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RESEARCH ARTICLE

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Essential(ly forgotten) workers: Latine youth farmworkers during the COVID-19 pandemic

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Abstract

Background: Essential workers across multiple industries faced a disproportionate burden of morbidity and mortality during the COVID-19 pandemic. The effects were especially severe for agricultural and food processing workers, many of whom are members of the structurally vulnerable Latine community. Under current U.S. federal laws, children under 12 years old can legally work in agriculture, one of the most hazardous U.S. industries. Many of these working youth are Latine and experience health and educational inequities.

Methods: Using a community-based participatory research approach and a qualitative design, we conducted semi-structured in-depth interviews in North Carolina in 2022, with service providers in health, education, and advocacy fields ($n = 10$) and Latine youth farmworkers aged 10–17 ($n = 24$). We used participatory qualitative analysis methods and a reflexive thematic analysis to understand and describe the work experiences of these youth during the first 2 years of the pandemic.

Results: Amidst precarious economic and school situations exacerbated by the COVID-19 pandemic, many youths described an increased need to work to support their families. While aware and sometimes fearful of the added occupational health risks of COVID-19, youth and their families felt they had few other options. Service providers and youth described minimal employer-provided safety protocols or equipment, yet some workers organized their own attempts at safety protocols. Youth narratives imply limited knowledge of basic workplace safety requirements.

Conclusions: Study findings emphasize the urgent need to address structural vulnerabilities shaping workplace policies and norms to protect Latine youth farmworkers to support their healthy development.

KEYWORDS

agricultural health, child labor, COVID-19, essential workers, health equity, Latino/Hispanic, occupational safety and health, youth farmworkers

Institution at which the work was performed: Wake Forest University School of Medicine, Winston-Salem, NC

1 | INTRODUCTION

Essential workers in the United States (US) confronted increased exposure risks at the beginning of the COVID-19 pandemic, resulting in a greater burden of COVID-19 morbidity and mortality.[1,2] Rates of COVID-19 surged among essential workers in agriculture and food processing sectors, many of whom are Latine,[*3–6] highlighting longstanding patterns of structural racism and vulnerability.[4,6–8] In particular, farmworkers, who are mostly Latine and an estimated half are undocumented,[9] experienced a compounding effect of vulnerabilities during the pandemic related to work conditions, living conditions, and pre-existing health, social, and economic inequities.[10,11] Further, evidence suggests that the well documented lack of regulatory oversight in agricultural workplaces before the pandemic continued during the pandemic.[12,13] The cumulative effect of employers' neglect for workplace safety and the normalization of unsafe conditions led to an increased risk of COVID-19 among farmworkers.[12]

An overlooked population of workers during the pandemic are Latine youth farmworkers. US child labor laws in agriculture differ from those for all other industries (Table 1). Under federal laws, children of any age can work on a farm owned or operated by their parents. Children aged 12 and younger can be legally *hired* for agricultural labor under some circumstances, even though it is one of the most hazardous industries.[14] Due to the lack of surveillance covering the often informal work arrangements of children, national estimates of the number of hired youth farmworkers vary widely, ranging from 30,000 to 400,000.[15,16] The majority of hired youth farmworkers are members of the Latine farmworker community.[17]

1.1 | Theoretical lens: Structural vulnerability of latine youth farmworkers

Farmworkers, including Latine youth, represent a structurally vulnerable population because, due to macro-level social processes, they embody a social location in which exploitation, discrimination, and negative health outcomes are common.[18,19] Researchers have highlighted the extreme negative outcomes that become likely for marginalized social groups such as farmworkers during acute emergency events (e.g., wildfires, pandemics).[10,20] The disastrous outcomes that unfold during acute emergency events such as the COVID-19 pandemic can thus be interpreted as the expected result of processes of slow violence, in which marginalized groups are ignored and disenfranchised over long temporal frames.[20,21] In the case of Latine youth, their structurally vulnerable experience of the pandemic corresponds to the precarious work of parents, who often work in essential jobs such as meatpacking or agriculture.[22] However, their vulnerability can also be traced back to other historical structural factors, such as agricultural child labor laws dating back to the Fair Labor Standards Act (FLSA) of 1938, which excluded agriculture from most worker protections in an attempt to maintain the disenfranchisement of Black sharecroppers.[16,23] Approaching a century later, the demographics of the agricultural labor force has experienced shifts. However, the reliance on marginalized labor pools, including undocumented Latine immigrants, guest workers, and Latine youth, has remained constant.[16,24,25]

Latine youth farmworkers experience high rates of injury,[26,27] and educational disparities.[28] The majority of these youth are US citizens, but they may be members of mixed-status families, in which at least one family member is undocumented.[9,29] Before the COVID-19 pandemic, youth farmworkers confronted multi-faceted challenges including poverty, mixed family documentation status, lowered healthcare access, language barriers, migration, and environmental health threats (e.g., exposure to pesticides).[30–32] The COVID-19 pandemic exacerbated existing adversities and created new challenges for farmworkers.[10,12] However, limited information is available to understand the characteristics, experiences, and conditions of farm work for Latine youth farmworkers during the COVID-19 pandemic. Understanding the pandemic-era work experiences of Latine youth farmworkers is critical for addressing existing structural inequities (e.g., limited opportunities for family economic advancement, educational and healthcare barriers, lax agricultural health and safety regulatory frameworks) that were worsened by the pandemic and ultimately threaten these youths' long-term health and development.

TABLE 1 Comparison of federal child labor rules und the fair labor standards act of 1938.[a]

Ages	Agriculture	Non-agriculture
16–17	Any farm job, hazardous or not,[b] unlimited hours	Unlimited hours in nonhazardous jobs or industries
14–15	Any nonhazardous farm job outside school hours	Specified jobs for limited periods of time each day and each week, outside of school hours
12–13	Any nonhazardous farm job outside school hours with parental permission or on same farm as parent(s)	Employment generally prohibited
Under 12	Any nonhazardous farm job outside school hours with parental permission, but only where FLSA minimum wage requirements do not apply (i.e., small farms)	Employment generally prohibited

Note: Within agriculture, none of the rules listed apply to children working at a farm owned or operated by their parents.

