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Effects of COVID-19, Discrimination, and Social Support on Latinx Adult Mental Health

Mary Lehman Held[1] · **Jennifer M. First**[1] · **Melody Huslage**[1]

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Abstract
We investigated the role of COVID-19 exposure and discrimination on depressive and posttraumatic stress symptoms among Latinx adults residing in the southeastern United States. Survey data were collected from 264 Latinx adults. Using structural equation modeling (SEM) procedures, we estimated a structural model for hypothesized direct and indirect relationships between the risk factors of COVID-19 exposure and discrimination, social support, and two mental health conditions: depression and posttraumatic stress. COVID-19 exposure and discrimination each had a significant and positive relationship with both depression and posttraumatic stress. Social support was found to have a significant and inverse relationship with depression and posttraumatic stress, as well as to mediate the relationship between discrimination and both mental health symptoms. Implications for service provision and program design are presented. Future studies should examine variation between southeastern states and consider the influence of documentation status among an immigrant-only sample.

Keywords Latinx adult mental health · New destination southeastern states · COVID-19 · Discrimination · Social support

Introduction

Latinx adults in the United States (U.S.) have recently and disproportionately endured two acute stressors: COVID-19 exposure and discrimination, the latter of which has escalated in relation to recent anti-immigrant rhetoric and policies [1–4]. While research suggests that each of these stressors is correlated with poorer mental health among Latinx adults [5–9], we know little about these relationships in the southeastern region of the U.S. or the effects of discrimination during the exclusionary immigration policy context under the Trump administration [5, 10]. Studying these relationships in this region is critical, especially since the southeast has a growing Latinx population as well as some of the harshest proposed and enacted exclusionary immigration legislation nationwide [11, 12]. In response, the current study was designed to examine COVID-19 exposure and incidents of discrimination as risk factors for depression and posttraumatic stress disorder among Latinx adults in the southeastern U.S., in addition to the role of social support as a protective factor. While social support is a well-evidenced protective factor for mental health among Latinx adults [13–15], data are limited regarding how social support functions during the recent exclusionary policy context or the pandemic that restricted typical opportunities for social engagement. Findings are essential to informing service provision, policymaking, and future research.

Latinx Settlement in the Southeastern U.S.

Between 2010 and 2019, the southeastern U.S. experienced the highest rate of Latinx growth nationwide, with a 26% increase [16]. Historically, Latinx settlement patterns have occurred in states with well-established Latinx communities whose members possess social and human capital that can aid newly arrived immigrant and native-born Latinxs [17–19]. Patterns have shifted substantially since the 1990s, with more settlement occurring in southeastern states [20, 21]. Settling in a region without a long-standing history of Latinx communities presents multiple challenges. For one, newly arrived Latinxs have to navigate the new location with not only fewer informal supports (i.e., smaller co-ethnic communities) but also fewer formal supports. Health and social service providers, educators, and the general public

✉ Mary Lehman Held
mheld@utk.edu

[1] College of Social Work, University of Tennessee, TN, Knoxville, USA

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typically have less training and knowledge of Latinx cultures so may not adequately deliver culturally-tailored services [22, 23]. Compounding the lower levels of support is that the southeastern U.S. can have a discernable and hostile anti-immigrant context that escalates both political and social exclusion and discrimination [24–28].

The anti-immigrant exclusionary policy context is pronounced throughout much of the southeast. For example, heightened anti-immigrant actions in southern states have been visible through local law enforcement agencies entering into agreements with U.S. Immigration and Customs Enforcement (ICE) to permit arrest and detention of undocumented immigrants by local officers [25, 26, 28]. In addition, the two largest ICE raids in nearly ten years occurred under the Trump administration in Tennessee and Mississippi, with more than 700 immigrants being detained across the two states [25, 28]. Southeastern states also overwhelming prohibit undocumented immigrants from obtaining a driver's license or attending college with in-state tuition [29, 30]. Exclusionary policies are harmful for both immigrant and non-immigrant Latinxs. Enforcement activity escalates fear among undocumented immigrants, in addition to their family and community members who continually fear for their safety [26, 31–36].

