

Help Wanted: Mental Health and Social Stressors Among Latino Day Laborers

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Abstract

Latino day laborers may be especially vulnerable to poor mental health due to stressful life experiences, yet few studies have described patterns of mental health outcomes and their correlates in this population. Patterns of depression (PHQ-9) and anxiety (GAD-7), and associations with demographic characteristics, social stressors, and substance use in a recruited sample of male Latino day laborers ($n = 101$) are described. High rates of depression and anxiety were identified. Specifically, 39% screened positive for moderate or severe depression and 25% for moderate or severe anxiety. Higher levels of depression and anxiety symptoms were associated with being single, being homeless or in temporary housing, experiencing discrimination, acculturation stress, and marijuana use. While tobacco and unhealthy alcohol use were common in this sample (39% and 66%, respectively), they were not associated with depression and anxiety. These findings suggest that depression and anxiety are common among Latino day laborers and associated with stressful life experiences. Future research should further assess ways to ameliorate social stressors and reduce risk for poor mental health.

Keywords

Latino immigrants, day laborers, mental health, acculturation stress, substance use, depression, anxiety

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Latinos are the largest ethnic minority group in the United States and now comprise 18% of the population (U.S. Census Bureau, 2016). Previous studies have identified that patterns of mental health among Latinos vary depending on country of origin and immigrant generation (Alegría et al., 2007; Oquendo, Lizardi, Greenwald, Weissman, & Mann, 2004; Wassertheil-Smoller et al., 2014). While Latino immigrants often have better mental health than U.S.-born Latinos, some studies have reported that depression among immigrants increases with time spent in the United States (Grant, Stinson, Hasin, et al., 2004; Ortega, Rosenheck, Alegría, & Desai, 2000; Vega, Sribney, Aguilar-Gaxiola, & Kolody, 2004; Wassertheil-Smoller et al., 2014). A recent national study reported a depression prevalence of 27% among Latinos, while it is estimated at 8% for the general U.S. population (Pratt & Brody, 2014; Wassertheil-Smoller et al., 2014). The prevalence of anxiety among U.S. Latinos is much lower at 2%, close to levels in the general population, where prevalence estimates range from 1% to 4% (Grant, Stinson, Dawson, et al., 2004; Martin, 2003; Priest & Denton, 2012; U. S. Department of Health and Human Services,

National Institutes of Health & National Institute of Mental Health, n.d.).

The Minority Stress model theorizes that Latino immigrants may be at increased risk for poor mental health due to stressors associated with their multiple minority statuses (Meyer, 2003). For example, Latino immigrants may experience stressors related to migration and legal status, racial/ethnic discrimination, and lower socioeconomic status, all of which have been associated with depression and anxiety (Finch, Kolody, & Vega, 2000; Potochnick & Perreira, 2010; Ramos, Su, Lander, & Rivera, 2015). In addition to their impact on mental

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health, minority status stressors can also lead to increased use of alcohol, tobacco, and other drugs as a coping strategy (Keyes, Hatzenbuehler, Grant, & Hasin, 2012). Substance use is often associated with poor mental health, and comorbidity between substance use disorders and mood disorders is especially common (Degenhardt & Hall, 2001; Grant, Stinson, Dawson, et al., 2004; Regier et al., 1990). The theory also stipulates that, when available, social support can buffer the impact of stressors on health behaviors. However, Latino immigrant men may have limited access to social support due to social isolation, language barriers, discrimination, and norms of masculinity (Duke, Bourdeau, & Hovey, 2010; Nelson, Schmotzer, Burgel, Crothers, & White, 2012; Steel, Fernandez-Esquer, Atkinson, & Taylor, 2017).