[a]Adapted from United States Government Accountability Office, 2018.

[b]Those 16–17 years old cannot apply pesticides or be early-entry workers, due to changes in the 2015 WPS.

1.2 | The current study

The primary goal of this study is to describe and contextualize Latine youth farmworkers' experiences of work and work safety during the first 2 years of the COVID-19 pandemic (i.e., March 2020 through March 2022) by drawing from interviews with education, health, and non-profit advocacy service providers ($n = 10$) and Latine youth farmworkers ($n = 24$).

2 | MATERIALS AND METHODS

2.1 | Overview

We used a community-based participatory research (CBPR) approach involving both professional and youth advisory boards. An existing professional advisory board from a previous study,[33] comprised of six active members representing organizations that interface with farmworkers, provided feedback on important topics to explore in this research. An existing youth advisory board from the non-profit Student Action with Farmworkers, comprised of 10 rural Latine high school students from farmworker families,[34] participated in the development, implementation, and preliminary analyses of the study. Two paid youth co-investigators took a leadership role in the study by co-developing study materials and activities for the full youth advisory board. Given the limited information on how Latine youth farmworkers were experiencing the pandemic, we used a two-phase approach to explore and describe their experiences. In phase one, we conducted 10 semi-structured, in-depth interviews with individuals who provide services (e.g., education, health, advocacy) for farmworker families. The purpose of these interviews was to elicit service provider perspectives on how Latine youth farmworkers were experiencing the pandemic and to inform interview guide development for the youth interviews. In phase two, we used participatory methods (e.g., free listing games, focus groups) with youth advisors to further refine, develop, and test the youth interview topics. Next, we recruited 24 Latine farmworker youth who each participated in a semi-structured, in-depth interview.

2.2 | Author positionality

Taking into account the potential biases of researchers, we describe our own positions in relation to the research process as a way to increase transparency and acknowledge the team nature of this study.[35] We are a team of multi-disciplinary researchers from academic and nonacademic institutions with decades of experience conducting community-based research with and providing service to farmworkers and immigrant communities. The lead author of this study has sustained engagement with Latine communities, specifically with rural Latine youth, through research partnerships for over a decade. His own identity as an early-career, White, US-born male scholar trained in critical theories has affected his opportunities and approach to research. Consciously and unconsciously, his position as an "outsider" of the rural Latine community has shaped interactions with research participants. As a reflexivity process and acknowledgement of biases throughout this study, he embedded practices of critical reflection and cultural humility[36] throughout the research process including taking detailed field note reflections, memoing, bracketing, and maintaining an ongoing engagement with community partners. The co-authors of this manuscript include members of the lead author's dissertation committee, long-term collaborators, and research assistants. Throughout the project and analysis, the team had formal and informal conversations to reflect on their relationship to the research and analysis and interpretation of findings.

2.3 | Study setting

North Carolina (NC) is a leading state in US agriculture and agribusiness, with $103.2 billion contributed to the gross state product by food, fiber, and forestry industries.[37] NC is ranked the number 1 producer of tobacco, sweet potatoes, and poultry and egg receipts in the US.[38] In the context of workplace protections during the pandemic, an Executive Order to protect agricultural workers from COVID-19 was withdrawn after pushback from state officials.[39] Several years after the start of the pandemic, airborne infectious disease rules for agricultural operators and migrant housing operators, resulting from petitions from community organizations, were withdrawn in March 2024, directly after the public comment window.[40]

At the beginning of the pandemic in March 2020, NC schools closed and remained closed for the remainder of the academic year. Throughout the pandemic, school districts had some flexibility to choose modality of educational delivery. Most schools used a fully online or hybrid (a mix of in-person and online) arrangement for the 2020–2021 academic year. The start of the 2021–2022 school year marked a return to mostly in-person schooling.

In the current study, service providers represented a geographically expansive statewide network. Youth included in this study resided in four rural NC counties, concentrated in eastern NC, with a few participants located in western NC. Youth working in agriculture both seasonally or migrating for work were included in the sample. They had worked in a variety of agricultural tasks such as picking or packing beans, berries, peas, cucumbers, melons, and tomatoes, topping tobacco, and animal care.

2.4 | Participant recruitment

2.4.1 | Service providers

Inclusion criteria for service providers were: (1) being employed by an organization serving Latine farmworker families in some capacity and holding that position for at least 6 months before March 2020 (i.e., the beginning of the COVID-19 pandemic); and (2) having direct

contact with these families before and during the pandemic. To capture the broad experience of Latine youth farmworkers in the domains of work, education, and health, we used a purposive sampling approach in which we recruited service providers connected to each of these domains. We identified potential participants through email correspondence, existing networks, and attending statewide events (virtually or in-person), resulting in a sample of 10 service providers. All service providers who replied to our direct invitation for the in-depth interview agreed to participate.

2.4.2 | Youth farmworkers

Inclusion criteria for youth were: (1) aged 10–17; (2) worked in farm work in the previous 12 months; (3) self-identified as Latino/a/x/e or Hispanic; and (4) English or Spanish fluency. Using our community-engaged approach, we worked with organizational and community contacts to identify and recruit eligible youth. Previous research has indicated variability in youth farmworkers' experiences across characteristics such as age, gender, and migrant status. Therefore, to understand the broad experience of youth farmworkers, we used purposive sampling and snowball approaches to recruit participants with attention to these demographic characteristics. We recruited youth through existing community contacts and networks; therefore, we are unable to determine how many eligible youth refused to participate.

