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Mental health among rural Latino immigrants during the COVID-19 pandemic

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ABSTRACT

The mental health of the United States' Latino population significantly deteriorated during the SARS-CoV-2 (COVID-19) pandemic, and Latino immigrants living in rural areas faced unique vulnerabilities. However, few studies have specifically examined the mental health burden and experiences of rural Latino immigrants during the COVID pandemic. To understand the mental health experiences of first- and second-generation Latinos in rural areas, we conducted semi-structured interviews with 35 Latino residents of rural California counties during July 2020-February 2021 and screened all respondents for major depression and generalized anxiety symptoms using the Patient Health Questionnaire [PHQ]-2 and Generalized Anxiety Disorder [GAD]-2 screeners. We explored the prevalence of symptoms of depression and anxiety in our sample, iteratively analyzed participants' narratives regarding the mental health impact of the pandemic, and used their mental health screener status to contextualize these narratives. Results indicated that nearly all respondents viewed mental health as a major concern, and 34% (n = 12) of respondents screened positive for major depression or generalized anxiety disorder. Respondents connected their mental health concerns to experiences of financial precarity, fear of contracting COVID-19, social isolation, and the challenges of remote schooling. Additional themes emerged around problems accessing the mental health care system, the utility of pre-pandemic mental health services, and using healthy coping mechanisms to alleviate psychological problems. Respondents' narratives tended to focus on the mental health challenges facing their family members, particularly their children. Our findings suggest that mental health intervention models that engage with multiple family members, policies that support infrastructure for encouraging exercise and outdoor activity, and ensuring access to culturally and linguistically appropriate mental health care for Latino communities may be important for protecting population mental health.

1. Introduction

The mental health of the United States' (U.S.) Latino population significantly deteriorated during the SARS-CoV-2 (COVID-19) pandemic. In spring and summer of 2020, Latino individuals reported the sharpest increases in psychological distress (Ettman et al., 2020; McGinty et al., 2020b) and the highest rates of anxiety, depression, and suicidality (Czeisler et al., 2020) of any racial/ethnic group. Declines in the mental health of Latinos unfolded in the context of long-standing social, economic, and immigration-related inequities that have placed Latino populations in a position of structural vulnerability (Quesada et al., 2011). These pre-existing inequities have contributed to Latino individuals having disproportionately low incomes and limited financial assets since they were more likely to be essential workers and have low levels of education (National Research Council, 2006; U.S. Department of Health and Human Services Office of Minority Health, 2021) — all of which exacerbated risk for mental health problems (Czeisler et al., 2020; Ettman et al., 2020; McGinty et al., 2020a, 2020b).

In the U.S., Latino communities have been among those hardest-hit by the COVID-19 pandemic. Rates of hospitalization and death from COVID-19 were approximately three times higher among Latino individuals compared to non-Latino (NL) White individuals (Bassett et al., 2020; Centers for Disease Control and Prevention, 2021); and life expectancy overall and before age 65 declined far more among Latinos compared to

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non-Latino Whites between 2019 and 2021 (Andrasfay and Goldman, 2021; Bassett et al., 2020; Schwandt et al., 2022). In California, where nearly 40% of the population is Latino, Latino individuals have been over-represented with respect to their likelihood of living in high-exposure-risk households and their cumulative case rates (Reitsma et al., 2021).

At the outset of the pandemic, Latino immigrant families living in rural areas were uniquely vulnerable, as pre-pandemic inequities for all Latinos were compounded by legal status exclusions from pandemic resources and limited safety nets in rural areas (Young et al., 2022; Payán, Perez-Lua, Goldman-Mellor, & Young, 2022; Lundberg et al., 2022; Moyce et al., 2021). The disproportionate impact of the COVID-19 pandemic on Latino immigrants can be understood within the context of their structural vulnerability. A structural vulnerability lens focuses attention to the societal structures – not solely individual behaviors or characteristics – that place individuals at risk of poor health (Team and Manderson, 2020; Quesada et al., 2011). For example, undocumented Latino immigrants contend with discriminatory contexts and labor exploitation because of their marginalized position with respect to social and economic power (Holmes, 2011; Organista et al., 2013). In the context of the COVID-19 pandemic, Latino immigrants in rural communities contended with "mutually reinforcing insults" (Quesada et al., 2011) that may have influenced their mental health.

Federal and state policies have long excluded immigrants from many public benefits (including Medicaid and unemployment insurance) based on legal status, producing barriers for immigrant families to access health resources (Torres and Young, 2016). After the onset of the COVID-19 pandemic, immigrants and US citizens in mixed-status families were additionally prevented from accessing many federal- and state-sponsored pandemic relief measures because of legal status restrictions (Broder et al., 2021; Fox, 2016; Lahr et al., 2021; Mueller et al., 2021). Other structural barriers, such as economic inequality, barriers to healthcare services, medical mistrust, and perceived discrimination, have been central concerns among systemically marginalized and immigrant Latino communities coping with the pandemic (Garcini et al., 2021a, 2021b; López-Cevallos et al., 2014). These legal status and related exclusions have unfolded with the unique characteristics of rural residence — including underfunded and limited health and social services infrastructure, limited employment options, poor broadband access, and long travel times to goods and services — and may have significantly affected their psychological experience of the pandemic (Young et al., 2022; Payán, Perez-Lua, Goldman-Mellor, & Young, 2022; Garcini et al., 2021b; Moyce et al., 2021; Rodriguez et al., 2020).