Latino immigrant men who seek employment as day laborers after arriving in the United States may be at particularly high risk for poor mental health. Latino day laborers are often undocumented immigrants who seek employment in the informal labor market doing construction or landscaping (Valenzuela, 2003). Day laborers are often paid low wages, are prone to wage theft, and experience difficult and dangerous working conditions (Díaz Fuentes, Martínez Pantoja, Tarver, Geschwind, & Lara, 2016; Fernández-Esquer, Fernández-Espada, Atkinson, & Montano, 2015; Negi, 2011, 2013). Day laborers are also vulnerable to exploitation, discrimination, and abuse by employers and law enforcement, especially if they are undocumented immigrants (Hall & Greenman, 2015; Negi, 2011, 2013; Quesada et al., 2014). In addition to these economic and occupational stressors, day laborers commonly experience unstable living conditions, including homelessness and crowding in shared housing (Organista, Ngo, Neilands, & Kral, 2017).

Only a few studies have specifically assessed patterns and correlates of mental health outcomes among Latino day laborers. A mixed-method study of Latino day laborers in the Southwest reported that 39% experienced psychological distress (Negi, 2013). In a Los Angeles area study, Latino day laborers reported experiencing mild to moderate levels of depressive symptoms on average (Bacio, Moore, Karno, & Ray, 2014). A study in the San Francisco area reported that Latino day laborers with difficult living conditions had higher levels of depression and *desesperación* (a culturally specific form of psychological distress; Organista, Ngo, et al., 2017). Several studies conducted in Latino migrant and day laborer populations have identified associations between poor mental health outcomes and substance use, including unhealthy alcohol use and other drug use (Organista, Arreola, & Neilands, 2017; Ornelas, Torres, & Serrano, 2016; Sánchez, 2015; Kissinger et al., 2008; J. Mills et al., 2013; Negi, 2011; Negi, Valdez, & Cepeda, 2015). Previous studies have also described social isolation and

low levels of social support among Latino immigrant men, which may further exacerbate their risk for both substance use and poor mental health (Quesada et al., 2014; Organista, Arreola, et al., 2017).

This study aims to build on this literature by identifying which specific stressors and forms of substance use are associated with poor mental health in a recruited sample of Latino day laborers in King County, Washington.

Methods

Participants and Data Collection

Data for this study were collected as part of Vida PURA, a community-based study on alcohol use patterns of Latino day laborers (Ornelas et al., 2016). Participants were recruited in 2013 at a day labor worker center in King County, Washington, and considered eligible if they were Spanish-speaking, foreign-born, adult (18+) men who identified as Latino. Informed consent was obtained from all individual participants included in the study. Once eligible men provided consent, they completed an interviewer-administered survey in a private location at the worker center. Surveys were conducted in Spanish by bilingual, Latino research staff and included measures of mental health, demographic characteristics, social stressors and supports, and substance use. Participants received a \$25 incentive after completing the survey. All human subjects research procedures were approved by and conducted in accordance with the University of Washington Human Subjects Division. Staff from local health and social service agencies also served as community advisors for the study.

Mental health. Depression was measured using the Patient Health Questionnaire (PHQ-9), a nine-item screening questionnaire with scores ranging from 0 to 27 that has been validated as a tool for depression screening in both clinical and community settings (Löwe, Unützer, Callahan, Perkins, & Kroenke, 2004; Martin, Rief, Klaiberg, & Braehler, 2006). Its consistency was high in this community-based sample ($\alpha = 0.83$). In addition to total scores, established criteria were used to classify mild (≤ 5), moderate (≤ 10), moderately severe (≤ 15), and severe depression (≤ 20 ; Kroenke, Spitzer, & Williams, 2001). A score of 10 or higher was used to identify individuals with moderate to severe depression, which has high sensitivity (0.85) and specificity (0.89) for use in identifying major depressive disorder (Manea, Gilbody, & McMillan, 2012). The PHQ-9 has been validated in Latino populations and in Spanish (Huang, Chung, Kroenke, Delucchi, & Spitzer, 2006).

Anxiety was measured using the Generalized Anxiety Disorder scale (GAD-7), a seven-item screening questionnaire with scores ranging from 0 to 21. The GAD-7 had high internal consistency in this sample ($\alpha = 0.87$).

