Musculoskeletal Injury Symptoms Among Hired Latinx Child Farmworkers in North Carolina

Short Title: Hired Latinx Child Farmworkers

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Abstract

Background: Although children 10 to 17 years can be hired to work in agriculture, little research has addressed possible musculoskeletal injuries. Children may be at particular risk for these injuries because of the repetitive and load bearing nature of work tasks. Existing research relies on child workers to self-report musculoskeletal injuries.

Methods: In 2017, 202 Latinx child farmworkers ages 10-17 employed across North Carolina completed survey interviews. In 2018, 145 of these children (94 [64.8%] current farmworkers) completed a physical examination and second interview. The examination obtained findings for upper and lower extremity as well as back injuries.

Results: Positive indicators for musculoskeletal symptoms were few in either current or former child farmworkers. The knee was most common site for positive indicators with 15.4% of children having at least one. Combining all anatomical sites, 29.0% of children had at least one positive indicator, with no significant difference between current and former farmworkers. Overall, boys had significantly more indicators of knee injuries than girls (21.3% vs. 4.1%), indicators of ankle injuries were found only in the youngest workers (9.5% of children 11-13 years), and significantly fewer current farmworkers had indicators of lower back injuries than former farmworkers (6.4% vs. 17.7%).

Conclusions: Expectations of injuries come from previous studies using child farmworker self-reports, adult farmworker injury rates, and sports medicine pediatric findings. Hired child farmworkers may not perform activities as repetitious and load-bearing as children in sports

training or adult farmworkers. Additional research using physical examination is needed to confirm these findings.

Key Words: Occupational injury; child labor; migrant and seasonal farmworkers; Latino/Hispanic; agricultural health

Introduction

One child in ten in the world performs work that could cause physical damage.[1] Although much of this child labor happens in low-income countries, it also occurs in high-income nations such as the United States (US). While it is often assumed that most children performing farm work in the US work on family farms, a significant number of child farmworkers are hired to work on farms owned and operated by non-relatives. Precise data are not available, but estimates place the number of hired children farmworkers in the US between 30,000 and 79,325.[2,3] Most are Latinx, immigrants or children of immigrants, and from families with low incomes.[4]

Agriculture is unique among US industries by permitting children to be hired at young ages to work with few limits on hours and on tasks performed.[5] The Fair Labor Standards Act allows children as young as 10 years of age to be hired. Children 10 or 11 years of age can hold any nonhazardous farm job with parental permission on farms exempt from FLSA minimum wage requirements (i.e., small farms). Those 12 or 13 can be hired for any nonhazardous farm with parental permission on any farm. Older children do not require parental permission. 14 and 15 years olds cannot hold hazardous jobs, but those 16 and older can be hired for any job, hazardous or not. While children under 16 cannot work during school hours, children 16 and older can work unlimited hours with no regard for school hours.[6]

Agriculture is known to be a dangerous industry in which to work, with high fatalities and injuries. A recent report by the US Government Accountability Office found that, from 2003 to 2016, 52% of work-related fatalities among children aged 17 and under were in agriculture. Injury data for children are also incomplete, but data on adults suggest that musculoskeletal injuries are likely quite high.[7] Farm work requires repeated bending, stooping,

kneeling, lifting, and carrying. Such repetitive motions put workers at greater risk of developing musculoskeletal injuries. Some specific activities have been identified as particular risky. Allread and colleagues found increased stressors on the low back with certain agricultural activities.[8] In adult farm workers, younger participants reported more joint pain than older farm workers.[9]

Children may be at particular risk for musculoskeletal injuries because of their immature musculoskeletal system. Intrinsic factors such as increased muscle and tendon tightness, decreased stability of cartilage, and bone mineralization factors are can lead to increased risk. In addition, inexperience or improper technique with motions can increase risk of injury.[10] The largest body of evidence of such injuries in children comes from sports medicine where overuse injuries are a significant concern among active pediatric patients, although most compiled injury data are focused on acute injury. Almost 2 in 5 child athletes (39%) reported an overuse injury.[11] Studies have shown an increased risk of overuse injuries in older pediatric patients and in girls.[10]