COVID-19 Exposure Stress

For more than a year, the pandemic has raised concerns regarding mental health status for Latinx adults due to disparate rates of exposure to and detrimental impacts of the virus. Latinx communities are at elevated risk of contracting COVID-19 when compared to other racial/ethnic groups [3, 37]. Employment has been one key factor escalating risk of contraction. For example, Latinx adults who are at high risk of a severe illness have been found more likely (64.5%) to live in a household with a member who must work outside of the home than non-Latinx White (46.6%) or Black (56.5%) adults [38]. Latinx immigrants, and especially those with undocumented status, also carry greater employment-related risks. This group has been found to work in essential jobs, such as food security and critical infrastructure, at a higher rate (74%) than either the general immigrant population (69%) or U.S.-born workers (65%) and therefore, is at greater risk of contracting COVID-19 through their jobs [39]. These types of jobs forced Latinx adults to remain in person at work, even at the height of virus transmission. Despite these higher risks of transmission, access barriers to testing and treatment have been substantial among Latinx communities.

Latinx families, and especially those who have an undocumented member, have faced poorer access to testing and treatment for COVID-19 [40]. The majority of undocumented immigrants have no ability to obtain health insurance so forego care even when needs arise [41, 42]. In addition, all members of a household can be detrimentally affected, even when only one member has undocumented status. One way in which other members are affected is that the whole household faces health risks if an undocumented member contracts the virus but is unaware due to barriers associated with testing. Further, due to the persistent fear associated with immigration enforcement, individuals who have an undocumented household member often avoid utilizing any medical services in order to reduce risk of exposing their loved one to immigration enforcement [43, 44]. Risks associated with contraction and health access barriers are likely to yield substantial stress among Latinx adults. Such stress might be compounded by the prevalent economic repercussions also faced by this community [4, 40, 45].

Latinx adults were affected by pandemic-related loss of employment to a higher degree (8.6%) than non-Latinx White adults (5.7%) [4]. A contributing factor was a nationwide reduction in spending in industries, such as restaurants, hotels, grounds cleaning/maintenance, and hospitality, in which Latinx workers are overrepresented [46–48]. This finding is particularly concerning in light of poverty rates among Latinx families (17.2%) compared to non-Latinx White families (9.0%) and the general population (12.3%) [49]. The impact of unemployment might be even more severe for undocumented immigrants who generally lack access to public safety nets available to documented immigrants and citizens [50, 51].

Stress associated with the pandemic has placed substantial burden on Latinx communities in general [9, 52–54], and possibly even more so in the southeastern U.S. where exclusionary immigration policies place compounding stressors and barriers on daily life. These stressors have possibly been exacerbated in the recent sociopolitical context by elevated rates of discrimination.

Discrimination

While discrimination is not a new experience among Latinx adults [55–57], incidents have escalated under recent anti-immigrant policies and sentiments that specifically target Latinx communities [5, 36, 58, 59]. In 2019, an estimated 38% of Latinx adults reported experiences of discrimination, such as negative comments about their use of Spanish in public and being told to return to their own countries [1]. More specifically, research with 803 Latinx adults found that 78% believe discrimination against their race/ethnicity is present in the U.S., 37% had experienced racial slurs and 33% microaggressions [60]. Other experiences of discrimination include those occurring when applying for jobs (33%), during police interactions (27%), and when trying to

rent or buy housing (31%). Discrimination against Latinxs is also evident to the general U.S. population, 76% of whom believe that Latinxs experience some or a lot of discrimination [61].

Discrimination has also been visible in the public political arena through comments made by former President Trump such as "build the wall" and referring to Mexican immigrants as "not our friends" and people who are "bringing drugs" [62, 63]. In addition, exclusionary federal policies send an unwelcoming message to Latinx communities [6, 64, 65]. Thus, Latinx adults have dealt with multiple forms of discrimination, which is a unique risk factor for poorer mental health status [8, 66]. Stress associated with discrimination might be even greater in the southeastern U.S., which has particularly severe immigration policies [11]. In addition, when mental health concerns do arise, Latinx adults encounter substantial barriers, such as cost, lack of health insurance, lack of transportation, and fear of immigration enforcement, to receiving adequate treatment [67–72]. In response, the role of social support might be a critical factor for buffering the harmful effects of stress on mental health for this community.