Established criteria were used to classify mild (≤ 5), moderate (≤ 10), and severe anxiety (≤ 15 ; Spitzer, Kroenke, Williams, & Löwe, 2006). A score of 10 or higher was used to indicate moderate or worse anxiety, which has been used in previous studies because of its high sensitivity (0.89) and specificity (0.82) when compared to other diagnostic measures (Spitzer et al., 2006). The GAD-7 has been validated with Spanish-speaking U.S. Latinos (S. D. Mills et al., 2014).

Social stressors. The measure of discrimination used in this study was based on items used in the California Health Interview Survey, and included separate questions about experiencing discrimination in different settings (Ornelas, Mariscal, & Thompson, 2011; Shariff-Marco et al., 2009). Participants were asked whether, since arriving in the United States, they had been “treated unfairly or been discriminated against” at work, when getting medical care, by the police and courts, or in other situations (other situations identified by participants included public transportation, on the streets, and at school). Indicator variables were created for each setting, as well as for having experienced discrimination in “any” setting (one of the settings listed above or any other setting not explicitly asked about in the survey).

Acculturation stress was measured using nine items from the Migrant Farmworker Stress Inventory (MFWSI), which measures types of stressors as well as the level of stress experienced (Hovey, 2000). Items were selected based on previous research on social stressors among day laborers and community advisors’ input on the most relevant stressors for day laborers (Negi, 2011; Negi et al., 2015; Organista, Ngo, et al., 2017; Ornelas, Allen, Vaughan, Williams, & Negi, 2015). The selected items included: difficulty communicating in English, not being able to make desired purchases, difficulty accessing health care, working long hours, difficulty being away from friends and family, being taken advantage of by an employer or landlord, feeling like they do not belong in the United States, difficulty finding housing, and difficulty finding a job. Each item was scored on a 4-point scale, indicating how stressful participants found each situation. Response options included *Have not experienced* (0), *Not at all stressful* (1), *Somewhat stressful* (2), and *Extremely stressful* (3). Responses were summed for a total score, and participants were categorized as experiencing “high” or “low” acculturation stress. The high/low categorization was based on a median split at a score of 18, which also indicates that participants experienced all nine items on the measure as somewhat stressful or multiple items as extremely stressful. This adapted measure had moderate internal consistency ($\alpha = 0.78$).

Social support was measured with five items from the Index of Sojourner Social Support (ISSS) scale ($\alpha = 0.75$).

The ISSS was developed specifically to examine elements of social support that are relevant for immigrants (Ong & Ward, 2005; Rhodes et al., 2013). The five items asked participants whether they had people in their lives who would offer them emotional support (e.g., “Do you have persons in Seattle who would listen and talk with you when you feel lonely or depressed?”) and practical help (e.g., “Do you have persons in Seattle who would tell you what can and cannot be done in the United States?”). Response options were measured with a 5-point scale: *No one would do this* (0), *Someone would do this* (1), *A few would do this* (2), *Several would do this* (3), *Many would do this* (4). Total responses were summed, with total possible scores ranging from 0 to 20. Based on the distribution of responses, participants were categorized as having “low support” (if they had few people who would offer social support in each setting) and “any support” (if they had a few or more who would offer support). Report of “low support” was considered a social stressor.

Substance use. The Alcohol Use Disorders Identification Test (AUDIT) screening questionnaire was used to assess unhealthy alcohol use. The AUDIT includes items related to consumption and frequency of alcohol use as well as alcohol-related problems with scores ranging from 0–40. The measure had high internal consistency in this sample ($\alpha = 0.88$) and has been validated for use in Spanish-speaking populations (Bacio et al., 2014; Gómez, Conde, Santana, & Jorrín, 2005; Ornelas et al., 2016). An indicator for unhealthy alcohol use was created for participants who scored 8 or higher, a commonly used cut-off score for higher risk drinking (Rubinsky, Dawson, Williams, Kivlahan, & Bradley, 2013).

