.52	[.30, .90]	.019	.49	[.27, .91]	.023
Age 18–25 (Ref)						
26–35	.20	[.08, .49]	<.001	.16	[.05, .49]	.001
36–45	.32	[.14, .71]	.005	.20	[.07, .61]	.004
≥ 46	.50	[.21, 1.23]	.130	.30	[.09, .96]	.042
Education < High School (Ref)						
≥ High School	1.53	[.90, 2.59]	.114	1.30	[.67, 2.51]	.433
Monthly Income <\$2,000 (Ref)						
≥\$2,000	.81	[.47, 1.38]	.432	.68	[.36, 1.29]	.237
Marital status Single (Ref)						
Married	.54	[.31, .92]	.024	.55	[.28, 1.00]	.084
Years in U.S. ≤10 years (Ref)						
11–20 years	1.87	[.96, 3.77]	.067	3.17	[1.41, 7.11]	.005
>20 years	1.75	[.83, 3.71]	.143	3.1	[1.26, 7.99]	.015
Loss: Symbolic Self						
Yes	2.22	[.59, 8.42]	.240	2.24	[.47, 10.67]	.311
Loss: Interdependence						
Yes	2.74	[1.13, 6.64]	.025	4.78	[1.53, 15.0]	.007
Loss: Home						
Yes	.71	[.10, 5.13]	.735	.45	[.03, 6.75]	.561
Loss: Interpersonal						
Yes	1.20	[.28, 5.13]	.807	3.34	[.43, 26.14]	.251
Loss: Intrapersonal Integrity						
Yes	1.19	[.62, 2.29]	.599	1.19	[.54, 2.64]	.663

visa were significantly more likely to meet criteria for clinically significant distress ($OR = 4.97$, 95% CI [2.18, 11.34], $p < .001$) (See Table 3).

Discussion

The first aim of this study was to assess the prevalence of different types of migration-related loss among undocumented Mexican immigrants in high-risk neighborhoods. Our results showed that migration-related loss among participants was extremely high across all domains, particularly the loss of home and long separation from family members. The aforementioned losses along with experiencing the death of a family member or friend abroad were described as most distressing. This finding is consistent with previous studies of undocumented immigrants, which identify migration-related loss as common in this population (Garcini et al., 2016). Also, given the relevance of *familismo*, a Latinx cultural value that empha-

sizes the relevance of strong family loyalty, closeness, and getting along with and contributing to the wellbeing of the family and kinship networks, it is reasonable that loss and separation from family would be reported as most distressing (Ayón, Marsiglia, & Bermudez-Parsai, 2010). Important to emphasize is that even though undocumented immigrants often experience chronic mourning from the aforementioned losses and ambiguity about returning to their home country, previous research shows that these immigrants make meaning of their losses by identifying ways in which their lives and those of their loved ones have improved as a result of the immigration experience (Ayón et al., 2010).

Another relevant finding was that significant differences were found in type of migration-related loss across sociodemographic and immigration characteristics. For instance, when compared to younger undocumented immigrants, interpersonal loss defined as death of a loved one from afar or long separation from friends

and family, was more prevalent among participants who were older. Older age brings with it greater exposure to death of family members and friends, which may be particularly difficult for undocumented immigrants, who are unable to travel abroad due to their legal status and must mourn the loss of their loved ones from afar (Bravo, 2017). Prior research shows that high distress is often reported among undocumented immigrants who have lost a loved one from a distance, and that the distress experienced is often accompanied by feelings of deep sadness and guilt, which likely remain long after the person's loss (Bravo, 2017). The aforementioned finding highlights the need to address migratory mourning and related losses in the provision of mental health services for undocumented immigrants that can be delivered through nontraditional sources.