2.5 | Data collection

2.5.1 | Development of interview guides

We developed the interview guides for service providers and youth using an iterative and recursive process that heavily involved professional and youth advisory members via online meetings, in-person participatory youth activities, and email correspondence. Given the limited available information about the experiences of Latine youth farmworkers during the pandemic, the information from service provider interviews was used to represent their perspectives and observations as well as to inform subsequent youth interview guide content. As new topics emerged during interviews, they were explored further in later interviews. Both interview guides were developed in English, translated to Spanish by a certified translator, then back-translated to English by a different certified translator to ensure equivalency.

2.5.2 | Interview process

Two research assistants (RAs) (authors 7 and 8) helped with recruitment and data collection. Both had extensive experience working with farmworker families and prior experience in qualitative interviewing; they completed training on the study protocol that included practice interviews. The lead author completed 27 out of the 34 total interviews (9/10 service provider, 18/24 youth), and the RAs completed the remaining 7 interviews. Service providers completed signed informed consent via DocuSign. Audio-recorded interviews with service providers were conducted via Zoom (version 5.3.0), a videoconferencing platform. Interviews ranged from 60 to 90 min and 9 out of 10 service providers preferred to be interviewed in English. The interview guide included topics related to their observations of farmworker families and youth during the first 2 years of the pandemic. Service provider interviews were completed from March to June 2022.

In the next phase, upon identifying eligible youth participants and discussing the project with youth and their parents via telephone, the team scheduled an in-person home visit. Youth were given an option to complete the interview in a location of their choosing; all preferred to be interviewed in their homes. During the home visit, the team explained the study further and obtained signed parental permission and youth assent before proceeding with the audio-recorded youth interviews. To ensure a quality recording, the team strived to complete the interviews in a quiet location (e.g., kitchen table, living room, front porch) when possible. For several interviews, some family members were present or nearby, but not actively participating in the interview. Youth interviews ranged from 45 to 90 min. All but one youth participant preferred to complete the interview in English. Youth interviews were completed from June to November 2022. Upon completion of each individual interview (service provider and youth), team members took detailed reflective field notes, summarizing the interview content and setting (including factors that may have affected the interview), researcher positionality, and identifying new topics to explore. Service providers received a $20 gift card and youth participants received a $25 cash incentive. The study protocol was approved by the Institutional Review Board at Wake Forest University School of Medicine (Approval number: IRB00079264).

2.6 | Data analysis

We assigned a participant identification (PID) number to each participant and a professional transcription company transcribed verbatim the audio-recordings of interviews. Interview transcripts were verified against the audio corrected to produce a final transcript. Finalized transcripts were then uploaded into ATLAS. ti 23, for analysis and coding. An analysis diary containing a compilation of field notes, reflections, thematic maps, and memos was kept throughout the analysis process. For preliminary analysis, the lead author held a workshop with the youth advisory board that included an orientation to qualitative research and a participatory collaborative "research poetics" process.[41] This process involved the youth reorganizing the words from brief transcript excerpts to form a "research poem." This workshop was used to gain feedback from youth advisors, who share experiential similarity with the youth research participants, on potential themes and topics to explore during subsequent analyses.

Following preliminary analyses, we used a Reflexive Thematic Analysis (RTA) [42] approach to simultaneously analyze the service provider and youth interview transcripts. As a flexible approach that acknowledges the co-constructive nature of research, RTA facilitates a systematic process for identifying and describing shared experiences across participants.[42] We followed the six interconnected steps of RTA, including familiarization, generating initial codes, generating initial themes, reviewing potential themes, refining, defining, and naming themes, and writing up.[42] To stay close to the participants words, given the study's descriptive design, we primarily focused on semantic content. However, our analysis also involved our own interpretation and observations beyond the participants' words. [42] Efforts to enhance the trustworthiness of this research [43–45] included the CBPR approach that included youth advisors as co-investigators, reflexivity processes (e.g., analysis diary, bracketing, critical reflections), detailed field notes, the inclusion of multiple perspectives (e.g., service providers and youth farmworkers), and negative case analysis.[46] All participants have been randomly assigned a pseudonym to protect confidentiality.

3 | RESULTS

Service providers (n = 10) included 6 women and 4 men between the ages of 25 and 59 (Table 2). Eight out of 10 had been in their current position for 6 or more years. Half worked in sectors related to education and the other half worked in health or service/advocacy sectors. Eight self-identified as Hispanic/Latine.

Latine youth farmworkers (n = 24) included 12 girls and 12 boys (Table 3). Half of the youth were aged 10–13, and the other half were aged 14–17. All but two participants were born in the US. Five out of 24 youth (20%) considered themselves as migrants (e.g., routinely moving with their families from state-to-state to do farm work). The youth had experience in a variety of crops with the most common being beans or peas, berries, and cucumbers or squash. A few worked in animal care (which included taking care of livestock or working in an egg production facility), or tobacco.

During the thematic analysis, we generated three primary themes containing related subthemes. Participants described their own unique experiences of the interplay between new school and work arrangements during the pandemic, *the (im)balance of school and work* (Theme 1), *family financial needs as a catalyst for youth work and increased health risks* (Theme 2), and their observations of *employers prioritizing productivity over safety* (Theme 3).

TABLE 2 Service provider characteristics, North Carolina, 2022 (n = 10).

Characteristics	*n*	(%)
Gender identity		
Woman	6	60
Man	4	40
Age range		
25–35	4	40
36–45	2	20
46–55	2	20
56+	2	20
Years working in current position		
1–5	2	20
6–10	3	30
11–15	2	20
16–20	3	30
Field		
Education	5	50
Health	3	30
Service/advocacy (non-profit)	2	20
Hispanic/Latine ethnicity		
Yes	8	80
No	2	20
Language preference for interview		
English	9	90
Spanish	1	10

3.1 | Theme 1: "it was like [as] if it were summer": The (Im)Balance of school and work

As schools closed and shifted to online instruction in late Spring 2020, many youth described balancing work and school. Jose, a 17-year-old boy from a migrant family, described working in farm work for over a decade before the pandemic:

> I was like a toddler pretty much.... by [age] 7 or 8 that's when I really started working, started making my own money, started to pay for my own things like at a young age. Like my clothes, my school stuff, that type of stuff.