Social Support

A robust body of research underscores the benefits of social support as a protective factor for mental health, as well as a buffer for the effects of stress on mental health symptoms, among Latinx adults [15, 73–75]. Because the research is heavily rooted outside of the southeastern U.S. or includes only select southeastern locations, the role of social support is less understood in new southeastern destinations that lack large, established co-ethnic communities. Relative to traditional settlement areas, new destinations have small Latinx communities with higher proportions of newer immigrants, resulting in increased stress associated with lower rates of English proficiency, historical knowledge of local contexts and resources, and community integration [17, 20, 76]. In these contexts, Latinx adults contend with both federal and local exclusionary policies that can yield elevated exposure to discrimination and pandemic-related stress, while simultaneously inhibiting access to formal services [26].

In addition to the limited data regarding social support in southeastern states, we lack knowledge of how social support functions during a pandemic. As businesses closed and social distancing guidelines were put in place, traditional forms of engagement were severely restricted across the nation. In response, individuals turned to video technology and social media as a means of staying connected [77, 78]. Yet, access to this technology is not equitable. Immigrant communities might have less access to devices and/or consistent internet connectivity, impacting their ability to connect with their social networks [79]. Gaining insight into the role of social support as a protective factor for mental health in the context of COVID-19 and discrimination in an exclusionary policy environment such as the southeast is an urgent need to informing the literature, as well as practice and policymaking.

Theoretical Framework

The current study is informed by a risk and resilience framework. Mental health is influenced by multiple factors, including those that hinder (risks) or promote (protectors) positive outcomes [80, 81]. Risk factors entail characteristics or events that worsen one's likelihood of positive mental health status, while protective factors promote resilience to increase likelihood of positive outcomes and to mitigate the detrimental role of risk factors on mental health symptoms [82, 83]. Among Latinx adults, COVID-19 exposure-related stress and discrimination have served as risk factors for mental health symptoms, while social support is often a protective factor itself and as a buffer to the effects of stress [15, 52, 66]. Applying this framework, the current study aims to assess these specific risk and protective factors among Latinx adults in the southeastern U.S.

Current Study

In the following study we investigate (1) the impacts of COVID-19 exposure and discrimination on mental health outcomes for Latinx adults in the southeast, and (2) the indirect effect of social support on the relationship between discrimination and mental health outcomes among Latinx adults in the southeast. The following hypotheses were tested in the current study (see Fig. 1):

H1: More exposure to COVID-19 will be associated with higher levels of posttraumatic stress (PTS) and depressive symptoms.
H2: More exposure to discrimination will be associated with higher levels of PTS and depressive symptoms.
H3: Social support will (a) have an inverse relationship with PTS and depression, and (b) will mediate the relationship between discrimination exposure and PTS and depressive symptoms, so that individuals with higher levels of social support will be associated with lower levels of PTS and depression symptoms via the indirect pathway of social support.

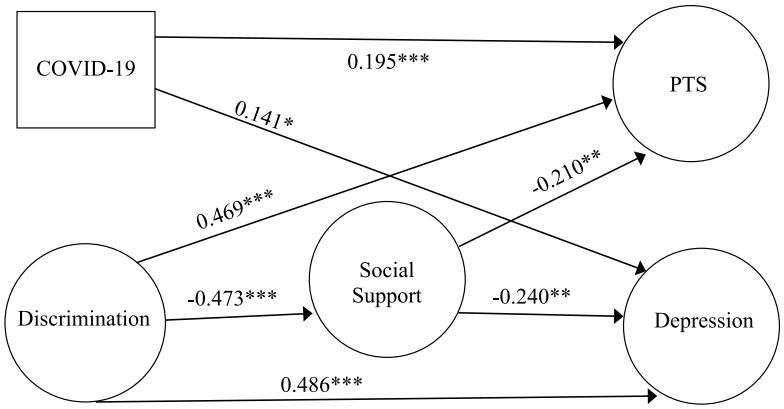

Fig. 1 Diagram of hypothesized structural model

Note: Model Fit statistics: $\chi 2(658) = 1107.306$, $p < .01$, CFI= .91, TLI = 0.91, RMSEA=0.05, SRMR= 0.05. *p <.05, **p<.01, ***p<.001.