Another interesting finding was that greater loss of interdependence, that is loss of social position and support, was reported among participants who were married and those of lower socioeconomic status. It is possible that in an effort to prevent loneliness, undocumented immigrants that are not married, may develop more new connections or social networks than their married counterparts; thus, perceiving having greater social support (Solheim et al., 2016). Also, consistent with research supporting the association of subjective social status and objective indicators of socioeconomic level (Demakakos, Nazroo, Breeze, & Marmot, 2008), economic opportunities and environments available to undocumented immigrants with higher education and income may attenuate perceptions of loss in regards to social status, which are more prevalent among immigrants living in poverty (Alcántara, Chen, & Alegría, 2014). Future studies are needed to further understand how social disadvantage affects the wellbeing of at-risk undocumented immigrants and to identify relevant protective factors to inform prevention alternatives and context-sensitive interventions.

The second aim of this study was to identify the prevalence of clinically significant distress associated with migration-related loss among undocumented immigrants. Consistent with previous research that emphasizes the relevance of positive social connections as protective factors to the mental health of Latinxs (Leong, Park, & Kalibatseva, 2013; Mulvaney-Day, Alegría, &

Sribney, 2007), our results showed that being treated differently by others for not having a visa, such as being a victim of discrimination, was a significant predictor of distress. Previous research has shown that undocumented Latinx immigrants who perceive their experiences as different to those of their documented counterparts in terms of less social equality, increased discrimination, and a more adverse context of reception, are more likely to report diminished wellbeing (Cobb, Meca, Xie, Schwartz, & Moise, 2017). This is of concern given the proliferation of anti-immigrant policies in the United States over the past 20 years and the current anti-immigrant climate that serves to further marginalize undocumented immigrants; thus, increasing risk of distress (Almeida, Biello, Pedraza, Wintner, & Viruell-Fuentes, 2016). Research to identify protective factors that could ameliorate the effects of discrimination on the wellbeing of undocumented Latinx immigrants is essential to inform intervention, advocacy, and policy efforts.

Overall, our findings have important public health and clinical implications. Undocumented immigrants have restricted access to mental health services, and even when services may be available, they avoid seeking help for fear of immigration repercussions, stigma, cost, and limited information (Fernández & Rodríguez, 2017). Identifying ways to support mental health and social services available through alternative sources of delivery, such as advocacy agencies and faith-based organizations, may provide valuable avenues to facilitate access. In the Latinx community, faith-based organizations such as churches, are an important entry-point for formal mental health services and serve a dominant role as social service providers by supporting a wide range of prevention and treatment programs that contribute to the wellbeing of their members (Blank, Mahmood, Fox, & Guterbock, 2002). Important to emphasize is that the delivery of such services requires interdisciplinary collaboration and the development of partnerships among health care providers, research institutions, and faith-based ministries (Sadler, Newlin, Johnson-Spruill, & Jenkins, 2011). Moreover, recommendations to consider in the development and adaptation of interventions and services for undocumented Latinx immigrants include being sensitive to the immigrant's loss by providing validation for their

experiences, facilitating the development of skills to cope with loss (e.g., stress management, meaning making, art therapy to facilitate self-expression), and incorporating empowerment-based approaches into treatment (Consoli, Wang, & Delucio, 2016). Empowerment-based approaches are particularly valuable when working with undocumented immigrants given their focus on building resilience amid loss (Consoli et al., 2016). Some components of empowerment-based approaches that may be useful when working with undocumented immigrants include (a) increasing self-efficacy by facilitating and assisting with decision-making and communication skills; (b) goal setting and planning; (c) participation in support groups and community-based organizations; and (d) perceptions of control (Consoli et al., 2016). Noteworthy is that service providers attending to the needs of undocumented immigrants should work to understand the immigrant's context and culture, use therapeutic techniques that facilitate the integration of context in therapy (e.g., life narrative), and be cognizant of the multiple systemic and institutional barriers that undocumented immigrants face.