When describing the onset of the pandemic, he recalled,

> It was like [as] if it were summer. I'd just be going to work. And then when they gave us like our assignments online with the computers and all that, I think that was like a month later. With that, it was more they assigned the work. They like gave us the instructions on how to do it and you could do it on your own time but just as long as you turned it in on time. So with that, I'd just go to work every day like normal, come home, shower and then like eat and then just do my [school] work after work. (Jose)

TABLE 3 Latine youth farmworker characteristics, North Carolina, 2022 (n = 24).

Characteristics	*n*	(%)
Gender identity		
Girl	12	50.0
Boy	12	50.0
Age range		
10–13	12	50.0
14–15	6	25.0
16–17	6	25.0
National origin		
United States	22	91.7
Mexico	2	8.3
Farmworker Status		
Migrant	5	20.8
Seasonal	19	79.2
Recent farm work experience[a]		
Beans or peas	7	29.2
Berries (blueberries, strawberries)	6	25.0
Cucumbers or squash	6	25.0
Tomatoes	5	20.8
Melons	4	16.7
Animal care	4	16.7
Tobacco	3	12.5
Grapes	1	4.2
NC Region		
East	19	79.2
West	5	20.8
Language preference for interview		
English	23	96.0
Spanish	1	4.0

[a]Participants could report multiple crops.

While Jose indicated that he found a way to manage the dual responsibilities of school and work, others had more difficulties. Daniel, an education service provider, explained,

> A lot of our older migrant kids, you know, decided that when we transitioned to remote learning -- they saw the opportunity that they could go out and make money.... Like if they didn't have to go to...school physically, you know, they...went to work during the day and some of them tried to, like, stay on top of their [school] after work, but a lot of them didn't. So they just got like super, super behind. And this is obviously more of the older kids...and that affects... graduation credit accrual and staying on track to graduate.

Many youth expressed frustration with online learning and some felt that working was a better use of their time. Maria, a service provider in a health field, described her firsthand observation of this,

> My [relative]...she was...a junior...She actually like, forgot about [school]work and just wanted to go to work.... She's like, "Cause there's no point, like there's no point. I'm not learning anything." And I'm like, okay. So, she said that there were several kids out there doing the same thing.... She was setting tobacco and sweet potatoes, and, whenever that stopped, she did blueberries.

Most youth described technical difficulties as a central aspect of their frustration with online schooling. Carlos, an 11-year-old boy, stated, "It was pretty difficult, 'cause we couldn't learn anything. And peoples' internet was probably bad." Victoria, a 10-year-old girl said, "Our Wi-Fi didn't really work good, but we just had to deal with it."

For some, these frustrations led to increased work hours. Luis, a 16-year-old boy, said he "definitely worked more during COVID than anytime." In addition to contributing to family financial needs, he went on to explain, "I preferred going to work than staying home doing my schoolwork.... I found working more entertaining." In contrast, Paula, a 13-year-old girl, described challenges, "It was really hard, 'cause I had to wake up really early in the morning to go to work and then I would try to finish fast so I can do my school work...and not miss any assignments."

These narratives suggest a relationship between rural school districts' sluggish adaptation to virtual schooling, coupled with fragile rural internet infrastructure, and increased farm work among Latine youth.

3.2 | Theme 2: "we really had no option": Family financial needs as a catalyst for youth work

While disenchantment with virtual schooling played a role in some youth deciding to work, a salient reason for nearly all participants was the financial need of their families. Marco, a non-profit service provider, explained,

> With the lack of work, we've seen that many of these families have put their children more to work, or to go to the construction and learn, or to go to the fields and learn....I think there has been an increase, but I can't tell you about the numbers.

This sentiment was echoed in the narratives of youth across ages and gender as many described scenarios in which their parents lost

income or jobs during the pandemic, so they wanted to contribute to the family. Jessica, a 13-year-old girl explained,

> I started working because I decided, I made a choice about helping my parents since they were having [financial] difficulties. I saw my mom always come tired at home, and like she needed a break…and I talked to my brother…. And we said let's work with mom. Let's help her. She says she needs help and we need help on family too. So, that's how we started to work, because of family.

Likewise, Omar, a 15-year-old boy remarked,

> My parents were asking my older sister for money because she worked. Yeah, and that's when like I heard them. And then I offered to give them money for them to pay like bills and stuff like that, stuff they needed.

Amid precarious financial situations, some participants indicated a willingness to accept whatever work was available. Paula, a 13-year-old girl recalled, "We would just work for anybody, honestly." Jose, a 17-year-old boy, expressed some frustration with the wages despite the effort, yet felt that there was nothing that could be done to change it, "It always stays the same price. That's like something we just got used to…. We always get paid the same amount for our work. Like we could work our butts off." In contrast, in one exchange, Lupe, a 16-year-old girl, described her family actually declining to be paid more out of a perceived sense of fairness.

> [Interviewer]: Have you or your family ever asked for more money there? [Lupe]: Not really. [The grower is] like 'how much…do you all want to get paid?' And we were like 'ten [dollars per hour] would be good.' And… he was like, I could do twelve [dollars per hour], but we were like ten's good. [Interviewer]: Oh really? You didn't want to make more? [Lupe]: No…we did. But like, we were like, he doesn't get a lot of workers, so it wouldn't be fair to be paying just two people 12 an hour. So ten would be good. [Interviewer]: Okay. So is that what he did, he paid you ten? [Lupe]: Mm-hmm (yes), and sometimes he'd like give us tips or like extra.