Further, a structural vulnerability lens highlights how inequities shaped by legal status and rural location likely reproduced themselves in the pandemic context to exacerbate Latino immigrants' access to mental health services (Cook et al., 2017; Thomeer et al., 2022; Yang et al., 2020). For example, although there was an expansion in the availability of tele-mental health services during the pandemic that could have theoretically helped to address the demand for mental health services, rural Latino populations' disproportionate lack of health insurance due to long-standing legal status exclusions, inconsistent broadband and computer access that have resulted from a history of underinvestment in rural communities, and language barriers and distrust of medical systems may have hindered their ability to benefit from the expansion (Curtis et al., 2022; Harkness et al., 2020; Moyce et al., 2022).

Despite the vulnerabilities experienced by immigrants and rural residents during the pandemic and the observed population-level mental health decline in Latino individuals overall, few studies have specifically examined the mental health burden and experiences of rural Latino immigrants during the COVID pandemic. Even prior to the pandemic, >90% of existing studies on mental health among Latino immigrants were conducted in urban settings (Garcini et al., 2021a). Epidemiologic studies of this historically marginalized subpopulation are challenging due to sampling barriers, the sensitive nature of immigration-related questions, and the reluctance of some immigrants to participate in surveys (Ornelas et al., 2021). While quantitative studies can illustrate broad population patterns, in-depth qualitative data are needed to understand the nuances of daily lived experience and people's interpretations of their own realities.

In this study, we used semi-structured interview data collected from July 2020-February 2021, the early phases of the pandemic, to understand the mental health experiences of first- and second-generation Latinos in the context of their exclusion from safety net programs and residence in a rural community during the pandemic. We also explored how these individuals discussed mental health in the context of how they responded to psychological symptom screeners frequently employed in population epidemiologic surveys. In-depth qualitative data can serve to inform epidemiological data collection tools by describing mental health within the context of intersecting structural inequities, ensuring their relevance and applicability to racial/ethnic sub-populations and rural communities and conditions. Examining these topics is important for understanding the burden of mental health problems in this structurally vulnerable population, identifying barriers to care and sources of resilience, and addressing mental health disparities.

2. Methods

This analysis is part of a parent study that collected in-depth, semi-structured interviews from July 2020-February 2021 on the health and financial vulnerabilities experienced by rural Latino families during the COVID-19 pandemic (Young et al., 2022). The parent study applied the intersecting lenses of rurality and legal status to understand the unique health and economic vulnerabilities of this population during the pandemic. Rural communities are critical "contexts of reception" for many Latino immigrants, where the implications of legal status are shaped by local policies, institutions, and social attitudes (Portes and Rumbaut, 2001). The study was based on a community-engaged research approach and was guided by an advisory board of stakeholders from rural, Latino, and immigrant communities (Young et al., 2022). Interviews were structured to elicit narratives about respondents' experiences with job loss and financial precarity, food insecurity, and navigating COVID-19 prevention measures, as well as mental health experiences.

In this article, we first explored the prevalence of symptoms of depression and anxiety based on mental health symptom screeners, which — while not diagnostic measures — provide descriptive insight into the current burden of depression- and anxiety-related symptomatology in our sample. We then investigated participants' narratives regarding the mental health impact of the pandemic and used their mental health screener status to contextualize these narratives. These descriptions revealed a range of experiences with mental health challenges that emerged during the pandemic.

2.1. Sampling and recruitment

Because the concept of "rurality" encompasses multiple types of regions (Bennett et al., 2019), we obtained community input and reviewed demographic data to select study sites. Our advisory board of Latino service and advocacy organizations first identified counties that encompassed rural-identifying communities (e.g., small towns). We then reviewed county demographic data to verify that each had numerous non-metropolitan areas, defined as towns or small cities with under 50,000 residents, and sizeable Latino populations from which to recruit. This resulted in the selection of four rural California counties (Merced, Fresno, Tulare, Imperial), located in the San Joaquin or Imperial Valleys, as study sites. Each of these counties has a majority Latino population (with proportion Latino ranging from 54% in Merced County to 83% in Imperial County) (United States Census Bureau, 2021). The proportion of each county's population that is composed of non-citizens ranges from 3.6% (Fresno County) to 22% (Tulare County); all four counties also have large proportions of individuals with incomes below 100% of the Federal

Poverty Level. At the time our data collection began, these counties had among the highest COVID-19 infection and mortality rates in the state, although that evolved over time as waves of the pandemic impacted different parts of the state (and the broader country) at different times.