The existing literature on musculoskeletal injuries in children working in agriculture suggests that they should be expected to suffer musculoskeletal disorders at a rate that is equivalent or higher than adult farmers.[12] However, the literature is limited. Most of it relies on self report with no attempt to collect objective data through physical examination.[13,14] A recent study noted that 42% of youth farm workers reported experiencing a musculoskeletal injury in the twelve months prior to interview.[15] In another study, over half of a sample of youth farm workers (54%) had reported some type of musculoskeletal injury in the past twelve months, with upper extremity injuries being seen more frequently than lower extremity injuries.[16] In a cohort of adolescent farmworkers from South Texas reporting for the nine month work season, 18% of the acute injuries that occurred were musculoskeletal in nature. The majority of these injuries were in the back and upper extremity.[13] This same sample also reported severe back pain in

15.7% of youth farmworkers.[14] This particular cohort was similar to most others in the literature in that they were self-reported injuries. There are few studies that involve musculoskeletal exam data collected on migrant workers. Mora et al. described physical exam findings in a cohort of adult migrant farmworkers, noting prevalence of 19% for epicondylitis, 15.7% for rotator cuff syndrome, and 14% for lower back pain.[17]

This paper draws on data collected from a large sample of hired Latinx child farmworkers in North Carolina. These children include both migrant and seasonal workers and ranged at enrollment from 10 to 17 years of age. The aims of the paper are to: (1) describe the prevalence of musculoskeletal injury symptoms among child farmworkers as determined by physical examination; and (2) evaluate the association of musculoskeletal injury symptoms with child characteristics and work characteristics.

Materials and Methods

The Child Farmworker Study is a community-based participatory research study examining the effects of farm work on the health and development of Latinx child farmworkers. A thorough description of the overall study design and the child farmworkers has been published elsewhere.[18] Briefly, children were recruited in 20 counties, with about three-quarters of the sample coming from eastern North Carolina and the remainder from western North Carolina. Recruitment was assisted by community partners who tapped networks in rural counties to locate child farmworkers. Crops most often worked in the week prior to interview were tobacco, berries, tomatoes, and sweet potatoes. Research partners include Student Action with Farmworkers (SAF), Wake Forest School of Medicine, and East Carolina University. The study is informed by a professional advisory committee, and a youth advisory committee consisting of members of the SAF *Levante Leadership Institute*.

The study began with a 2017 baseline survey of 202 child farmworkers, including 126 males and 76 females. In the first survey interview, 172 (85.1%) of the participants were interviewed in English, with 30 (14.9%) being interviewed in Spanish. Clinical examinations and follow-up survey interviews were conducted in 2018 and 2019. The Wake Forest School of Medicine Institutional Review Board approved the research protocol and procedures.

Participants

At recruitment, participants: (1) were aged 10 to 17 years; (2) self-identified as Latinx; (3) were employed to do farm work in the prior three months; and (4) were fluent in Spanish or English. Study staff obtained parental permission and child assent for all study procedures at baseline. To maximize retention of the original 202 participants in 2018 and 2019, project staff contacted participants throughout the year with reminders of upcoming study procedures. In 2018, 186 individuals (then ages 11-19) completed the second survey interview and 145 of them completed the follow-up clinic questionnaire and examination. These 145 individuals are the focus of this paper.

Data Collection

Participants were contacted first for an in-home fixed response survey interview that repeated topics from the initial survey conducted in 2017. Methods for this survey have been described elsewhere; participants received a $20 incentive for its completion. After this interview was conducted, each participant was scheduled to attend a data collection clinic at which participants completed an interviewer-administered questionnaire focused on covariates of the clinical examination as well as spirometry tests, and musculoskeletal examinations, and anthropometry. Clinics were held on ten Sundays in different locations throughout North Carolina based on proximity to where participants lived, with multiple dates in high-density

locations. The majority of clinics were held in schools or community colleges. Transportation to the clinic was provided for participants as needed. Participants attending a clinic received a $40 incentive. All data were recorded in booklets, and then entered into REDCap (Research Electronic Data Capture), a secure web-based system, to record data.[19]

Clinical data for musculoskeletal examinations were collected by a primary care sports medicine trained and board certified physician (author CM) or by a resident or other health care provider trained by CM. The training involved watching a video produced by CM and then demonstrating competence and consistency by review post training.

Measures

Personal characteristics used in this analysis include gender (girl, boy), age (in the categories 11-13 years, 14-15 years, 16-17 years, 18-19 years), and whether born in the US or another country. Language preference was based on the choice of language for the initial interview (Spanish or English). Current work status is whether or not the child reported doing farm work at either or both the survey interview or clinic in 2018; the categories resulting are current farmworker and former farmworker. Migrant status at baseline is a dichotomous indicator of whether the participant was a migrant worker (changes residence from state to state annually for agricultural employment) or a seasonal worker (does not change residence for agricultural employment); the measure reported was obtained in the baseline survey in 2017. Also at baseline, children were asked what language they spoke at home, with options being Spanish, English or another specified language. The number of years worked in farm work is divided into the categories of 1, 2, 3, and 4 or more years.