Frequency of tobacco use (not at all, some days, or every day) was measured using items selected from the National Adult Tobacco Survey, and participants were categorized as current smokers if they smoked cigarettes at least some days (Centers for Disease Control and Prevention, 2014). Drug use was assessed with a question asking whether marijuana, cocaine, heroin, or a different drug had been used in the past 30 days. Non-marijuana drugs were reported infrequently and therefore collapsed into an “other drug” category.

Demographic characteristics. Participants were asked about their age, marital (and cohabitation) status, living situation (whether housed or living in a shelter, temporarily staying with friends/family, or homeless), educational attainment, weekly income and weekly hours worked, country of origin, years living in the United States, and language spoken (English and Spanish).

Data analysis. Means and percentages were calculated to describe demographic characteristics, social stressors,

Table 1. Sample Description.

	N/mean	% (SD)
Demographic		
Age	46.5	(10.7)
20–34	14	14
35–49	45	44.6
50–70	42	41.6
Living situation		
Living as single, even if married	74	73.3
Living with partner	27	26.7
Marital status		
Single or divorced	64	63.4
Married or living with partner	37	36.6
Housing		
Housed	59	58.4
Homeless, shelter or temporary	42	41.6
Education		
Less than HS	61	60.4
HS graduate or GED	40	39.6
Weekly income		
\$200 or less	31	30.7
More than \$200	70	69.3
Hours per week worked		
	16.8	(15.4)
Country of origin		
Mexico	67	66.3
Other	33	32.7
Years living in the United States		
0–10	39	38.6
11–20	28	27.7
21–46	33	32.7
Language		
Spanish and English	69	68.3
Only Spanish	32	31.7
Social stressors		
Discrimination		
Medical	24	23.8
Police	33	33
Work	47	46.5
Any	62	61.4
Acculturation stress		
	17.8	(3.9)
Low	38	37.6
High	63	62.4
Social support		
	7.1	(5.3)
Low	48	47.5
Any	53	52.5
Substance use		
AUDIT total score		
	13.3	(9.7)
Unhealthy alcohol use	67	66.3
Cigarette smoking	39	38.6
Marijuana use (past month)	18	17.8
Other drug use (past month)	6	5.9

(continued)

Table 1. (continued)

	N/mean	% (SD)
Mental health outcomes		
Depression (Mean PHQ-9 score, SD)		
	8.0	(6.1)
Mild or no depression (PHQ-9 = 0–9)	62	61.4
Moderate to severe depression (PHQ-9 = 10–27)	39	38.6
Anxiety (mean GAD-7 score, SD)		
	5.1	(5.4)
Mild or no anxiety (GAD-7 = 0–9)	76	75.3
Moderate or severe anxiety (GAD-7 = 10–21)	25	24.8

Note. Not all categories add to 101 due to missing data. HS = high school; GED = General Education Diploma; AUDIT = Alcohol Use Disorders Identification Test; PHQ-9 = Patient Health Questionnaire; GAD-7 = Generalized Anxiety Disorder scale; SD = standard deviation.

substance use, and mental health outcomes. One-sample tests of proportions and chi-square tests were calculated to describe the prevalence of depression and anxiety across demographic characteristics, and to assess their associations with social stressors and substance use. Finally, comorbidity of depression and anxiety were examined by assessing the correlation between depression and anxiety. All data analysis was performed using Stata 14 (StataCorp, 2015).

Results

Characteristics of Study Sample

Participants ($n = 101$) ranged in age from 20 to 70 years, with a mean of 46.5 years (Table 1). Most men ($n = 74$, 73%) were single or living apart from their spouse, and a large number ($n = 42$, 42%) were homeless or living in temporary housing. Most had low levels of education, with 60% ($n = 61$) having less than a high school diploma. All of the men were low income, with 81% ($n = 82$) earning less than \$400 per week. Participants reported working an average of 16 hours per week (with a range of 0 to 70 hours per week). The majority of the men were from Mexico ($n = 67$, 67%), followed by El Salvador ($n = 8$, 8%), Guatemala ($n = 7$, 7%), Honduras ($n = 6$, 6%), Cuba ($n = 4$, 4%), Chile ($n = 2$, 2%), Peru ($n = 2$, 2%), Colombia ($n = 1$, 1%), and Venezuela ($n = 1$, 1%). On average, men had lived in the United States for 15.5 years (with a range of 0 to 46 years). All of the men spoke Spanish, and 32% ($n = 32$) spoke only Spanish.