We recruited individual Latino adults living in rural regions in California using a convenience sampling strategy through our advisory board and personal networks. Individual respondents from each county were eligible if they (1) lived in a community with <50,000 residents, (2) identified as Latino, (3) themselves or a parent were foreign-born, and (4) were 18 years or older. Potential respondents were contacted by a research team member by phone and screened for eligibility. A pseudonym was assigned to all eligible respondents who agreed to participate; all other respondent identifying information was destroyed.

This study was approved by the [University of California, Merced] Institutional Review Board.

2.2. Data collection

Data collection involved the development of an interview guide, interviewer training, and an iterative process of interviewing and debriefing. The interview guide included a selection of topics to facilitate a semi-structured, respondent-driven interview that elicited narratives regarding Latino families' primary challenges with a range of health and economic stressors, including employment, financial precarity, children's schooling, food security, access to needed physical or mental health care, and connections with community. We trained bilingual, bicultural interviewers to use the guide as a facilitation tool. Interviewers learned the topics and practiced engaging interviewees in discussion, using interview probes for clarification or to obtain additional details about specific experiences.

At the end of the interview, respondents were asked questions corresponding to the Patient Health Questionnaire (2-item version; PHQ-2) (Levis et al., 2020) and Generalized Anxiety Disorder questionnaire (2-item version; GAD-2). These well-validated screener questionnaires can be used for detecting likely "cases" of depression and generalized anxiety disorder, respectively, in general population and clinical samples. The PHQ-2 consists of the first two items from the longer PHQ-9 (Kroenke et al., 2001) and assesses the frequency of the two core symptoms of major depression: depressed mood and anhedonia (loss of interest or pleasure in normal activities). The GAD-2 consists of the first two items of the GAD-7 and assesses the frequency of the two core symptoms of anxiety disorder: feeling nervous, anxious, or on edge, and not being able to stop or control that worrying (Staples et al., 2019). The exact language used in the PHQ-2 and GAD-2 and replicated in our interviews is shown in Table 1.

During the last part of the interview, respondents also answered a short survey about their sociodemographic and household characteristics. The survey included a series of legal status questions, such as whether they were born in the U.S., had a permanent residence card or "green card", or had been granted asylum or refugee status. Respondents who reported they were not U.S. citizens and did not have a permanent residence card, protected status, or a valid or expired visa were asked whether they had documents. Respondents could refuse to respond at any time. Interviews were conducted from July 2020 to April 2021. Due to pandemic restrictions, all interviews were conducted remotely by phone or Zoom call, were in Spanish (n = 31) or English (n = 8), and audio recorded (duration range: 60–90 min). Audio recordings were uploaded to a secure cloud folder and then transcribed by an outside vendor in their original language. Respondents received an electronic $25 gift card for their participation.

Table 1
PHQ-2 depression and GAD-2 anxiety assessment instruments.

Interviewer: *I'm going to read you some statements that people have made about their mental health. For these statements, please tell me whether the statement was true several days, more than half of the days, nearly every day, or not all for you in the last 2 weeks.*
PHQ-2:
– Over the last 2 weeks, I have had little interest or pleasure in doing things. Was this statement true for you several days, more half of the days, nearly every day, or not at all?
– Over the last 2 weeks, I have been feeling down, depressed, or hopeless. Was this statement true for you several days, more half of the days, nearly every day, or not at all?
GAD-2:
– Over the last 2 weeks, I have been feeling nervous, anxious, or on edge. Was this statement true for you several days, more half of the days, nearly every day, or not at all?
– Over the last 2 weeks, I have not been able to stop or control worrying? Was this statement true for you several days, more half of the days, nearly every day, or not at all?

Following each interview, interviewers prepared a memo that described the most salient experiences or topics and documented any emerging themes. The interviewer team debriefed after each interview to discuss approaches for developing rapport and eliciting descriptions from interviewees and emerging themes. Interviewing ended when it was determined that additional interviews were not yielding new information regarding the impact of the pandemic (Fusch and Ness, 2015).

Only data from respondents who answered PHQ-2 or GAD-2 questionnaires were included in this article. While the total sample for the parent study included 39 first- and second-generation Latino immigrant respondents, 34 respondents were administered the PHQ-2, and 35 were administered the GAD-2. The PHQ-2 or GAD-2 were not administered to five respondents, either because respondents refused to participate in the survey portion or terminated the interview early.

2.3. Data management and analysis

For this study, we focused on respondents' responses to questions about mental health experiences — including symptoms, conditions, and healthcare, both of their own and those of their family members during the first several months of the pandemic. Prompts related to mental health included "*What changes have you noticed in your mental health or your family's mental health? Have you noticed, for example, that you feel more anxious? What are the behavioral changes you've noticed in your children? Can you give me an example of when you or someone in your family felt anxious or depressed during this past year? What do you do in that situation? What health resources or support do you use when you feel that way?*"

One bilingual team member reviewed all interview transcripts and extracted excerpts that contained material relevant to mental health. This team member worked iteratively with a team member who has expertise in mental health to identify and describe emergent themes. A selection of illustrative quotes were selected and, if originally in Spanish, translated to English for inclusion in this article.