One non-profit service provider, Marco, shared a nuanced reflection based on his interactions with farmworker families throughout the pandemic:

> We've heard families say… 'He's coming now on Fridays to work with me. He's [child] going into the packing house.' We've heard that. We haven't heard it as a concern, but like it's good that they [children] can contribute a little more money to the family, and they're also teaching them a good work habit. I think that it's not seen the same way in the family. That this is an injustice, of course it is, because you're getting money from a boy who is working hard like a man and you're paying him half or you're not paying him at all, and he's not making his life as a boy. That's the thing. We've heard more comments about that, families saying that, "Now he's coming because he didn't have school and he didn't have this." I don't know the numbers, but believe me, many families don't see it as a problem but as a blessing.

Marcos's interwoven narrative of his perceptions of families' perspectives on their children working and his acknowledgement of conditions seen by many as child labor adds a level of complexity to these findings. Yet, it simultaneously demonstrates the normalization and acceptance of precarious work among financially insecure families amidst structurally vulnerable conditions.

3.2.1 | Subtheme: Accepting work risks out of necessity

In the context of financial insecurity, exacerbated by the pandemic, many families had few options but to continue working despite the health risks. Marco, the service provider in the non-profit sector, aptly described this situation:

> In the beginning, they started closing the workplaces, "Everyone stays home." We all know who can stay home and continue to work from the computer and who can't stay home. There's clearly a distinction between populations. Once again, obviously, the people who work hard here in the community, if they go home they don't make money, and if they don't make money they don't eat because, unfortunately, a large majority of the Latino and agricultural population here in North Carolina work by paycheck and have no savings.

Daniel, a service provider in education, echoed a similar sentiment about farmworkers in general, "I think workers felt like they needed to go to work every day to survive. So, they didn't have a choice of, like, staying at home or going to work and exposing themselves and their families to COVID." Patricia, an education service provider, shared a parallel framing, "[Farmworker parents] do what they have to do…to provide for their children, for their families." Often, this meant bringing kids to work to increase their family income despite the risks. Relatedly, Laura, an education service provider, recalled, "One student [said]…toward the beginning like basically [she was] made to feel like she had to work…when she did not feel like the conditions were safe, but she felt like she was obligated, like she had to go in to work."

Youth expressed the difficulty of their own families' situations and their own need to work despite the risks. Jorge, a 15-year-old boy, declared, "[Working], I mean, it's not really a choice, it's just like you have to…. 'Cause we gotta earn money one way or another." Gabriela, a 16-year-old girl, described a mix of worry and frustration, "It was harder…the fact that, you know, there was a pandemic and that you could get sick and then, you know, you still have to pick. We still have to work, you know?" Christopher, a 12-year-old boy, explained, "Like my dad, he had [COVID] and still wanted to work, too. Because he wanted to, you know, earn something at least." Youths' narratives and service providers' comments demonstrated the obligation of working due to economic constraints and the precarious predicament this created for Latine farmworker families during the COVID-19 pandemic. Notably, this obligation was not only felt by adults but also by youth, causing youth to make health sacrifices at an early age.

3.3 | Theme 3: "[Supervisors] cared more about getting the job done": Prioritizing productivity over workplace protections

Service providers and youth reflected on the degree to which employers and supervisors incorporated COVID-19 safety protocols in agricultural workplaces. For the most part, participants' narratives indicated lack of emphasis on workplace safety. Rosa, a non-profit service provider, simply said, "I don't think [safety protocols] were fully implemented." This sentiment mirrored what Daniel, an education service provider, said, "I don't think growers really took…any concrete proactive steps to protect workers." Another non-profit service provider, Marco, commented on a disconnect between official safety guidance at the time and the reality of what was happening to farmworkers in the fields:

> It was there that if you had COVID, the CDC said, "You should isolate yourself if you have COVID." But when you arrive at a field, the reality is that they're all together there, and if someone had COVID, they told you, "Take an aspirin and get well and whatever." That was there at the beginning.

However, one service provider in the health sector (Maria) observed that some employers did implement safety protocols,

> So, depending on where you go, some growers would actually ask for you to have like a face mask and to wash your hands frequently. So, they would have water stations there. Um, they would only let you be like with your family group. If you guys were together, you could be together, but if not, then you guys had to be like super separate.

Many youth described limited, if any, attention to COVID-19 safety protocols from the growers and supervisors. Jessica, a 13-year-old girl, described how the grower left safety practices up to the workers, and indicated that the grower's primary concern, as he explicitly stated, was getting the job done:

> The only thing that I heard is that [the grower] only wanted the job, that's all that he wanted. And it was of our option. If we wanted to go, we can. If we didn't, just leave it there and he can try to do it. Like, he says, "if you want to wear a mask, you can wear it. Or if you want to be six feet apart you can do it. I mean, I won't be against that neither." That's what he said.

Christopher, a 12-year-old boy working in tomatoes, described the work safety environment in a similar way, "It was more like, 'We got to get this picked'…. They were cautious about it but, like, didn't offer us anything or help. They just continued on with their own business." Sofia, another 12-year-old, emphasized, "Oh, they wouldn't tell you to wear masks. Like they didn't like really care…They just cared about the work."

Youth perceptions that bosses cared more about the quality and quantity of work than workers' safety came through in other narratives as well. A few said their bosses would come "Just to check how we were doing it and stuff and if we're doing it correctly" (Luz, 14-year-old girl) or "just checking, the basics, it wasn't much, but it was that we were doing something (Lucas, 17-year-old boy). On the other hand, some described minimal safety instructions such as "they told us to wear a mask and for safety basically that stuff…. that's all they said" (Selena, 11 year old girl) or "he would sometimes tell us to get some hand sanitizer to be safe" (Ana, 14 year old girl). Juan, a 17-year-old boy, recalled the safety information provided while he was working at a blueberry packing facility, "Ah, well yeah they gave us like…a little paper that just told you like what to be cautious of and what to be aware of with the whole pandemic thing."