Case definitions and exam maneuvers for the upper extremity and low back were similar to that described by Rosenbaum and Mora.[17,20] Specifically, the exam of the shoulder involved

muscle firing patterns of abduction, forward flexion, and external rotation as well as palpation of the proximal shoulder in the area of the apophysis or rotator cuff insertion. For the elbow, the exam originally defined by Werner et al.[21] was modified for pediatric elbow injuries of the apophysis based on exam maneuvers described by Benjamin[22] to include a valgus stress test. The knee exam was designed to identify pain in the extensor mechanism or at the tibial apophysis, as described in a review of pediatric musculoskeletal injuries.[23] The exam of the heel in pediatric patients with possible apophysis injury was guided by Cassas and Cassettari-Wayhs.[24]

Positive or negative findings were recorded for the elbow (presence of pain over the medial and lateral epicondyle, lateral pain with resisted active wrist extension, medial pain with extended wrist flexion, pain with valgus elbow at force with 30 degree flexion), shoulder (presence of pain with resisted abduction; resisted external rotation; resisted internal rotation; forward flexion of the upper arm; or tenderness to palpation of the anterior, lateral and proximal shoulder), lower back (presence of pain with flexion, extension, side extension, or rotation, as well as tenderness with palpation of the lumbosacral area), knee (prominent tibial tuberosity, tenderness at the tibial tuberosity, pain with resisted extension), and ankle (pain with resisted plantar flexion or tenderness at the calcaneal apophysis). A summary measure of "at least one examination finding" was created for each of the five areas as well as across all areas of examination.

Data Analysis

Frequencies and percentages were calculated for personal and work characteristics of interest. The prevalence of musculoskeletal pain was calculated for each of the individual points of examination within the categories elbow, shoulder, lower back, knee, and ankle. The

prevalence of musculoskeletal pain was also calculated for the summary variable of "at least one exam finding" for each of the five body parts of interest as well as an overall "pain at any site" variable. Associations of the prevalence of musculoskeletal pain with gender, age group, current work status, migrant/seasonal status, and years worked in farm work were examined using Chi-Square or Fisher's Exact tests as appropriate. These associations were examined for pain at any site and for each of the five body part summary variables. Finally, multivariable logistic regression models were used to examine the prevalence of pain adjusting for co-variates of gender, age group, current work status, and years worked in farm work. This was completed for all summary pain variables of interest except ankle, which was excluded due to the small sample size. All analyses were completed using SAS v. 9.4 (SAS Institute, Cary, NC) and p-values of less than 0.05 are considered statistically significant.

Results

Approximately one third (34.5%) of the sample consisted of girls and the remaining two thirds (65.5%) were boys (Table 1). Most (81.4%) had been born in the US, and most (86.9%) chose to speak English for data collection. At the time of the data collection in 2018, they ranged in age from 11 to 19. About two thirds were between the ages of 14 and 17. At that time, they had worked in farm work from 1 to 12 years, with over a third (35.2%) reporting 4 or more years. Ninety-four children reported being current farmworkers at 2018 data collection; the remaining 51 were former farmworkers, no longer employed in farm work. When recruited at baseline 11.7% were migrant workers and the remainder were seasonal workers.

Physical examination for musculoskeletal pain had relatively few positive findings at any anatomical site (Table 2). At the elbow, approximately 10% of children (9.7%) had at least one

positive finding. The percentage with at least one positive finding was greater in current than former farmworkers (12.8% vs. 3.9%), although the difference was not statistically significant. Even fewer instances of pain were found for shoulders (6.9% overall, with little difference between current and former farmworkers). About 1 in 10 (10.3%) had at least one positive finding for the lower back. A significantly greater percentage of former farmworkers had positive findings for lower back than current farmworkers (17.7% vs. 6.4%; p=0.0455). For the knee, 15.4% of the children had at least one positive finding; current and former farmworkers had similar findings. There were only 2 findings at the ankle, both in current farmworkers. Combining all examination sites, 29.0% of children had at least one finding, with the proportion in current and former farmworkers virtually the same (28.7% vs. 29.4%, respectively).