Lastly, we identified all participants screening positive for "likely caseness" (a score of ≥3) on either screener questionnaire. This allowed us to qualitatively differentiate the experiences of screen-positive (i.e., those with likely major depression or generalized anxiety disorder) vs. screen-negative participants.

3. Results

Respondents' mean age was 40 (range: 19–70) and their mean number of years in the U.S. was 21.9 (range: 6–54). Most respondents (66%) were female (n = 23) and 34% reported they were undocumented (n = 12). Twelve respondents (34%) screened positive on either the PHQ-2 or GAD-2, indicating that they had serious psychological distress and met "likely caseness" criteria for major depression or generalized anxiety disorder, while twenty-three respondents (66%) screened negative (scores of ≤2) on both the PHQ-2 and GAD-2. Similar to prevalence estimates based on population-based samples (Cai et al., 2021), a positive screen on the GAD-2 anxiety screener (31.4%) was somewhat more common than a positive screen on the PHQ-2 depression screener (20.5%) among respondents.

Themes emerged around participants' general experiences with mental health problems during the pandemic, specific psychological and psychosomatic symptoms, access to and treatment in the mental health care system, the utility of prior engagement with the mental health care system, and coping mechanisms used to alleviate mental health problems. These themes are discussed in detail below, with attention paid to any qualitative differences observed between screen-positive vs. screen-negative respondents.

3.1. General mental health experiences and socio-economic context

Many respondents — even those who screened negative for anxiety and depression — reported that mental health problems had been a major concern during the pandemic. However, the mental health challenges that they discussed were often not their own, even among the 12 respondents who screened positive. Many of the most detailed narratives shared were concerned with the experiences of family members, not the respondents themselves; parents expressed particular worry about the mental health of their school-aged children. Several also mentioned that their families did not feel comfortable talking about psychological problems, in part for cultural reasons. For example, Isa [Imperial County, screen-positive] reported that her husband:

> … doesn't wanna talk about his emotions because if he does, he's vulnerable or he's exposing himself. Or he feels a snail out of his shell, and somebody's going to step on him … He grew up with that mentality of 'Don't be a bitch; don't cry. You can't cry. If you cry, get over it … You're a man. You're not supposed to be doing this.'

Many screen-negative respondents did report that they personally, or their children, had experienced symptoms consistent with depression, anxiety, or other mental health problems. However, there were indications that for most screen-negative respondents, those symptoms were mostly in the past and no longer a current concern. For example, Karina [Fresno County, screen-negative] reported feeling very depressed at the beginning of the pandemic after being laid off from her employment of long standing, but recovered with time:

> I felt very bad. Very bad. Very bad, because, almost 20 years working there and to be told that [I was being let go]. So, well it was so bad that I even went into depression. … But, blessed God, we are all fine at home. All of us. So, I tell my daughter, God is so great. Have a lot of faith in God.

Regardless of the timing, respondents had clearly found these changes in their family members' mental health intensively distressing to witness. Several mentioned struggling with feelings of helplessness when trying to cope with their children's or family member's poor mental health. For example, Maria [Tulare County, screen-positive] shared the following about her son who was struggling with anger and depression symptoms:

> It makes me feel impotent, not knowing what to say, not knowing how to calm him, what words to express to him, to say 'Oh, son, I'm here'… He tells me 'Mommy, you've already told me the same thing, you've already told me the same thing and again everything is still the same.'

Many respondents described economic, social, and health-related stressors as contributing to their own or their family members' mental health problems. The most prominent of these stressors was financial problems related to total or partial loss of employment; others struggled with housing insecurity, their children's online schooling, or chronic health problems. Financial setbacks had negative repercussions not just on respondents' immediate families, but on their extended family networks like adult siblings and aging parents. As Rogelio [Tulare County, screen-positive] explained, his sudden inability to financially assist his family in Mexico was very stressful:

> In Mexico I have my mom there, my brothers, sisters … I have helped my mother financially [but] right now because of this situation, it's not that I have stopped helping her, but I have had to reduce certain expenses even with her … that is something that has affected me. You don't feel good.

Several respondents also mentioned extreme fear of themselves or their family members contracting COVID-19 and dying.

3.2. Spectrum of psychological symptomatology

In their descriptions of the mental health problems that they or family members had experienced during the pandemic, respondents described a range of symptoms. Many symptoms mentioned were consistent with the core symptoms involved in diagnosable mood and anxiety disorders, including lethargy and loss of interest or motivation in daily activities; sadness and depression; feelings of anxiety (e.g., somatic manifestations of anxiety such as breathing difficulties and rapid heartbeat), desperation, and paranoia; sleep disturbances (e.g., severe reductions in sleep, excess sleep); headaches; and weight gain and eating habit changes. One respondent, Miriam [Tulare County, screen-positive], a college student, described the disruptive impact of her own mental health experiences on her daily activities:

> I felt like my mental health for sure was affected because, before the pandemic, I would be able to clean. I was able to do homework on time. I wouldn't procrastinate… I had a whole routine. But then once the pandemic started and that stay-at-home order happened, I felt like I couldn't do anything. I would have a plan like, okay, today I'm going to clean, I'm going to do homework. But actually like no motivation whatsoever to do what I used to do, what I was able to do… And then for the longest time I would go to bed. I would go to sleep very late and wake up very late.