Methods

Participants and Procedures

Data collection procedures were approved by the University of Tennessee, Knoxville Institutional Review Board (IRB). The study sample included 264 adults (18 years or older) living in the southeastern U.S. Data were collected during February 2021, approximately one year into the COVID-19 pandemic. Participants were recruited via a Qualtrics Panel aggregator system which recruits participation from a pool of U.S. adults who have volunteered to be in online research via the company. This approach was employed to contend with heightened fear associated with exclusionary immigration policies in many southeastern states. Research team members consulted with relevant stakeholders, such as providers, before employing this recruitment strategy. Stakeholders pointed to not only fear but also the risk of over-taxing Latinx communities through research requests while adults are navigating the pandemic stress and, for many, their children learning from home. To participate in the study, individuals were required to be 18 years or older and identify as Hispanic, Latino/a, or Latinx with family origins in Latin America. Potential respondents were sent an email invitation with a secure URL from Qualtrics to access the survey and review the study's purpose. Participants first read a consent form and were required to provide their consent to participate in the study by selecting an "I agree to participate" button. All study materials were available in both English and Spanish. Participants were compensated for their time through Qualtrics incentive program, which includes prize drawings and accumulated rewards for participants.

Measures

Exogenous Variables

Two exogenous variables that were not influenced by other variables within the hypothesized structural model were included in this study: COVID-19 exposure and discrimination.

COVID-19 Exposure

A set of six dichotomous (yes/no) items were used to assess exposure to COVID-19, including whether (1) the participant has had COVID-19; (2) someone in their family or household has had COVID-19; (3) someone they know has been hospitalized with the virus; (4) whether someone they know has died from the virus; (5) whether the participant lost a job or had reduced income due to COVID-19, and (6) if they encountered stress related to COVID-19. These items were summed (0 indicated no; 1 indicated yes) to create an observed variable for COVID-19 exposure.

Discrimination

The nine-item Everyday Discrimination Scale was included to measure participation perceptions of discrimination. Response options include frequency of discrimination-related incidents on a six-point Likert scale (0 = Never; 5 = Almost every day) and were summed to create an overall score of discrimination. This measure has good psychometric properties in English and Spanish with Latinx adults [84–86].

Endogenous Variables

Endogenous variables are influenced by other variables in the model and included social support, depression, and posttraumatic stress symptoms.

Social Support

Social support was assessed using the 12-item Interpersonal Support Evaluation List (ISEL), which has been found to have good reliability and validity in English and Spanish with Latinx adults [87–89]. Questions assess three dimensions of social support on a four-point Likert scale (Definitely True; Definitely False): appraisal support, belonging support, and tangible support [87]. For descriptive analysis, six items were reverse scored before computing a summed measure of social support.

Depression

The Patient Health Questionnaire-9 (PHQ-9) was used to assess depressive symptoms. Nine questions related to depressive symptoms are answered on a four-point frequency-based Likert scale (0 = Not at All; 3 = Nearly Every Day). The score is summed to provide a measure of depressive symptoms. The PHQ-9 has good psychometric properties for Latinx adults in both English and Spanish [90, 91].

Posttraumatic Stress

To assess posttraumatic stress symptoms, the 17-item posttraumatic stress disorder (PTSD) Checklist – Civilian Version (PCL-C) was included. This measure has good psychometric properties in both English and Spanish [92, 93]. Response options are on a five-point Likert scale (1 = Not at All; 5 = Extremely) and are summed for the final score.

Demographic Variables

Demographic measures included sex, age, whether an immigrant (0 = US-born; 1 = immigrant), and country of origin (for immigrant participants).

Survey Translation

Each of the following measures was available in Spanish: Daily Discrimination Scale, ISEL-12, PHQ-9, and PCL-C [89, 93–95]. The COVID-19 exposure measure and demographic variables underwent a translation-back translation process [96, 97], then were piloted by two native Spanish speakers.

Data Analysis

Demographic characteristics of respondents were analyzed with SPSS version 27 [98] using univariate methods including means, standard deviations, frequencies, and percentages as appropriate. To examine the direct and indirect relationships between COVID-19 exposure, discrimination, social support, and mental health outcomes, we used structural equation modeling (SEM) using R statistical software and packages [99]. Using a two-step procedure recommended by Kline (2016), we first tested a measurement model to establish that the latent variables (e.g., discrimination, social support, PTS, and depression) were well explained by the indicators [100]. Next, we estimated a structural model for hypothesized direct and indirect relationships between COVID-19 exposure, discrimination, and social support with the outcome variables post-traumatic stress and depression symptoms. The indirect effects were tested by inspecting the 95% confidence interval of 1,000 bootstrapped resamples of the product of coefficients to ensure the confidence intervals do not include zero, and therefore the effect is considered statistically significant [101].