Most men ($n = 62$, 61%) reported experiencing discrimination in at least one setting: at work, in a medical setting, by the police or courts, or any other setting. Twenty-four percent ($n = 24$) of men had experienced discrimination when getting medical care, 33% ($n = 33$) had experienced discrimination by the police or courts,

Table 2. Prevalence and Severity of Depression by Participant Characteristics.

	Total PHQ-9			Moderate or Worse Depression		
	Mean	SD	p-value	N	%	p-value
Demographic						
Age						
20–34	10.6	7.1	.12	9	64.3	.12
35–49	6.9	5.8		13	28.9	
50–70	8.3	5.6		17	40.5	
Marital status						
Single or divorced	8.8	6.1	.09	30	46.9	.03
Married or living with partner	6.6	5.9		9	24.3	
Living situation						
Living as single, even if married	8.8	6.1	.03	33	44.6	.04
Living with partner	5.8	5.8		6	22.2	
Housing						
Housed	6.9	6.1	.04	18	30.5	.05
Homeless, shelter or temporary	9.5	5.9		21	50.0	
Education						
Less than HS	8.3	5.9	.13	24	39.3	.85
HS graduate or GED	7.5	6.4		15	37.5	
Weekly income						
\$200 or less	9.5	6.8	.11			.37
more than \$200	7.3	5.7				
Country of origin						
Mexico	7.8	5.7	.51	25	37.3	.62
Other	8.6	6.9		14	42.4	
Years living in the United States						
0–10	8.3	6.5	.86	15	38.5	.94
11–20	8.3	5.4		12	42.9	
21–46	7.6	6.3		12	36.4	
Language						
Spanish and English	7.8	6.3	.64	24	34.8	.25
Only Spanish	8.4	5.7		15	46.9	
Social stressors and supports						
Discrimination (setting)						
Medical						
No	7.4	5.8	.08	11	45.8	.41
Yes	9.9	6.8		28	36.4	
Police						
No	7.0	5.8	.02	22	32.8	.07
Yes	10.0	6.4		17	51.5	
Work						
No	7.1	6.4	.11	18	33.3	.24
Yes	9.0	5.7		21	44.7	
Any setting						
No	7.1	5.9	.23	13	33.3	.39
Yes	8.6	6.2		26	41.9	
Acculturation stress						
Low	5.5	5.4	<.001	9	18.8	<.001
High	10.3	5.9		30	56.6	
Social support						
Low	8.6	6.5	.41	16	42.1	.57
Any	7.6	5.9		23	36.5	

(continued)

Table 2. (continued)

	Total PHQ-9			Moderate or Worse Depression		
	Mean	SD	p-value	N	%	p-value
Substance use						
Unhealthy alcohol use						
No	6.7	5.5	.14	11	32.4	.36
Yes	8.6	6.3		28	41.8	
Current smoker						
No	7.5	5.5	.34	23	37.1	.27
Yes	8.7	7.0		16	41.0	
Marijuana use (last 30 days)						
No	7.6	6.2	.21	28	33.7	.03
Yes	9.6	5.4		11	61.1	
Other drug use (last 30 days)						
No	7.6	6.0	.02	34	35.8	.02
Yes	13.5	5.8		5	83.3	

Note. HS = high school; GED = General Education Diploma; PHQ-9 = Patient Health Questionnaire; SD = standard deviation.

and 47% ($n = 47$) had experienced discrimination at work. More than half ($n = 63$, 62%) of the participants reported that their experiences related to immigration, communication, poverty, health care, work, and feelings of belonging were somewhat or extremely stressful. Nearly half of participants ($n = 48$, 48%) reported low social support. Most men had alcohol screening scores consistent with unhealthy alcohol use ($n = 67$, 66%), with a mean AUDIT score of 13.3. Cigarette smoking some days or every day was common ($n = 39$, 39%), and 18% ($n = 18$) had used marijuana in the last month. Few ($n = 6$, 6%) had used other drugs in the past month.