Some respondents also described feelings of frustration, anger, and irritability, stemming from the confinement and social isolation. Reports of problems among younger school-aged children were particularly common, with respondents describing their children as suffering from irritability and aggression, altered sleep schedules, sadness, and restlessness and anxiety, including specific symptoms like compulsive nail-biting and regressions in verbal ability. Reports of teenage children suffering from depression and lethargy were also frequent. Claudia [Imperial County, screen-positive] described her teenage son's struggles and drastic shift in behavior during the pandemic:

> My one [son] that is really athletic, he cannot be indoors … And it's like you cut a bird's wings. He's not himself. It's just sad …. He just sleeps all day. [Before the pandemic] he could never sit still, and now he's just asleep. He doesn't really do much. He just mopes around …

Eli [Tulare County, screen-negative] reported similar struggles with her teenaged daughters, with their stress manifesting as irritability and aggression:

> Well, the change that I have seen a lot in them, and that has worried me a little at times, is that they are stressed out. Sometimes they get irritated very quickly when you call to get their attention. This pandemic has been very stressful for them … because when they are older, they understand, and understand that this situation is delicate and serious. But since they are teenagers, they are at a stage where adrenaline for them is like fire, you just water it and it burns everything.

In contrast with the screen-positive respondents, screen-negative respondents often – though certainly not always – described their children as gradually adapting to the social isolation, confinement, and boredom. As Jovi [Tulare County, screen-negative] said of his children, "they kind of [got] used to the idea that they are going to stay at home." Similarly,

Rafael [Imperial County, screen-negative] described how his daughter had responded relatively smoothly:

> … my daughter is very social and she wants to see her friends… she plays softball and she wants to go back, she wants to look at people… but the Internet helps her, because she found there how to knit, how to play the guitar, how to do things; my daughter always finds something to do.

3.3. Access to and treatment in the mental health care system

Very few respondents overall reported seeking care for their own mental health problems. Of the 12 screen-positive respondents, none mentioned seeking out any kind of care for their struggles with depression or anxiety. Four of them, however, mentioned that their spouse or a sibling had sought care for depression, anxiety, or sleep problems during the pandemic. Sources of such care varied and included primary care physicians, emergency departments, or county-led behavioral health programs (e.g., group counseling sessions run by Los Angeles County), with a few resulting in psychotropic medication prescriptions.

None of the 23 screen-negative respondents mentioned seeking new mental health care for either themselves or their family members since the pandemic began, although a few of them had already been obtaining psychotherapy for their children and continued to do so. One person, Randy [Imperial County, screen-negative], did say that he had been struggling with depression, but had not yet sought any help because he thought there wouldn't be any available, and that there might be negative repercussions:

> If I need to find someone that can help me, I would need to call them. But I'm not ready for the answer of "You know, we don't have anyone in your area." I'm still holding on to the hope that if I were to call, someone would help. But at the same time, I know I'm not gonna call them… I'm desperately afraid that if I tell them that I have a mental illness… they'll either charge me for something or they'll tell me that "Oh, yeah. There's no actual qualified person in your area open right now because of COVID. So, we'll have to send you up north. And the only way to talk to them face-to-face would be through Zoom and stuff like that."… But with that kinda stuff, I don't feel comfortable talking to a person over anything other than face-to-face. I'm afraid of those things.

Other respondents also expressed frustration with a lack of accessible mental health care during the pandemic. Rosa [Merced County, screen-positive] noted that when she was trying to get psychological help for her sister, "… they closed everything … I tried to call, and no one answered me back … [eventually the staff member] said that they weren't working because of the COVID thing." Additional barriers to help-seeking included time constraints or prioritization of basic needs. Maria [Tulare County, screen-positive], for example, reported that her husband was now suffering from an anxiety disorder and had been prescribed an anxiolytic medication, which he was taking; however, his doctor also wanted him to get counseling, which was not feasible because he could not take the necessary time off work. The medication only partially solved her husband's problems, as Maria said, because

> It is impossible for one not to worry… yes there are days that he feels better, but… when the day of the house payment is coming, those are the days that he has a headache because he's stressed, he does not know where he is going to get the payment.