Limitations and Suggestions for Future Research

This study makes a timely and significant contribution to inform the wellbeing of undocumented immigrants. Nevertheless, this study has limitations. First, although RDS is the most effective method to study hidden populations, it is not free from methodological limitations. However, steps were taken to collect data from a representative sample (i.e., formative research, long recruitment chains, use of weighted estimates based on size of social network, and accurate assessment of social network size). Also, given heightened immigration enforcement near the U.S.-Mexico border, migration-related loss and psychological distress in this border community may be different to that experienced by undocumented immigrants in other U.S. regions. Follow up studies with different populations of undocumented immigrants residing in other regions of the United States are needed. Moreover, data for this study was collected in 2014, which is a different sociopolitical climate than the current one. Current studies are needed to document and compare how the

existing anti-immigrant climate, including heightened immigration enforcement, is affecting the prevalence of migration-related loss and its association with mental health among undocumented immigrants. Additionally, our sample was predominantly female and on average participants had lived in the United States for more than 10 years. Thus, our data is most representative of established undocumented Mexican women, most of which are living in mixed-status families; where, some family members are U.S. citizens. Furthermore, given the retrospective nature of this study, there may be biases in the ways in which participants construed their past, which could have influenced their report (Brewin, Andrews, & Gotlib, 1993). To reduce biases, participants were asked to report their distress by focusing on specific symptoms over the past seven days. Finally, this study was cross-sectional; thus, causation cannot be inferred.

Conclusion

Overall, findings from this study have important implications, including the need for the development and provision of culturally and contextually sensitive interventions aimed at addressing the high prevalence of migration-related loss associated with psychological distress among undocumented immigrants. Given the limited access that undocumented immigrants have to health and social services, it is important to emphasize that the aforementioned interventions would require that resources and/or services be available through alternative sources of delivery (e.g., faith based organizations, advocacy agencies), which need to transcend the many systemic, institutional, and individual-level barriers that limit access for this population. Undocumented immigrants are clearly an at-risk population, and the current anti-immigrant climate and heightened immigration enforcement in the United States is imposing even a greater threat to the wellbeing of these immigrants. Political advocacy efforts aimed at protecting the human rights of undocumented immigrants, their U.S. families, and the larger communities in which they live, are vital to prevent further harm.

Abstracto

El objetivo de este estudio transversal fue identificar la prevalencia de pérdidas relacionadas con la migración, así como su asociación con el estrés entre inmigrantes Mexicanos indocumentados. Respondent Driven Sampling (RDS) fué utilizado para recopilar y analizar datos de entrevistas clínicas con 248 inmigrantes Mexicanos indocumentados que residen cerca de la frontera entre California y México. Todos los participantes reportaron un historial de pérdidas relacionadas con la migración con un promedio de 13 diferentes tipos de pérdidas ($SD = 4.59$, rango = 2 a 25). Se observaron diferencias significativas en el tipo de pérdidas relacionadas con la migración en cuanto a características sociodemográficas y de inmigración. Después de controlar las covariables relevantes, la pérdida de interdependencia, específicamente el ser tratado/a de manera diferente por no tener una visa, fue el predictor más fuerte de estrés ($OR = 4.97$, 95% CI [2.18, 11.34], $p < .001$). Dada la actual situación anti-inmigrante en los E.U. que margina aún más a los inmigrantes indocumentados, es necesario aumentar esfuerzos de abogacía y desarrollar nuevas alternativas que faciliten el acceso a servicios de salud mental destinados a disminuir el estrés asociado con la discriminación entre estos inmigrantes en riesgo.