Others observed less of a presence of their bosses during the pandemic. Selena, an 11-year-old girl said that the bosses "came less" during that time. Christopher, a 12-year-old, speculated, "The bosses just stayed at home, I think…the main boss, we didn't really see him during those times of the pandemic." In some cases, the absence of the bosses affected the provision of basic supplies, "I mean, he would come and check on us, before the pandemic started, and now…he didn't. Like, he would give us, like, water, but now we had to get our own supplies" (Carlos, 11-year-old boy).

3.3.1 | Subtheme: Workers taking safety in their own hands

In the absence of meaningful employer-provided safety materials and protocols, some adult workers organized their own practices to protect themselves. For example, Maria, a health service provider,

described how workers would organize physical distancing by family group,

> In farm work it's like there's different rows [of crops]. So, one row you would get with your family, the next row, no one gets it. The next one, another person would get it. And if that person has like family, they would get it. And then so they would get one and skip one, get one, skip one. That's what they would do.

Daniel, an education provider, said "I think that any kind of masking requirements and stuff.... the workers sort of took their health into their own hands in terms of like taking precautions themselves as opposed to being like sort of mandated by an employer." Youth narratives reflected similar experiences of workers taking safety into their own hands. When asked about who provided information about safety in the workplace, Jessica, a 13-year-old girl, replied,

> Basically adult [co-workers], like not the boss...he would say just get the job out. That's all that I need, the job. And the things that we'll talk [about] will be my mom and the other person who's...working with them. That's how they agreed [on how to work safely]."

Paula, another 13-year-old girl, shared that they decided to wear masks because "we just wanted to be safe." An 11-year-old boy stated that the workers "[started] bringing masks and gloves to cut [the crops]" (Alexis). One non-profit service provider (Marco) remarked that safety attitudes were not always uniform among workers, but that many "people were scared to go to work." He elaborated,

> There have been people who said, "I don't wear a mask. That's silly. There are no viruses." And scared people went to work with a mask. [Our non-profit] has been giving out [N95] masks, and we've seen that. [Recipients have said], "It's ideal if you're giving masks. Give me one because I work and in those conditions."

3.3.2 | Subtheme: Youth's positive perceptions of bosses

Many youth described their bosses negatively as absent or uncaring; however, several described them in more positive terms. For example, a few described their supervisors or bosses as "nice" (Lupe, 16-year-old girl; Ana, 14-year-old girl). While some of the youth narratives reflected positive relationships with supervisors, when asked about what made them "nice," participants frequently cited their supervisors' provision of things generally required by law, such as allowing breaks and having water available. Alexis, an 11-year-old boy, said,

> [The grower is] very generous. Um, sometimes when he says that – it's too hot, he will come and say, "Take a break 'cause" – and he will bring us water, cold water, and give it to us. Or sometimes he will say, "Take a break, um, if y'all want to. Or if not, y'all can keep working."

Similarly, Selena, an 11-year-old girl, explained, "whenever we're really thirsty or whenever we're really hot, he comes to leave some drinks for us, some cold drinks." Alejandra, a 14-year-old girl said, "He cares very much, because, um, my sister, she was sick for a while, and then, um, she wasn't allowed to do anything heavy." Luis, a 16-year-old boy, described what he perceived as a very positive relationship with the crew leaders, "because they saw us as family basically, so they took really good care of us." He later continued, "they gave us, uh, information on how to be safe and – *sometimes* they even gave us supplies to take care of ourselves" (italics added by authors). When asked about the boss's concern for safety, Jessica, a 13-year-old girl, pondered,

> He probably would care a lot...because he always gave us extra food. Probably. Um, he will give us every single time a break. He will say you can take a break, since it's so hot. He will bring us water. He would do everything necessary to give, to keep us hydrated.

Joel, a 10-year-old boy who completed odd jobs for a farmer, interpreted basic work practices as acts of generosity from the farmer, "he will cut [the trees] in pieces... we would pick them up. And he cut them in pieces [so] it would not be hard for us."

3.3.3 | Subtheme: COVID-19 as an added risk to an already hazardous environment

While many youth described the added hazards of COVID exposure as a potential concern, others described a difficult work environment due to the "usual" hazards of agricultural labor. Many of these concerns revolved around strenuous work in the heat. Jose, an experienced 17-year-old tomato worker, vividly described the struggles of getting acclimated to working in the heat,

> [This year has] been hotter than any other year...For a whole week straight I remember it was like 100, over 100. Like lowest it got for over a week was 100. And that was really tough on us.... So, there it was just like every two buckets you have to catch your breath 'cause like it's just really hot. Especially when it's about to rain it was even worse 'cause it's all humid.... You feel like you can't even breathe no more.... First day I

> got there like I couldn't no more. I was always stopping like every like two buckets for a whole half hour. My dad was like telling me just catch your breath, like drink some water. And when I got home and my back was killing me. My legs were killing me. I couldn't like bend myself or anything. I remember that day I just took a shower, and I went to sleep. Like I was just really tired, and I just stayed sore for like another week and then I finally got used to it again.

Other youth commented on the heat as well. Jessica, a 13-year-old girl, said, "I really wanted to go home because it was so hot." A 12-year-old boy described the work, "It's hot. It's tiring. It's pretty dangerous, too" (Christopher). Luis, a 16-year-old boy, stated that "there wasn't much we had to worry about, like much danger or anything. Mostly just the heat, we – we'd usually just wear hats, we did wear masks at some points."