The presence of any indicator of injury in total or by anatomical site was examined by demographic and work characteristics for the total study sample (Table 3). Only three comparisons reached significance: more knee injuries among boys than girls (p=.0066), more ankle injuries in the youngest age group (p=.0201), and fewer lower back injuries among current farmworkers compared to former farmworkers (p=.0455). However, all three would not be significant if adjusted for multiple comparisons.

Using multivariable logistic regression models for prevalence of pain at any site, elbow, shoulder, lower back, and knee, with co-variates of gender, age group, current work status, and years in farmworker, all significant associations indicated in Table 3 are no longer significant with exception of the prevalence of pain in the knee and gender. The odds of having a positive knee finding for males is 6.8 times that of females (CI = 1.5-31.1; p = 0.014).

Discussion

This study revealed unexpectedly few positive clinical findings among Latinx child farmworkers who underwent examinations by sports medicine physicians for musculoskeletal injuries at five anatomical sites. In no cases were positive findings clustered within one child to make for a clinical diagnosis of a specific acute or overuse injury such as Osgood-Shlatter, elbow apophysitis or Sever's disease. Because of the study design, which scheduled physical examination for injuries in the second year of a multi-year project, some children had not participated in farm work in the year when examined. Despite this, there is only one significant difference between current and former farmworkers in injury prevalence, a finding of at least one examination finding for lower back pain in 6.4% of farmworkers, compared to 17.7% of non-farmworkers. Such a finding could indicate that child workers with back injuries had dropped out of farm work or that they had engaged in other more injurious activity since leaving farm work. Few indicators of injury were associated with demographic or work characteristics. All were non-significant when examined in a multivariable logistic regression analysis.

It is difficult to compare these findings with those of other studies of child farmworkers because of differences in study design and methods. All data in existing studies[13,14,25] were collected by self-reports rather than physical examinations. Many of the musculoskeletal injuries reported in other studies are acute injuries such as fractures, which would be unlikely to occur at a time to be detected by the physical examination conducted in the present study. Other studies also surveyed youth in high schools, thereby excluding younger child farmworkers and those not enrolled in school. Research reported elsewhere has shown that 10% of the 16 and 17 year olds in the current study were not enrolled in school at study baseline.[26]

Possible explanations for these null findings come from several lines of reasoning. First, the expectations of injuries underlying this study come largely from the adult farmworker

literature[8,9,17] and the pediatric sports medicine literature.[10,11] Adult farmworkers are known to spend long hours and six days per week in single tasks (e.g., picking tobacco) that require an awkward posture and lifting heavy loads; they may have limited opportunity for acclimatization to physical work demands.[12] The pediatric sports medicine literature often focuses on children whose sports training involves intensive repetition and force. It is possible that children in farm work are assigned to perform activities that do not exert forces equivalent to those of adult farmworkers and that their work experience is not comparable to the time spent in repetitive motion or load-bearing activities during intensive youth sports training. At baseline in the total sample of children, a third reported working between 3 and 20 hours per week at the time of interview and about half reported working 3 to 5 days per week.[18] While these work characteristics may have changed by the time of the clinical examination, the fact that these children tend to work in ongoing work crews that return to particular growers and crops[28] and that older children work longer hours than younger[18] suggests that the work characteristics may be similar except for perhaps longer hours.

The results for this study may also demonstrate the healthy worker effect (HWE). The HWE argues that workers must be relatively healthy to perform physical work, which results in lower morbidity among workers than in the general population.[27] While no comparative data exist for the general child population, the HWE may help explain why the proportion of lower back injuries trends higher in former child farmworkers compared to current child farmworkers in this study.

Child farmworkers may also engage in less intense work and have greater task variety than adult workers. Qualitative interviews with Latinx child farmworkers, which were performed as a first phase of the current study, show that parents and other older workers

sometimes assist the youngest child farmworkers.[28] Such assistance includes finishing out harvesting or planting a row of crops when the child is tired or cannot keep up or carrying heavy loads such as boxes of seedlings. In addition, the qualitative work shows that younger children seem often to be asked to switch among multiple tasks. That is, they may do one task like picking vegetables for a period of time and then are sent to do something else like distribute empty boxes to workers. The occupational health literature supports the idea that task variety is associated with fewer overuse injuries, most likely due to different tasks using different movements and muscle loads.[29]

The lack of findings of overuse injuries is not particularly surprising in a younger population. The sports medicine literature shows greater prevalence of such injuries among older child athletes.[10] However, the lack of clinical findings does not rule out the presence of subclinical injuries that might be detected by other methods such as magnetic resonance imaging (MRI) or ultrasound. Clinically significant overuse injuries likely take time and repeated musculoskeletal strain to produce clinical manifestations.[10] We note that these children, at baseline, reported considerable musculoskeletal pain in the previous 12 months, which they associated with work,[15] suggesting the potential to develop detectable injuries.