Mental Health Outcomes

The mean PHQ-9 score was 8.0, considered mild depression (Table 1). More than a third of the sample ($n = 39$, 39%) had scores above 10.0, indicating moderate to severe depression. The mean GAD-7 score was 5.1, considered mild anxiety. A quarter ($n = 25$, 25%) of men had scores over 10.0, indicating moderate to severe anxiety. Total PHQ-9 scores were highly correlated with total GAD-7 scores ($r = 0.77$, $p < .01$). Of the 39 men who had moderate or severe depression, 24 (62%) of them also had moderate to severe anxiety. Of the 25 men who had moderate or severe anxiety, 24 (96%) of them also had moderate or severe depression.

Correlates of the Prevalence and Severity of Depression

Mean PHQ-9 scores were higher for men who were living as single compared to those living with a partner

(8.8 vs. 5.8, $p = 0.03$), and 47% ($n = 30$) of men who were single were moderately or severely depressed versus 24% ($n = 9$) of those who were married or living with a partner ($p = .03$; Table 2). Those experiencing homelessness or living in temporary housing also had higher levels of depression (9.5 vs. 6.9, $p = .04$). Men who had experienced discrimination by the police or in legal settings had higher depression scores (10.0 vs. 7.0, $p = .02$), as did those with high compared to low acculturation stress (10.3 vs. 5.5, $p < .01$). Of the men who had used marijuana in the past month, 61% ($n = 11$) were moderately or severely depressed compared to 34% ($n = 28$) of nonusers ($p = .03$), and men who used non-marijuana drugs had higher mean PHQ-9 scores than nonusers (13.5 vs. 7.6, $p = .02$).

Correlates of the Prevalence and Severity of Anxiety

Men who were living as single were more likely to report moderate to severe anxiety ($n = 20$, 31%) than those living with partners ($n = 5$, 14%, $p = .05$; Table 3). Those experiencing homelessness or living in temporary housing also had higher levels of anxiety (mean GAD-7 scores) than those who were stably housed (6.5 vs. 4, $p = .02$). Men who experienced discrimination in medical settings had higher levels of anxiety (7.5 vs. 4.3, $p = .01$), as did those who experienced discrimination by the police (7.8 vs. 3.8, $p < .001$) and at work (6.2 vs. 4.1, $p = .05$) compared to men who had not experienced discrimination in those settings. Those who had experienced discrimination in any setting also had higher anxiety levels than those who did not report any discrimination (5.9 vs.

Table 3. Prevalence and Severity of Anxiety by Participant Characteristics.