Some youth reflected about the difficulties related to their physical size, awkward postures, or strength. Alexis, an 11-year-old boy, described working in green beans and squash,

> 'Cause I'm not a teenager yet. I – I'm a kid. Um, it has been hard. I was the one who had to carry buckets and sometimes cut. Or when my mom sees that I struggle, she will, um, come and tell me, 'Take a break and take everything calm. If you want to go take a break, then you'll be the one who carries the bucket.' That's what my mom says when I feel like hot, tired, depressed.

Lupe, a 16-year-old girl, who also worked in green beans, explained,

> In the green beans, your back gets really tired because you're hunched over with your bucket trying to pick them all.... I don't know how to explain it, but for some reason it's harder in the green bean field.... But yeah, it's like you get really um, [sun]burnt sometimes if you're not wearing like proper equipment. And yeah, the buckets are really heavy. You could like get hurt with them. And I think putting them in the bag was like the biggest, the hardest thing. Because they were heavy, and you'd have to have the bag. And me, I'm not very strong. So I had to like flip it over. And sometimes they would like fall out of the bag. And then I'd be there like picking it up, putting it back in.

Paula, a 13-year-old, described picking strawberries,

> It was not that hard. We just had to pull them. But like they were long rows, so it was really tiring. And then you had to like bend down and try to get them from underneath, so it was like really hard. And then like we started having like back problems. So like we calmed down a little bit, like we just started – we started working like less because like we didn't want anybody to get hurt.

Alejandra, a 13-year-old girl, who was not working in field crops, but in an egg production facility, referred to an entirely different set of concerns depicting several hazards,

> The rats eat...the cracked eggs. And then, so, [the farmer] puts, like, rat poison around the period of times we're not there.... So, like, you won't come across rats.... Happened to me once. Traumatizing. [Laughs].... And those rats are huge...it was very scary. And then, there's, like, powdered bleach...in front of each house. So before we go in the house, we would have to put our feet in there, to like, bleach our feet... to avoid any viruses to go in.

The themes and subthemes presented vividly depict the context in which Latine youth farmworkers and their families experienced interrelated challenging circumstances ultimately affecting their health during first 2 years of the pandemic.

4 | DISCUSSION

The perspectives of service providers and Latine youth farmworkers suggest that some youth worked more during the first 2 years of the pandemic than before the pandemic. In many cases, the increased work among youth related to multifactorial scenarios in which school closures, difficulties and frustrations with online school, and the increased economic need of families all combined to create these conditions. Few, if any, studies have addressed increased agricultural labor among youth during the pandemic in the US. However, news outlets have covered an uptick in child labor violations in non-agricultural industries in years since the pandemic began.[47,48] Many studies have established the extreme negative economic effects for diverse Latine communities,[49,50] as well as the difficulties and disadvantages in schooling for Latine youth during the pandemic.[22,51,52] In a study before the pandemic, Arnold and colleagues found that the primary reasons that Latine youth stated for their involvement in farm work was to contribute to the financial needs of the family through means of direct (e.g., giving a portion of their earnings) and indirect (e.g., buying their own school supplies and clothes) support.[53] The present study strongly suggests ties between the relationship of increased youth work and financial precarity during the pandemic.

Both service providers and youth acknowledged the increased risks of exposure to COVID-19 but felt that they "had no other options" but to take risks to stay afloat financially. Many participants described a work safety environment in which employer-provided health and safety precautions were minimal or non-existent. In the absence of meaningful protections, some adult workers organized their own safety practices, including working in a way to physically

distance and bringing their own supplies. These findings parallel what Perez-Lua and colleagues (2023) observed with adult Latinx farmworkers in California, where the absence of meaningful regulatory oversight increased COVID-19 workplace risks.[12] While farmworkers enacted their own COVID-19 preventive practices, these practices were constrained by their limited agency in the workplace due to financial precarity and exclusion from other governmental support systems.[12]

Many youth emphasized how their employers cared more about getting the job finished than about work safety in the context of COVID-19. In two separate survey samples of NC Latine youth farmworkers before the pandemic, more than one-third (38%) and one-fifth (22%) reported that their supervisors "are only interested in doing the job fast and cheaply".[54,55] Therefore, it is not surprising that supervisors' minimal attention to work safety persisted during the pandemic. In addition to the added risk of COVID-19 infection, youth discussed other concerns, often revolving around strenuous work in the heat. Research before the pandemic with Latine youth farmworkers has documented high rates of occupational injury [26,27,56] and heat-related illness.[57] One implication for adolescent development and longer-term health from the present study is that the increased time working during the pandemic may have led to greater exposure to the well-established hazards (e.g., pesticide exposure) of agricultural labor in addition to the threat of COVID-19.

While many youth described their supervisors in a negative way, a few participants spoke positively about their employers, using terms such as "nice," or "generous." These interactions between employers and farmworker families suggest a positive view of employers, yet they simultaneously reveal something deeper about the youths' knowledge of basic work safety requirements and demonstrate very low expectations for the role of the employer in ensuring a safe working environment. For example, youths' statements about the generosity of supervisors were often followed by descriptions about the supervisors' provision of water or rest breaks, which are generally required by law. The willingness to accept poor working conditions may reflect the broader desperation of some of the families amid limited options or fear of being replaced by other workers.[58] A few service providers commented that some families view their children's ability to work "as a blessing." Similarly, some youth made statements indicating low expectations such as "we would work for anyone, honestly." In one case, a participant described declining a bosses' offer to be "paid more per hour," out of the participant's perceived sense of fairness. Yet, another plausible interpretation of this situation is that accepting lower wages and poor work conditions may relate to workers' fear of job loss or as a strategy to increase their odds of future employment with the same grower, as other studies with farmworkers suggest.[10,59] With the locus of power shifted so heavily toward the employer, it is unsurprising that, as one service provider put it, "[farmworker parents] do what they have to…to provide for their children, for their families."