3.4. Utility of prior engagement with the mental health care system

As mentioned above, three screen-negative respondents specifically mentioned that, pre-pandemic, either they and/or their family members had been receiving psychological help for mental health problems; a fourth respondent noted that she was a mental health *promotora* (a community health worker), and knowledgeable about mental disorders. All of these respondents expressed that this prior experience with therapy had proven helpful during the pandemic. They reported feeling like they had tools and strategies to help cope when psychological problems began to re-surface during the pandemic. Maria [Merced County, screen-negative], the *promotora*, explained how her knowledge proved useful:

> I am a mental health promotora. Maybe that has helped me a lot. Having studied everything about mental health, what are the symptoms of depression. That's why, as I know all these topics, it has helped me to control that I don't get depression, or that I don't get too much anxiety, right?

Eli [Tulare County, screen-negative] described how even though the pandemic had been tough on her children, she had used what she learned during previous psychotherapy to manage their interactions and her responses to their behavioral challenges:

> … this pandemic has been very stressful for [my teenagers]… But in fact, two years ago I had them in therapy, and the therapist also gave me therapy so that I could try to communicate with them without the need to get to aggression, yelling, things like that.

She also reported that she used the "threat" of additional therapy to encourage positive behavior change in her teens. When she saw they were getting too stressed out, she suggested taking them back to therapy; when they resisted this, she told them: "Okay… then control yourselves. I know you are desperate because you are locked up here, but you also have to do your part.'" Her daughters agreed and offered to go play in the yard instead of making trouble inside.

Only one of the screen-positive respondents reported having any prior engagement with or familiarity with mental health treatment prior to the pandemic.

3.5. Approaches to coping with mental health problems

Respondents reported using a variety of mechanisms to cope with the mental health impacts of the pandemic. Multiple respondents in both the screen-positive and screen-negative groups mentioned using religiosity and faith practices, social support via spending time with friends and family members (either on the phone/computer or, more rarely, in person), and "stimulus control" techniques (Garcini et al., 2021b) involving limiting their media consumption to reduce exposure to distressing news. However, overall, the screen-negative respondents appeared to have more positive coping strategies at their disposal for dealing with distress. Exercising as a family – usually outside – to keep anxiety and depression at bay was especially common; indeed, exercise was mentioned as a coping mechanism by 10 of the 23 screen-negative respondents. Additional "behavioral activation" coping strategies (Garcini et al., 2021b) included keeping themselves and their children distracted through games or music, pursuing online tutorials on new skills, caring for animals, and simply spending time outside. Several screen-negative respondents noted that living in rural settings made it easier to get outside and be active in less residentially dense neighborhoods. As Carlos [Merced County] mentioned,

> It has not affected us so much because here in the area where I live, there is a way to walk … I live outside the city, so there is a way to go for a walk, to exercise, to run, to ride my bike, to exercise there. Take out the dog, take out the pet [the children] have … They play on the land here too. That's where the stress is eliminated. If you live in an apartment, it's more frustrating.

Many screen-negative parents also described their efforts to engage their children in home-based family activities. As Jesus [Tulare County] noted, "I understand that [my kids] are just locked up here. I try to pay more attention to them than before … I try to invent more games, more

activities to do with them." Carlos [Merced County] explicitly tied such activities to keeping mentally healthy: "We [in my family] have been active… [doing] what we like to do, and that has put us on our feet again… getting out of thinking so much about the pandemic." Cognitive strategies such as insisting on maintaining a positive outlook, "keeping calm," praying, and focusing on getting through each day were also emphasized as important goals. As Pepe [Fresno County, screen-negative] said, "I try not to think about the things that are happening, right? …I try to focus only on, let's say, that way of living day by day. Without thinking about what might happen tomorrow." Juan, also of Fresno County, described that he got very stressed sometimes, as his work was unstable and he had 6 struggling children at home to provide for, but maintained a positive outlook that enabled him to find meaning in the challenges of the pandemic:

> I hope that when all this is over, we will have something good left … Because of what happened to us, look, we stopped hanging out in the streets, in the dances, in the bars, we stopped spending our money on clothes. In other words, we got rid of all the luxuries of life, and we focused on the most important things — on food, on taking care of our children, on being at home. So, on the one hand this united us … we have to value more what we have at home.

Only five of twelve screen-positive respondents mentioned positive coping mechanisms that they had used to deal with mental health challenges since the pandemic's start. These included talking with family and friends to de-stress, exercising or playing games outdoors, religious faith practices, maintaining a positive outlook, and turning off media to limit their exposure to distressing news. Several screen-positive respondents also mentioned a *reduction* in mental health-promoting activities. For example, three individuals said that while they formerly exercised outdoors on a regular basis (pre-pandemic), they ceased doing so because they lacked the motivation, energy, or were too scared of infection to risk going outside. Another three mentioned reductions in socially supportive interactions, such as with friends and family, to which they attributed some of their mental distress.