References

- Achotegui, J. (2014). *The Ulysses syndrome: The immigrant syndrome of chronic and multiple stress*. Figueres, Spain: El Mundo de la Mente.
- Alcántara, C., Chen, C.-N., & Alegría, M. (2014). Do post-migration perceptions of social mobility matter for Latino immigrant health? *Social Science & Medicine*, *101*, 94–106. <http://dx.doi.org/10.1016/j.socscimed.2013.11.024>
- Almeida, J., Biello, K. B., Pedraza, F., Wintner, S., & Viruell-Fuentes, E. (2016). The association between anti-immigrant policies and perceived discrimination among Latinos in the U. S.: A multilevel analysis. *SSM—Population Health*, *2*, 897–903. <http://dx.doi.org/10.1016/j.ssmph.2016.11.003>
- Ayón, C., Marsiglia, F. F., & Bermudez-Parsai, M. (2010). Latino family mental health: Exploring the role of discrimination and familismo. *Journal of Community Psychology*, *38*, 742–756. <http://dx.doi.org/10.1002/jcop.20392>
- Beaton, D., Bombardier, C., Guillemin, F., & Ferraz, M. B. (2002). *Recommendations for the cross-cultural adaptation of health status measures* (pp. 1–9). New York, NY: American Academy of Orthopaedic Surgeons.
- Blank, M. B., Mahmood, M., Fox, J. C., & Guterbock, T. (2002). Alternative mental health services: The role of the black church in the South. *American Journal of Public Health*, *92*, 1668–1672. <http://dx.doi.org/10.2105/AJPH.92.10.1668>
- Bravo, V. (2017). Coping with dying and deaths at home: How undocumented migrants in the United States experience to process of transnational grief. *Mortality*, *22*, 33–44. <http://dx.doi.org/10.1080/13576275.2016.1192590>
- 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>
- Cervantes, R. C., Fisher, D. G., Padilla, A. M., & Napper, L. E. (2016). The Hispanic Stress Inventory Version 2: Improving the assessment of acculturation stress. *Psychological Assessment*, *28*, 509–522.
- Cobb, C. L., Meca, A., Xie, D., Schwartz, S. J., & Moise, R. K. (2017). Perceptions of legal status: Associations with psychosocial experiences among undocumented Latino/a immigrants. *Journal of Counseling Psychology*, *64*, 167–178. <http://dx.doi.org/10.1037/cou0000189>
- Consoli, M. L. M., Wang, S. C., Delucio, K., & Yakushko, O. (2016). Psychotherapy with immigrants and refugees. In A. J. Consoli, L. E. Beutler, & B. Bongar (Eds.), *Comprehensive Textbook of Psychotherapy: Theory and Practice* (pp. 363). New York, NY: Oxford University Press.
- Dean, A. G., Sullivan, K. M., & Soe, M. M. (2013). OpenEpi: Open Source Epidemiologic Statistics for Public Health (Version. 3.01). Retrieved November 15, 2013, from www.OpenEpi.com
- Demakakos, P., Nazroo, J., Breeze, E., & Marmot, M. (2008). Socioeconomic status and health: The role of subjective social status. *Social Science & Medicine*, *67*, 330–340. <http://dx.doi.org/10.1016/j.socscimed.2008.03.038>
- Derogatis, L. R. (1993). *BSI Brief Symptom Inventory: Administration, scoring, and procedure manual* (4th ed.). Minneapolis, MN: National Computer Systems.
- Fernández, A., & Rodríguez, R. A. (2017). Undocumented immigrants and access to health care. *Journal of the American Medical Association Internal Medicine*, *177*, 536–537. <http://dx.doi.org/10.1001/jamainternmed.2016.9209>
- Garcini, L. M., Murray, K., Zhou, A., Klonoff, E. A., Myers, M., & Elder, J. P. (2016). Mental health of undocumented immigrant adults in the United States: A systematic review of methodology and findings. *Journal of Immigrant & Refugee Studies*, *14*, 1–25. <http://dx.doi.org/10.1080/15562948.2014.998849>
- Hadley, C., Galea, S., Nandi, V., Nandi, A., Lopez, G., Strongarone, S., & Ompad, D. (2008). Hunger and health among undocumented Mexican mi-