This sample is quite heterogeneous when broken down by child and work characteristics, and this may also account, in part, for the lack of clinically significant findings. Age of the children at the time of the physical examination ranged from 11 to 19, and their experience in farm work ranged from 1 to 12 years. They reported at baseline working in a number of crops, including tobacco, blueberries, tomatoes, and sweet potatoes, performing tasks including planting, cultivating, and picking for a variety of employers.[18] Tobacco was the most common crop, with topping and harvesting, the most common tasks. Topping requires a worker to stand

upright and move quickly through the fields breaking off the plant blossoms from sturdy stems with a quick twisting wrist movement. In contrast, picking requires a worker to stoop, break off tobacco leaves from the underside of plants, place them under the non-dominant arm, and move down the row picking while maintaining the stooped posture. Picking blueberries requires both upright and stooped postures with repeated finger movements. Different employers may have different practices (e.g., hours, breaks) that also vary the physical demands.

The relatively few findings of musculoskeletal injuries in this study should not be interpreted as finding that farm work is safe for child farmworkers. Musculoskeletal injuries are only one risk for these children. Other risks such as pesticide exposure, heat stress, and unintentional injuries incurred using equipment have both short and long term consequences.[13,15,30,31,32]

Limitations and Strengths

The results of this study should be interpreted in light of its limitations. It was conducted in a single state, North Carolina, so findings may not be representative of all hired child farmworkers in other places working in other crops. Because no list of child farmworkers exist, recruitment was conducted tapping community agencies and partners to locate child farmworkers.[18] Although a diverse group of agencies and partners participated, there is potential for bias, which cannot be measured. Physical examination data were collected in the second year of the study. By that time, the sample was mixed, with some children still in farm work but with perhaps different work hours or days, some children not working, and others in a variety of jobs that likely had different physical demands from farm work. This may have resulted in a sample too small and heterogeneous to detect factors causing musculoskeletal symptoms. Data

collection for physical examinations could not be precisely timed to follow a heavy work period, and data were collected on a non-work day. The work performed by these child workers was across a variety of crops and with multiple employers. It may be that focusing on children working in a single crop and from a single employer with uniform physical and work organization demands would produce greater evidence of work-related musculoskeletal injuries. This study did not document concurrent participation in sports. However, the formative research undertaken to design this study found participation by only 10% of children in school athletics and none during the summer,[26] so there is likely little confounding by this.

Nonetheless, the study has several strengths. This appears to be the only study of hired child farmworkers in the US that has investigated injuries using physical examinations. Other studies have used self-reports of injuries and include acute musculoskeletal injuries. The very focus on hired Latinx children working in agriculture highlights a vulnerable group of children, that is difficult to study.

Conclusions

This study adds to the literature by providing physical examination data for hired child farmworkers in the US. The findings suggest that, among children doing farm work or recently having done farm work, musculoskeletal health is relatively good. While the prevalence of any one indicator of musculoskeletal injury is low, the finding that almost a third of the children had at least one injury indicator suggests the need for a more focused study. Such a study should examine the specific array of tasks associated with particular crops and assess the hazards such work presents for hired child farmworkers.

Data Sharing

The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

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Table 1: Participant personal and work characteristics, Latinx child farmworkers in North Carolina, 2018 (n = 145)

Personal and Work Characteristics	n	%
Gender		
Girl	50	34.5
Boy	95	65.5
Born in the United States	118	81.4
Language preference		
English	126	86.9
Spanish	19	13.1
Age (in years)		
11-13	21	14.5
14-15	45	31.0
16-17	50	34.5
18-19	29	20.0
English language spoken at home	128	88.3
Current work status		
Current farmworker	94	64.8
Former farmworker	51	35.2
Migrant status at baseline		
Migrant worker	17	11.7
Seasonal worker	128	88.3
Years worked in farm work		
1	27	18.6
2	40	27.6
3	27	18.6
4 or more	51	35.2

Table 2: Prevalence of musculoskeletal pain as determined from physical examination, child farmworkers and non-farmworkers. (*n* =145)