We set the scale to the fixed factor method which fixes the latent variance to one (e.g., $\psi = 1.0$) to obtain standardized, unit-free estimates that reflect the indicator reliabilities and we used a robust maximum likelihood estimation to ensure multivariate normality. The measurement and structural models were estimated using full information maximum likelihood (FIML) estimation to reduce missing data bias. The measurement and structural models were evaluated with Little's (2013) guidelines for goodness of fit indices, including root mean square error of approximation (RMSEA; values of 0.08 or less indicate adequate fit), standardized root mean square residual (SRMR; values of 0.08 or less indicate adequate fit), Tucker–Lewis index (TLI; which should be equal to, or greater than, 0.90), and comparative fit index (CFI; which should be equal to, or greater than, 0.90) [102]. In addition, the standardized residuals and modification indices were inspected for outliers and high values in both models [100].

Results

Just over half (56.4%) of the sample was female, 40.3% were immigrants, and the mean age was 32.75 (SD = 13.66). Under half (40.3%) were immigrants, with just over half (51.9%) of immigrant participants originating from Mexico. Of participants who were immigrants, the mean number of years in the U.S. was 16.75 (SD = 9.43). In terms

of language, 45.1% of participants completed the survey in Spanish. The mean score for COVID-19 exposure was 2.91 (SD = 0.92) and for discrimination was 25.38 (SD = 10.77). For COVID-19 exposure, 25.8% of respondents reported having COVID-19 at some point, 42% had a family/household member positive, 51.5% knew someone who was hospitalized, 41.3% knew someone who had died, 43.2% had lost a job due to COVID-19, and 68.9% reporting stress related to COVID-19. In terms of social support, the mean score was 17.99 (SD = 5.88). Approximately half (50.8%) of participants met diagnostic criteria for depression, with 49.2% meeting criteria for PTSD. See Table 1 for full descriptive findings.

We used structural equation modeling (SEM) to investigate hypothesized pathways between (1) the direct effects of COVID-19 exposure and discrimination on Latinx participants' mental health outcomes, and (2) the indirect effect of social support on the relationship between discrimination and Latinx participants' mental health outcomes. Our initial SEM measurement model converged; however, it revealed unacceptable levels of fit (i.e., both CFI and TLI were less than 0.90) due to a high number of indicators (12 items) for the social support latent variable. To remedy this problem, the 12 items were then parceled or subdivided into three approximately equal-sized domain parcels to ensure a similar spread of item-total correlations' size [102]. The three social support parcels showed acceptable to high factor loadings (0.76 – 0.80) on the latent variable, indicating they represented the latent variable well. After parceling the 12 social support indicators into three domain parcels, the measurement model exhibited acceptable fit with the data and the model fit statistics were: $\chi^2(623) = 1032.100$, $p < 0.01$; CFI = 0.92; TLI = 0.92; RMSEA = 0.05; SRMR = 0.05. After establishing the measurement model, we estimated the structural relationships between the observed and latent variables. The structural model achieved acceptable fit; model fit statistics included: $\chi 2(658) = 1107.306$, $p < 0.01$, CFI = 0.91, TLI = 0.91, RMSEA = 0.05, SRMR = 0.05, and allowed for the testing of our hypotheses (see Table 2).

Our first hypothesis (H1) predicted that COVID-19 exposure would have a significant positive relationship with depression and PTS. H1 was supported, as we found COVID-19 exposure had a significant and positive relationship between PTS ($\beta = 0.195$, $p < 0.001$) and depressive symptoms ($\beta = 0.141$, $p < 0.05$).

Next, our second hypothesis (H2) predicted that more discrimination would predict more PTS and depressive symptoms. H2 was confirmed, as discrimination had a significant and positive relationship with PTS ($\beta = .469$, $p < 0.001$) and depressive symptoms ($\beta = 0.486$, $p < 0.001$).

Our third hypothesis, H3a predicted that social support would have a significant and inverse relationship to PTS and depressive symptoms. H3a was confirmed. Social support was found to have a significant and inverse relationship with PTS ($\beta = -0.210$, $p < 0.001$) and depressive symptoms ($\beta = -0.240$, $p < 0.001$). In addition, H3b predicated social support would further mediate the effects of discrimination on PTS and depressive symptoms. H3b was confirmed as results found social support further mediated the relationship between discrimination and the mental health outcomes of PTS ($\beta = 0.128$, $p < 0.01$, [CI 95%: 0.040, 0.249]) and depressive symptoms ($\beta = 0.150$, $p < 0.01$, [CI 95%: 0.063, 0.259]) based on the 95% confidence interval from 1,000 bootstrapped resamples.