	Total GAD-7			Moderate or Worse Anxiety		
	Mean	SD	p-value	N	%	p-value
Demographic						
Age						
20–34	7.5	6.1	.13	6	42.9	.16
35–49	4.2	4.6		8	17.8	
50–70	5.2	5.7		11	26.2	
Marital status						
Single or divorced	5.8	5.9	.08	22	29.7	.06
Married or living with partner	3.8	4.0		3	11.1	
Living situation						
Living as single, even if married	5.7	5.7	.06	20	31.3	.05
Living with partner	3.4	4.0		5	13.5	
Housing						
Housed	4.0	4.6	.02	10	17.0	.03
Homeless, shelter or temporary	6.5	6.0		15	35.7	
Education						
Less than HS	4.9	5.1	.75	15	24.6	.96
HS graduate or GED	5.3	5.8		10	25.0	
Weekly income						
\$200 or less	6.1	5.7	.21	10	32.3	.25
More than \$200	4.6	5.2		15	21.4	
Country of origin						
Mexico	4.6	4.8	.18	15	22.4	.39
Other	6.1	6.3		10	30.3	
Years living in the United States						
0–10	5.0	4.6	.96	9	23.1	.87
11–20	5.4	5.6		8	28.6	
21–46	5.0	6.2		8	24.2	
Language						
Spanish and English	5.2	5.7	.64	17	24.6	.97
Only Spanish	4.7	4.7		8	25.0	
Social stressors and supports						
Discrimination (setting)						
Medical						
No	4.3	4.8	.01	15	19.5	.03
Yes	7.5	6.3		10	41.7	
Police						
No	3.8	4.5	<.001	12	17.9	.02
Yes	7.8	6.1		13	39.4	
Work						
No	4.1	4.7	.05	10	18.5	.12
Yes	6.2	5.9		15	31.9	
Any setting						
No	3.7	4.6	.04	5	12.8	.03
Yes	5.9	5.7		20	32.3	
Acculturation stress						
Low	3.5	4.8	<.01	6	12.5	<.01
High	6.5	5.5		19	35.9	
Social support						
Low	5.7	5.8	.34	11	29.0	.45
Any	4.7	5.1		14	22.2	

(continued)

Table 3. (continued)

	Total GAD-7			Moderate or Worse Anxiety		
	Mean	SD	p-value	N	%	p-value
Substance use						
Unhealthy alcohol use						
No	3.9	4.6	.13	7	20.6	.49
Yes	5.6	5.7		18	26.9	
Current smoker						
No	4.6	4.9	.31	13	21.0	.27
Yes	5.7	6.1		12	30.8	
Marijuana use (last 30 days)						
No	4.9	5.5	.42	17	20.5	.03
Yes	6.0	5.0		8	44.4	
Other drug use (last 30 days)						
No	4.9	5.3	.17	22	23.2	.14
Yes	8.0	5.4		3	50.0	

Note. HS = high school; GED = General Education Diploma.

3.7, $p = .04$). Men with high acculturation stress had higher anxiety than those with low acculturation stress (6.5 vs. 3.5, $p < .01$). More men who had used marijuana in the past month reported moderate to severe anxiety symptoms ($n = 8$, 44%) than did nonusers ($n = 17$, 21%, $p = .03$).

Discussion

This study is one of the first to describe the patterns of depression and anxiety in a sample of Latino day laborers. Men reported high rates of moderate to severe depression (39%) and anxiety (25%). Higher levels of depression and anxiety symptoms were associated with being single, homeless or living in temporary housing, experiencing discrimination, higher levels of acculturation stress, and marijuana use. While tobacco and unhealthy alcohol use were very common in this sample (39% and 66%, respectively), they were not associated with depression and anxiety. These findings build on prior literature and suggest that depression and anxiety are common among Latino day laborers and associated with stressful life experiences that are commonly experienced in this population.

In this recruited sample of Latino day laborers, both depression and anxiety were substantially higher than previously described in the general population of U.S. Latinos, of whom 27% report depression and 2-3% report generalized anxiety disorder (Hong, Walton, Tamaki, & Sabin, 2014; Priest & Denton, 2012; Wassertheil-Smoller et al., 2014). Consistent with prior literature, comorbidity between depression and anxiety was common in this sample (Gorman, 1996; Hirschfield, 2001). Although few studies have documented patterns of both depression and anxiety in day laborers, these findings align with previous

research reporting high levels of psychological distress, depression, and *desesperación* among Latino day laborers (Bacio et al., 2014; Negi, 2013; Organista, Ngo, et al., 2017). These findings are also comparable to the mental health outcomes observed in previous studies of Latino migrant farmworkers (Hovey & Magaña, 2000; Ramos et al., 2015; Sánchez, 2015).