- grants in a U.S. urban area. *Public Health Nutrition*, 11, 151–158. <http://dx.doi.org/10.1017/S1368980007000407>
- Handcock, M. S., Fellows, I. E., & Gile, K. J. (2014). RDS analyst: Software for the analysis of respondent-driven Sampling data. Version 0.42.
- Heckathorn, D. D., & Cameron, C. J. (2017). Network sampling: From snowball and multiplicity to respondent-driven sampling. *Annual Review of Sociology*, 43, 101–119. <http://dx.doi.org/10.1146/annurev-soc-060116-053556>
- Joseph, T. D. (2011). “My life was filled with constant anxiety”: Anti-immigrant discrimination, undocumented status, and their mental health implications for Brazilian immigrants. *Race and Social Problems*, 3, 170–181. <http://dx.doi.org/10.1007/s12552-011-9054-2>
- Krogstad, J. M., Passel, J. S., & Cohn, D. (2017). Five facts about illegal immigration in the U.S. Retrieved July 2, 2017, from <http://www.pewresearch.org/fact-tank/2017/04/27/5-facts-about-illegal-immigration-in-the-u-s/>
- Leong, F., Park, Y. S., & Kalibatseva, Z. (2013). Disentangling immigrant status in mental health: Psychological protective and risk factors among Latino and Asian American immigrants. *American Journal of Orthopsychiatry*, 83, 361–371. <http://dx.doi.org/10.1111/ajop.12020>
- Meyer, I. H. (2003). Prejudice, social stress, and mental health in lesbian, gay, and bisexual populations: Conceptual issues and research evidence. *Psychological Bulletin*, 129, 674–697. <http://dx.doi.org/10.1037/0033-2909.129.5.674>
- Miranda, A. O., & Matheny, K. B. (2000). Socio-Psychological Predictors of Acculturative Stress among Latino Adults. *Journal of Mental Health Counseling*, 22, 4, 306.
- 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>
- Mulvaney-Day, N. E., Alegría, M., & Sribney, W. (2007). Social cohesion, social support, and health among Latinos in the United States. *Social Science & Medicine*, 64, 477–495. <http://dx.doi.org/10.1016/j.socscimed.2006.08.030>
- Passel, J. S., & Cohn, D. V. (2016). Overall number of U.S. unauthorized immigrants hold steady since 2009. Retrieved from http://www.pewhispanic.org/files/2016/09/PH_2016.09.20_Unauthorized_FINAL.pdf
- 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 & Refugee Studies*, 15, 36–52. <http://dx.doi.org/10.1080/15562948.2016.1158341>
- Pew Research Center. (2015). *Modern immigration wave brings 59 million to U.S., driving population growth and change through 2065: Views of immigration’s impact on U.S. society mixed*. Washington, DC: Author.
- Sadler, L. S., Newlin, K. H., Johnson-Spruill, I., & Jenkins, C. (2011). Beyond the medical model: Interdisciplinary programs of community-engaged health research. *Clinical and Translational Science*, 4, 285–297. <http://dx.doi.org/10.1111/j.1752-8062.2011.00316.x>
- San Diego Association of Government. (2016). *Demographics in the San Diego region*. San Diego, CA. January. Retrieved November 19, 2016 from http://www.sandag.org/uploads/publicationid/publicationid_2001_20213.pdf
- Siegel, S., & Castellan, N. J. (1988). *Non-parametric statistics for the behavioral sciences* (2nd ed.). New York, NY: McGraw-Hill.
- Solheim, C., Zaid, S., & Ballard, J. (2016). Ambiguous loss experienced by transnational Mexican immigrant families. *Family Process*, 55, 338–353. <http://dx.doi.org/10.1111/famp.12130>
- Tyldum, G., & Johnston, L. G. (2014). *Applying respondent driven sampling to migrant populations: Lessons from the field*. New York, NY: Palgrave MacMillan. <http://dx.doi.org/10.1057/9781137363619>
- Vromans, L., Schweitzer, R. D., & Brough, M. (2012). The Multidimensional Loss Scale: Validating a cross-cultural instrument for measuring loss. *Journal of Nervous and Mental Disease*, 200, 349–357. <http://dx.doi.org/10.1097/NMD.0b013e31824cc458>
- Zhang, S. X. (2012). *Trafficking of migrant laborers in San Diego County: Looking for a hidden population*. California: San Diego State University.

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