Discussion and Implications

Findings extend the current body of literature by examining COVID-19 exposure, discrimination, and social support among Latinx adults in the southeastern region of the U.S. in an exclusionary policy context and during a pandemic. Southern states have experienced rapid growth and shifting demographics as a result of Latinx settlement [21, 103–105]. In line with literature not specific to the southeastern U.S. [9, 53] and as hypothesized, higher rates of exposure to COVID-19 correlated with more post-traumatic stress and depressive symptoms. This relationship is particularly concerning, given that Latinx adults have faced elevated risk of exposure [39, 106].

Again, reflective of non-southeastern studies [8, 66], experiencing a higher level of discrimination predicted post-traumatic stress and depressive symptoms. Considering that 40% of Latinx individuals reported in a 2018 study that they had experienced discrimination during the past year [107], concerns related to the effects of discrimination on mental health are profound. Results also indicate that social support was significantly and inversely related to both posttraumatic stress and depressive symptoms, which is also reflective of previous literature with Latinx adults [74, 75]. This current finding is notable since data were specifically evaluating the role of social support during not only an exclusionary policy context but also the pandemic, which placed limitations on traditional forms of engagement.

Limitations

Several limitations should be noted. The findings from this study are based on an online survey that was only provided in English and Spanish so that Latinx adults who speak a non-Spanish indigenous language were not included. Latinx immigrants without Spanish or English language competence represent a highly vulnerable population that faces unique stressors and barriers, which likely extend to COVID-19 and discrimination, that were not captured in

Table 1 Descriptive data

Variable	n	M	%	SD
Gender				
Female	149		56.4	
Male	105		39.8	
Transgender	7		2.7	
Prefer to self-describe	3		1.1	
Genderfluid	1		0.3	
Age		32.75		13.66
Immigrant	106		40.3	
Mexico	54		51.9	
Guatemala	7		6.7	
Honduras	17		16.3	
El Salvador	20		19.2	
Nicaragua	6		5.8	
Years in US		16.75		9.43
Survey language				
English	145		54.9	
Spanish	119		45.1	
Exposure to COVID-19				
I have or had COVID-19 (yes)	68		25.8	
Family/household member tested positive (yes)	111		42.0	
Know someone hospitalized (yes)	136		51.5	
Know someone who died (yes)	109		41.3	
Lost job or had reduced income (yes)	114		43.2	
Experienced stress related to COVID-19 (yes)	182		68.9	
COVID-19 exposure (summed score)		2.91		0.92
Discrimination		25.38		10.77
Social Support		17.99		5.88
Education				
Grade school	8		3.0	
Some high school	27		10.3	
High school/GED	57		21.7	
Some college, but no degree	68		25.9	
Associate degree	31		11.8	
Bachelor's degree	56		21.3	
Advanced degree	16		6.1	
Employment				
Full-time	98		37.1	
Part-time	47		17.8	
Unemployed	40		15.2	
Self-employed	20		7.6	
Home-maker	22		8.3	
Student	25		9.5	
Retired	12		4.5	
Annual Household Income				
Less than $15,000	53		20.1	
$15,000–$29,999	49		18.6	
$30,000–$44,999	48		18.2	
$45,000–$59,999	37		14.0	
$60,000–$74,999	31		11.7	
$75,000–$104,999	22		8.3	
$105,000 or more	24		9.1	

Table 1 (continued)

Variable	n	M	%	SD
PHQ-9 Score		9.88		6.85
Met diagnostic criteria	126		50.8	
PCL-C Score		40.65		17.76
Met diagnostic criteria	122		49.2	

Table 2 Structural model: regression paths (Direct effects)

Regression Paths	Unstandardized Estimate	Standard Error	Standard Estimate
Social Support ($R^2 = 0.22$)			
Discrimination	− 0.537	0.082	− 0.473***
Posttraumatic Stress ($R^2 = 0.40$)			
COVID-19 Stress	0.151	0.042	0.195***
Discrimination	0.604	0.131	0.469***
Social Support	− 0.238	0.081	− 0.210**
Depression ($R^2 = 0.43$)			
COVID-19 Stress	0.112	0.047	0.141*
Discrimination	0.641	0.138	0.486***
S ocial Support	− 0.273	0.086	− 0.240**

Model Fit statistics: $\chi 2(658) = 1107.306$, $p < .01$, CFI = .91, TLI = 0.91, RMSEA = 0.05, SRMR = 0.05.
*$p < .05$, **$p < .01$, ***$p < .001$

this study [108, 109]. Additionally, participants consisted of individuals who had opted into an incentivized program offered through Qualtrics and results may not be generalizable to the larger population of Latinx individuals in the southeastern U.S.