	Total		Farmworkers		Non-farmworkers	
	n	%	n	%	n	%
Total	145	100	94	64.8	51	35.2
Elbow						
Tenderness over the medial and lateral condyles	5	3.5	4	4.3	1	2.0
Lateral pain with resisted wrist extension	5	3.5	5	5.3	0	0.0
Medial Pain with extended wrist flexion	6	4.1	5	5.3	1	2.0
Pain with valgus elbow at force with 30 degree flexion	5	3.5	5	5.3	0	0.0
At least one exam finding	14	9.7	12	12.8	2	3.9
Shoulder						
Pain with resisted shoulder abduction	1	0.7	1	1.1	0	0.0
Pain with resisted external shoulder rotation	2	1.4	1	1.1	1	2.0
Pain with resisted internal shoulder rotation	1	0.7	0	0.0	1	2.0
Pain with forward flexion of upper arm	1	0.7	1	1.1	0	0.0
Pain with palpation of anterior, lateral , and proximal shoulder	6	4.1	5	5.3	1	2.0
At least one exam finding	10	6.9	7	7.5	3	5.9
Lower back						
Pain with flexion	6	4.1	4	4.3	2	3.9
Pain with extension	9	6.2	3	3.2	6	11.8
Pain with side flexion	6	4.1	2	2.1	4	7.8
Pain with rotation	3	2.1	2	2.1	1	2.0
Tenderness with palpation of lumbosacral area	6	4.1	3	3.2	3	5.9
At least one exam finding[a]	15	10.3	6	6.4	9	17.7
Knee						
Prominent tibial tuberosity[b]	20	13.9	13	13.8	7	14.0
Tenderness tibial tuberosity[b]	3	2.1	2	2.2	1	2.0
Pain with resisted knee extension[c]	1	0.7	0	0.0	1	2.0
At least one exam finding[c]	22	15.4	13	14.0	9	18.0
Ankle						
Pain with resisted plantar flexion	1	0.7	1	1.1	0	0.0
Tenderness calcanial apophysis	1	0.7	1	1.1	0	0.0
At least one exam finding	2	1.4	2	2.1	0	0.0
Pain at any site	42	29.0	27	28.7	15	29.4

[a] p = .0455
[b] One missing observation
[c] Two missing observations

Table 3: Examine the occurrence of any indicator of injury obtained through physical examination by demographics and work characteristic. (*n* = 145)

	Total n = 145		Any Site n = 42		Elbow n = 14		Shoulder n = 10		Lower Back n = 15		Knee[a] n = 22		Ankle n = 2	
	n	%[b]	n	%[c]	n	%[c]	n	%[c]	n	%[c]	n	%[c]	n	%[c]
Gender														
Female	50	34.5	13	26.0	6	12.0	4	8.0	6	12.0	2	4.1[d]	1	2.0
Male	95	65.5	29	30.5	8	8.4	6	6.3	9	9.5	20	21.3	1	1.1
Age (in years)														
11-13	21	14.5	4	19.1	1	4.8	1	4.8	2	9.5	1	4.8	2	9.5[e]
14-15	45	31.0	14	31.1	4	8.9	4	8.9	4	8.9	8	18.2	0	0.0
16-17	50	34.5	13	26.0	4	8.0	3	6.0	4	8.0	8	16.0	0	0.0
18-19	29	20.0	11	37.9	5	17.2	2	6.9	5	17.2	5	17.9	0	0.0
Current work status														
Farmworker	94	64.8	27	28.7	12	12.8	7	7.5	6	6.4[f]	13	14.0	2	2.1
Non-farmworker	51	35.2	15	29.4	2	3.9	3	5.9	9	17.7	9	18.0	0	0.0
Migrant status (baseline)														
Migrant	17	11.7	4	23.5	3	17.7	0	0.0	1	5.9	4	23.5	0	0.0
Seasonal	128	88.3	38	29.7	11	8.6	10	7.8	14	10.9	18	14.3	2	1.6
Years worked in farm work														
1	27	18.6	9	33.3	1	3.7	1	3.7	5	18.5	4	15.4	0	0.0
2	40	27.6	11	27.5	4	10.0	1	2.5	3	7.5	8	20.5	0	0.0
3	27	18.6	4	14.8	0	0.0	2	7.4	1	3.7	4	14.8	0	0.0
4 or more	51	35.2	18	35.3	9	17.7[g]	6	11.8	6	11.8	6	11.8	2	3.9

[a] Two missing observations
[b] Column percent
[c] Row percent
[d] p=0.0066
[e] p=0.0201
[f] p=0.0455
[g] p=0.0548