4.1 | Strengths and limitations

The results of this study should be interpreted with an attention to its strengths and weaknesses. Using a CBPR approach, we recruited a difficult-to-find population of youth to learn about their experiences during the pandemic. While the inclusion of service providers and youth farmworkers allowed for multiple perspectives on the same phenomenon, these results may not reflect the experiences of Latine youth farmworkers in other areas of NC or in other states. We asked youth to discuss their experiences over the last 2 years, so there is a potential for recall bias. Additionally, youth who would have been aged 16 or 17 at the beginning of the pandemic (in 2020) did not meet the study's 2022 inclusion criteria of presently aged 10–17. The retrospective perspective of older youth, especially regarding work hours, schooling, and childcare responsibilities, were likely different from the younger sample recruited for this study. Evidence from service providers suggests age-related differences, but older youth who could have elaborated on their experiences were not included in the study. Despite the limitations, this study is one of the few to explore the experiences of Latine youth farmworkers during the pandemic by drawing from interviews with service providers and youth in their own voices.

4.2 | Implications for policy and practice

Addressing the economic need of farmworker families, a structurally vulnerable population, is imperative for reducing hazardous work exposures among children and youth. The present study adds to research before the pandemic demonstrating that financial precarity is a primary driver of youths' involvement in dangerous agricultural work.[53] At the same time, the results suggest the presence of strong ties within the family, which indicate a level of resilience to the negative effects of the pandemic. Efforts to bolster the resilience of rural farmworker families through culturally appropriate tailored approaches would add to existing strengths and help prepare for future adversities. Given the complex interplay between work and school for Latine youth farmworkers, addressing digital/technological disparities and enhancing digital literacy can help prepare for future public health disasters by ensuring a more equitable shift to online school modality, should it be necessitated.

Current child labor laws in agriculture date back to 1938 and allow children under 12 years old to be hired for farm work. Updating these laws to be appropriate for the modern agricultural industry is imperative to ensure protections for these youth. However, such updates should deeply consider the potential for unintended negative economic effects that could result from abrupt changes, as many families rely on the income contributions from working youth. Wages in agricultural labor have remained stagnant for decades. Increasing economic justice by providing a fair wage and job benefits within agricultural labor could help reduce the need for youth and children to work. Providing safer work alternatives, job training programs, or supplementary educational activities could help reduce hazardous

work exposures among youth while simultaneously building skills for the future.

The COVID-19 pandemic highlighted the critical role of "essential workers" in the daily functioning of society. The results from this study incorporating the perspective of service providers and the firsthand experiences of youth farmworkers suggest that workers in some essential sectors, such as agriculture, were not afforded even basic workplace protections. Workplace protections that account for new emerging threats (e.g., infectious diseases such as COVID-19) are imperative. Yet, these protections may prove ineffective without meaningful enforcement. Efforts to educate workers about basic workers' rights should incorporate strategies to involve and target youth. Empowering youth to have a voice in their workplace could be a powerful mechanism for ensuring safer workplaces. The finding from this study that workers organized their own safety protocols shows promise for organizing around other workplace issues.

This CBPR study drew from the narratives of service providers and Latine youth farmworkers to understand and describe their perspectives on work and work safety during the first 2 years of the pandemic. The findings represent a unique opportunity to understand and address the overlapping structural factors shaping the longer-term health and development of a vulnerable population that is often ignored by policymakers and the public. The labor of farmworkers, including youth as young as 10-years-old, protected against the collapse of the US food system during the pandemic, yet basic workplace protections were sorely lacking. Importantly, the findings indicate an urgent need for policy solutions focused on structural determinants of health (e.g., political, economic, educational, and social) shaping the distribution of resources and power for vulnerable populations. Service providers and youth described family financial needs and disenchantment with online schooling as salient motivations for increased work during the pandemic. Youth acknowledged the regular hazards of agricultural work (e.g., strenuous work in extreme heat) in addition to the emergent threats of COVID-19, yet many felt they had few other options. Amid minimal employer-provided safety practices, youth described some adult workers organizing their own safety protocols. We found nuanced results in youths' perspectives of their supervisors' emphasis on safety, with most feeling that productivity was prioritized over safety, while some feeling that their supervisors were generous for providing water or breaks. Future research and programming should monitor and intervene upon the longer-term impacts of the pandemic on the work and educational patterns of Latine youth farmworkers and other vulnerable rural populations. All research, policy, and practice should incorporate the affected communities throughout the process.

AUTHOR CONTRIBUTIONS

Taylor J.Arnold participated in study conceptualization and design, acquisition of funding, project management and data collection, data analysis and interpretation, and manuscript writing. Sharon D.Morrison participated in study supervision, data analysis and interpretation, and manuscript review. Michelle Y. Martin Romero participated in data analysis and interpretation, and manuscript writing. Sandra E.Echeverria participated in data analysis and interpretation and manuscript review. Sylvia Zapata participated in data analysis and interpretation and manuscript review. Sara A.Quandt participated in study conceptualization and design, supervision, data analysis and interpretation, and manuscript writing. Fabiola Torres-Lara participated in study conceptualization and design, translation of study materials, data collection, data analysis and interpretation, and manuscript review. Jose A. Robles Arvizu participated data collection, data analysis and interpretation, and manuscript review. Thomas A.Arcury participated in study conceptualization and design, supervision, data analysis and interpretation, and manuscript writing.

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Research data are not shared.

ETHICS APPROVAL AND INFORMED CONSENT

All procedures were approved by the Wake Forest University School of Medicine Institutional Review Board (IRB00079264). Service providers provided informed consent through verified electronic signatures via DocuSign. Participants' parents provided written consent, and youth participants provided written assent.

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ENDNOTE

* We acknowledge the highly contested debates surrounding terms such as Latino/a/x/e that attempt to categorize extremely heterogenous groups of people. We did not ask youth participants to specify their preferred term. However, in an effort to be as inclusive as possible, we use "Latine" in this study.

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SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.

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