4. Discussion

In this qualitative study of mental health among rural Latino immigrants in the context of the first year of the COVID-19 pandemic, we found that one-third of our respondents met symptom-screener criteria for current depression or anxiety. Regardless of symptom status, however, nearly all respondents reported that mental health challenges had been a major concern for them since the start of the pandemic. They explicitly tied these mental health concerns to their experiences of financial precarity, fear of contracting COVID-19, social isolation, and the challenges of remote schooling, which we have previously reported (Young et al., 2022; Payán, Perez-Lua, Goldman-Mellor, & Young, 2022). However, the focus of their mental health narratives tended not to be their own personal psychological problems — instead, they spoke in depth about the mental health challenges facing their family members (particularly their children), who appeared to be suffering most prominently from depression, anxiety, and irritability. Although very few respondents reported seeking or obtaining mental health care for themselves or for anyone in their family, the use of healthy coping mechanisms to prevent or ameliorate psychological problems was common, especially among screen-negative respondents. These findings have important implications for the provision of mental health services to this structurally vulnerable population.

Although our analysis was not guided by a specific theoretical structure, nor did we seek to test any one theory, our findings are consistent with a structural vulnerability lens that views societal structures as prime determinants of risk of poor health. As documented both here and in our prior work (Young et al., 2022; Payán, Perez-Lua, Goldman-Mellor, & Young, 2022), Latino immigrants in our study contended with exploitative labor contexts, housing insecurity related to their marginalized connections to financial systems, inadequate broadband Internet access resulting from disinvestment in rural areas' infrastructure, and poor access to mental health care. Although we cannot draw direct causal inference between these "mutually reinforcing insults" (Quesada et al., 2011) – shaped by legal status and rural location – and participants' psychological symptoms, it is plausible that these dynamics shaped their mental health experiences during the pandemic.

Our study contributes to the burgeoning literature on mental health among Latino immigrants by focusing on individuals residing in rural areas, a rarely studied population; contextualizing immigrants' mental health experiences after the onset of the COVID-19 pandemic; and combining in-depth qualitative methods with survey-based psychological symptom screeners to explore differences in subjective narratives according to depression/anxiety "case" status. Our work builds on epidemiologic studies conducted in the first year of the pandemic, which report high rates of depression and anxiety symptoms among Latino farmworkers in California (Mora et al., 2022), Latina immigrant women in Washington state (Ornelas et al., 2021), and nationwide samples of Latino individuals (Thomeer et al., 2022), as well as on qualitative studies that have focused on mental health stressors, coping strategies, and social service access in Latino households (Garcini et al., 2021b; Moon et al., 2021; Pineros-Leano et al., 2022). This study also contributes to the small literature on rural mental health in the context of COVID-19, which has previously found that rural residents fared better psychologically than those in urban areas, potentially due to greater perceived safety and comfort in being outdoors (Grocke-Dewey et al., 2021). We did not make comparisons between the experiences of rural vs. urban Latino immigrants and did not ask our respondents to reflect specifically on the role of their rural geography in their pandemic experiences, but view these aspects as important areas for future research.

We found that screen-positive respondents, who had evident struggles with acute symptoms of depression and anxiety, often spoke much more extensively about their family members' mental health than their own. There are multiple potential explanations for this phenomenon. First, respondents may have interpreted our questions as inquiring not only about their (and their family's) mental health symptoms but also about the *causes* underlying those symptoms. One cause of distress for many participants appeared to be witnessing and coping with their family members' distress. Relatedly, some respondents may have felt that their family members' mental health problems were more severe than their own, and hence more deserving to be prioritized for discussion. Second, it is possible that this population may not feel comfortable voicing their own mental health problems, due to stigma and cultural prohibitions (Nadeem et al., 2007; Wong et al., 2021). Male respondents and family members, in particular, appeared (or were described as) reluctant to acknowledge the potential that they were suffering from depression or anxiety. Female respondents were more likely to express familiarity with mental health problems and their potential symptoms and consequences. Given the high levels of *familismo*, a cultural value that emphasizes the need to make contributions to the well-being of family members and to put one's family above oneself, reported by Latinos (Campos et al., 2014), mental health intervention models that engage with multiple family members may be a useful approach in this population (Engelbrecht and Jobson, 2016). Such an approach might increase recognition of problems and bolster family support for treatment, both of which have previously been shown to increase mental health service use among Latinos (Chang and Biegel, 2018).

We found that few screen-positive respondents had attempted to access mental health services for themselves or their family members, and that those who did attempt often encountered barriers related to service availability, time constraints, and preferred modality (in-person vs. remote). Our observations are consistent with previous studies reporting that low-income and Latino adults were at higher risk than comparison groups for not receiving needed mental health care during the COVID-19 pandemic (Lee and Singh, 2021; Nagata et al., 2022), but the specific

experiences of rural Latino immigrants have not been examined. Our findings indicate that this is an underserved population in need of more resources. Multiple participants mentioned their awareness that living in a rural setting severely constrained their options for accessing mental health care. Government agencies and healthcare provider organizations should incentivize and increase the number of behavioral health care providers practicing in rural areas, and work to expand the availability of culturally and linguistically appropriate care for Latino communities (Alegría et al., 2021). Expanding access to telemental health services, including through augmenting home computer and affordable broadband Internet availability, is also key to increase access to mental health services where provider shortages are prevalent. While we did not explicitly ask our respondents about their experiences with telemental health care, some participants did mention that they or their family members had previously received such care and found it valuable.