Some notable differences exist between our sample and the general Latinx and Mexican population. A higher percentage of the study sample (40.3%) indicated being an immigrant than either the general U.S. Latinx (33%) or Mexican (31%) population. Over half (54.9%) of the sample responded to the survey in English, so that at least this percentage of participants is English proficient. Among the general U.S. Latinx adult population, 64% reported being proficient in English in 2017 [110]. The study sample was also older (M = 32.7) and had a lower percentage with bachelor's degrees (21.3%) than the general Latinx (M = 29; 33% have a bachelor's degree) or Mexican (M = 27; 31% have a bachelor's degree) population. Though current demographic data on Central Americans was not identified, findings from 2011 and 2013 suggest that Central Americans are more likely to be immigrants but less likely to have a bachelor's degree than Mexicans [16, 111–113]. The sample was also connected to and proficient with use of an online survey. A community-based sample would potentially have included participants without internet access and skills, as well as a less educated and younger population, which may have resulted in different experiences related to both discrimination and COVID-19. We did not inquire about documentation status so cannot speak to experiences related to discrimination or the pandemic by status. Finally, this study was cross-sectional in design and therefore the collected data precludes causal claims of temporal order [114]. Future studies could improve upon these limitations by including community-based recruitment strategies, qualitative data, and longitudinal quantitative data. Despite these limitations, findings yield implications for service provision and policy.

Implications for Direct Service Provision

Stress associated with COVID-19 and discrimination contribute to higher symptoms of depression and posttraumatic stress among Latinx communities. Mental health providers must be educated on these relationships, as well as the elevated rates of exposure to COVID-19 and discrimination experienced by Latinxs in recent years [1, 39, 106, 107]. Insight into these issues can aid in providers' knowledge and understanding of factors that contribute to mental health needs among Latinx clients. Mental health intake assessments can include questions related to COVID-19 exposure, discrimination, and social support to assess three meaningful factors that relate to posttraumatic stress and depressive symptoms. This information is vital to informing interventions that are responsive to the cultural needs of Latinx clients [115, 116]. Further, when exposure to COVID-19 and/

or discrimination are detected, assessment of related stress and mental health symptomology is essential to recognizing the full scope of a client's needs and to developing an effective treatment plan.

Social support serves an essential role in Latinx communities, and perhaps even more so among immigrants and during times of hardship [15, 117]. Providers should assess for initial and changing needs related to social support among Latinx adults and incorporate goals related to strengthening social support in treatment plans when appropriate [118, 119]. As a component of this assessment, providers must recognize the unique needs of Latinx, and especially immigrant, clients. Latinx immigrants might have particular stress and limitations associated with in-person connections. In addition to constraints placed by the pandemic, immigrants and their US-born children often live in transnational family contexts that necessitate technologies for meaningful connection [120, 121]. Yet, immigrant families also face substantial disparities in regard to technology access, including barriers to owning smartphones and tablets and having internet access at home [79]. Latinxs, and especially immigrants, may also face more challenges related to use of technology when it is available. Latinxs have been found to have reduced digital literacy when compared to non-Latinx whites, with digital literacy being lowest among Latinxs who are immigrants [79, 122].

Providers can strengthen assessments of social support by inquiring about access to technology devices and internet service among clients who rely on virtual platforms for connecting with others. When unmet digital needs are detected, referrals to low-cost internet services or local organizations (nonprofits or libraries) where technology education and web-based computer access are provided at low-cost or free can be a valuable way of fostering the important resource of social support.

Implications for Policy

Findings highlight the detrimental effects of COVID-19 exposure and discrimination while living in an exclusionary policy context. While exclusionary policies most directly impact immigrants, and especially those with undocumented status, these policies can also be harmful to U.S.-born and documented immigrant family members who carry persistent concern for their loved ones [36, 64, 72]. Multiple policies exist to limit health care and public benefit access by both documented and undocumented immigrants. For example, the Personal Responsibility and Work Opportunity Reconciliation Act was signed into law in 1997 and denies welfare benefits to most legal immigrants during their first five years of U.S. residence. Further, even when services are available, fear associated with exclusionary immigration policies can prohibit undocumented immigrants and their non-immigrant family members from utilizing services [22, 44, 123, 124].