Consistent with previous studies on Latino day laborers, very high rates of unhealthy alcohol use (66%) and cigarette smoking (39%) were identified, further highlighting substance use as an important health concern among Latino day laborers. Rates of unhealthy alcohol use were much higher than those described in the general U.S. population, including rates among U.S. Latinos, but were consistent with previous studies of Latino migrant workers and day laborers (Center for Behavioral Health Statistics and Quality [CBHSQ], Substance Abuse and Mental Health Services Administration [SAMHSA], U.S. Department of Health and Human Services [HHS], & Research Triangle Institute [RTI], 2015; Kissinger et al., 2008; Nelson et al., 2012; Organista & Kubo, 2005; Ornelas et al., 2016). Past-month rates of non-marijuana drug use were comparable to rates in the general U.S. population, but lower than those reported in a study of Latino day laborers in Baltimore, Maryland (CBHSQ, SAMHSA, HHS, & RTI, 2015; Negi et al., 2015).

Men in this study reported substantial experience with difficult living conditions, including low incomes, low levels of education, inadequate housing, and limited English proficiency. Consistent with the Minority Stress model, these conditions were compounded by several social stressors that were related to worse mental health (Meyer, 2003). More than half (62%) of the men had experienced discrimination, and those who reported discrimination had higher levels of anxiety than those who did not. Consistent

with prior studies showing an association between perceived discrimination and depression, men who reported experiencing discrimination by the police (33%) were significantly more likely to be depressed than those who had not (Finch et al., 2000; Hunte, King, Hicken, Lee, & Lewis, 2013). Those with high acculturation stress were also more likely to report higher levels of depression and anxiety than those with low acculturation stress, similar to findings from a previous study among Latino migrant farmworkers (Finch, Frank, & Vega, 2004).

Despite living in the United States for an average of 16 years, men in this study had very little social support, with half stating that they had only one person (or no one) to listen to them, help them, or otherwise offer social support in various settings. Being married or living with a partner may decrease social isolation and thus protect against poor mental health. However, most participants were living as single (74%), and those who were single or living as single were more depressed than those who were married or living with their partner. These findings were consistent with previous studies among day laborers documenting social isolation and limited social networks, and their association with poor mental and physical health (Negi, 2011; Organista, Ngo, et al., 2017; Steel et al., 2017).

Some limitations should be noted. First, given the cross-sectional design of the study, associations can be reported, but no causal inferences can be made. For example, it cannot be determined from these data whether unstable housing leads to more depressive symptoms or whether the two are associated for another reason. In some cases, men may have reported lower levels of substance use due to social desirability bias. Because the sample was small, the study may not have had the power to detect some smaller effects. Furthermore, recruitment from only one day labor worker center may limit the generalizability of the findings. Participation in the Vida PURA study was voluntary, and participants may have learned that the study was about alcohol use and chosen to enroll (or avoided enrollment) based on that knowledge, leading to potential selection bias.

Conclusions

While future research is needed in larger and more generalizable samples, overall, findings highlight the vulnerability of this population. Specifically, poor mental health outcomes were very common in this sample of Latino day laborers, and were associated with stressful life events that were commonly experienced. Researchers should focus on identifying causal relationships, as well as on the mechanisms via which social stressors may lead to poor mental health. For instance, it would be useful to determine at what point or at what levels acculturation stress and experiences of discrimination lead to poor mental

health outcomes, and if increased social support can ameliorate the impact of social stressors on poor mental health. Such studies can help identify targets and timing of interventions with this population. Latino day laborers may benefit from regular screening for common mental health conditions, as well as alcohol and tobacco use, in order to identify men who may need further assessment for mental health and/or substance use treatment. Addressing mental health among day laborers may also require increased access to stable housing and health care for this population. Health professionals and policy makers should consider the burden of Latino immigrants' stressors on their mental health and work to mitigate these stressors through programs and policies that protect day laborers.

Ethical Approval

All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

Informed Consent

Informed consent was obtained from all individual participants included in the study.

Declaration of Conflicting Interests

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