The coping mechanisms reported by respondents – particularly behavioral and cognitive strategies such as exercising outdoors, engaging in pleasant distracting activities, and spirituality – were similar to those observed in previous studies of Latino communities dealing with the COVID-19 pandemic (Garcini et al., 2021b). Such strategies were particularly common among screen-negative respondents, and are well-established techniques for reducing depression and anxiety, including among Latino immigrant populations (Dimidjian et al., 2006; Santiago-Rivera et al., 2008). Screen-positive participants, in contrast, did not mention many coping methods that were helping them deal with their distress. Indeed, their mental health problems often appeared to prevent them from engaging in positive coping strategies. For example, whereas pre-pandemic they might have prioritized spending time outdoors or exercising, they could no longer muster the motivation to do those activities or felt too anxious about infection to risk seeing friends or family members. This is consistent with much research showing that symptoms of depression and anxiety negatively affect individuals' motivation and volition to engage in activities like exercise (Krämer et al., 2014). Given the dearth of published literature on physical exercise in rural populations, particularly those identifying as Latino, more research is needed to evaluate the role that exercise plays in sustaining mental health (Gilbert, Duncan, Beck, Eyler, & Brownson, 2019). Further, our study suggests that to protect population mental health in future pandemics, government and public health agencies should support infrastructures for encouraging exercise, outdoor activities, and social interaction.

For some screen-negative respondents, pre-pandemic contact with and treatment in the mental health care system — in particular, the interpersonal communication and behavioral strategies taught to them by therapists — appeared to serve a valuable role in mitigating mental health problems that arose after the pandemic began. This finding aligns with our previous work suggesting that Latino immigrants who already had some connection to safety net resources at the start of the pandemic fared better (Young et al., 2022). It also highlights the importance of ongoing access to and availability of culturally and linguistically appropriate mental health care for increasing mental health literacy, acceptability, and willingness to seek care in this population (Collado et al., 2019).

5.1. Strengths and limitations

The strengths of this study include our use of a community-engaged research approach and recruitment of a systemically marginalized, largely Spanish-speaking, immigrant sample during the pandemic. Participants in rural communities are highly underrepresented in research studies. It is possible some respondents were more comfortable with being interviewed by one of our bilingual, bicultural team members due to the convenience and confidentiality afforded by remote data collection, or the fact that the research team had close ties to the communities of study (Howlett, 2022). Methodological strengths included the combined use of an in-depth qualitative approach with the collection of psychiatric symptom screeners on a hard-to-reach population.

Study limitations include limited generalizability of the findings to Latino immigrants and rural communities outside of the study sites or California, the lack of follow-up with participants to understand their longer-term experiences during the pandemic, and the fact that thematic saturation was only achieved for the parent study topics (health and economic impacts of the COVID-19 pandemic). The parent study was also not primarily focused on examining mental health outcomes or the use of mental health services. Moreover, our interviews were conducted in the first 12 months of the pandemic. The long-term impacts of the pandemic will likely appear in years to come; future research should continue to monitor and assess how the evolving pandemic influences Latino immigrant mental health.

We also note that the timing of the mental health symptom screeners (i.e., conducted at the end of all participant interviews) could have affected our participants' response options. This ordering was chosen to prioritize building respondent trust during the semi-structured interview, as questions about mental health can be perceived as highly sensitive in this study population. However, we think it plausible that asking participants to first reflect on the stress of the COVID-19 pandemic may have increased the reliability of their mental health symptom scores. Much psychiatric epidemiologic research has shown that the use of memory aides (e.g., life history calendars) improve recall of mental disorder experiences, which are typically significantly underestimated (Axinn et al., 2020; Simon and VonKorff, 1995).

6. Conclusion

Mental health in rural Latino households was profoundly impacted during the COVID-19 pandemic. This study expands our understanding of this phenomenon by detailing the social context, psychological symptoms, access to mental health services, and coping mechanisms experienced by immigrant Latino residents of rural California during this challenging period. Our findings suggest that family-oriented mental health intervention models, policies that support infrastructure for encouraging exercise and outdoor activity, and ensuring access to culturally and linguistically appropriate mental health care for Latino communities may be important for protecting population mental health.

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CRediT authorship contribution statement

Sidra Goldman-Mellor: Conceptualization, Formal analysis, Methodology, Writing – original draft, Writing – review & editing. **Vivianna Plancarte:** Data curation, Formal analysis, Conceptualization, Writing – review & editing. **Fabiola Perez-Lua:** Project administration, Methodology, Writing – review & editing. **Denise Diaz Payán:** Project administration, Conceptualization, Writing – review & editing. **Maria-Elena De Trinidad Young:** Project administration, Conceptualization, Methodology, Writing – review & editing, Supervision, Funding acquisition.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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