Policies related to transportation present an additional barrier to service access. While 17 U.S. states permit undocumented immigrants to obtain a driver's license, no southeastern states extend this benefit [29]. Therefore, driving to an appointment for COVID testing or health care is threatening, as even a minor traffic accident caused by another party places undocumented immigrants at risk of detection and deportation. A part of maintaining individual, family, and public safety with COVID-19 or any illness is access to testing and treatment. Inability to seek services might elevate stress associated with COVID-19, as well as other medical concerns, furthering mental health symptoms. Policymakers must consider immigration legislation that reduces health access barriers, including the extreme fear of deportation that impedes utilization of medical and mental health services among Latinx immigrants and their family members [72, 125]. Implementing policies that protect immigrant and non-immigrant Latinxs when seeking needed care could potentially aid in reducing mental health symptomatology that is broadly harmful to individuals and families.

Exclusionary immigration policies have also been associated with more experiences of discrimination among both immigrant and U.S. born Latinx individuals [5, 65, 126]. In line with previous research, current study findings reflect the deleterious effects that discrimination can have on Latinx adult mental health [8, 66]. Policies and programs that decriminalize immigration associated with fleeing from violence and poverty and that facilitate the ability to seek asylum, citizenship, and other forms of legal status could aid in reducing institutional discrimination associated with anti-immigrant rhetoric and sentiments. For example, extending programs such as Deferred Action for Childhood Arrivals (DACA) and the Deferred Action for Parents of Americans (DAPA) [127, 128] to offer clear, navigable paths toward citizenship would aid in de-criminalization and de-stigmatization of activities, such as driving, getting health insurance, and attending college with in-state tuition, that can be essential to promoting well-being.

Current immigration policies also facilitate temporary and permanent family separation through active enforcement strategies that fail to consider the effects of detention and deportation on parent–child dyads or other family members [31, 32, 129, 130]. Further, stringent policies prohibit loved ones in home countries from being able to easily visit Latinx family members in the U.S., compounding strains on social support and meaningful connections. A recently proposed bipartisan bill would create a new type of visa allowing relatives of U.S. citizens and those with green cards to visit for up to 90 days [131]. It is critical that professionals working with immigrant populations remain informed and advocate for legislation that could

play an essential role in improving the lives and mental health of immigrant and native-born Latinxs.

Social service organizations and providers are well positioned to engage in advocacy on behalf of Latinx communities. By initiating advocacy opportunities within their own communities or joining existing efforts, providers and organizational leaders can raise awareness of unjust policies and their effects of Latinx communities. In addition to larger advocacy efforts, social service organization leaders have a meaningful opportunity to establish anti-racism and non-discriminatory practices within their own agencies to foster safe environments for Latinx clients seeking services. Hiring of culturally and linguistically competent providers, provision of affordable services, and ensuring a safe space for undocumented immigrants and their family members to seek services are vital strategies to addressing the detrimental effects of COVID-19 and discrimination on mental health outcomes [132].

In regard to social support and the inaccessibility of the internet and virtual connection devices, policies must consider how to strengthen digital access for vulnerable individuals, such immigrants [79]. Formal and informal connections via virtual platforms have surged in recent history [77]. Whether talking with friends, joining religious activities, or attending work/school functions, video-based meetings and gatherings are fundamental to many aspects of daily life. In addition to advocating for local and federal policies, nonprofit organizations could consider strategies to support digital inclusion by making computers, tablets, and free internet access available to the communities they serve.

Conclusion

Latinx community members have endured disproportionate effects of COVID-19 and discrimination. Though a robust body of literature has found these stressors to correlate with mental health symptoms, research is overwhelmingly lacking in the southeastern region of the U.S. Findings from this study suggest that Latinx adults endure elevated depressive and trauma symptoms associated with exposure to COVID-19 and to discrimination; social support might help to buffer this relationship. Findings inform effective program design and service provision strategies for a vulnerable community that encounters barriers to mental health treatment. Future studies should examine variation between southeastern states and among immigrants by documentation status.

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Declarations

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