

EMPIRICAL ARTICLE

How Latine youth's positive development unfold through farmwork in rural migrant farmworker families in the U.S. Midwest

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Abstract

Some Latine youth from rural migrant farmworker communities engage in farmwork to help support themselves and their families. Although research has documented their motives for working and some characteristics of their employment, knowledge about how these youth construct their work in the fields and how such experiences relate to their positive development is needed to depict their holistic experiences. Using mixed methods, we explored youth's farmwork experiences and examined how these experiences relate to youth's prosocial behaviors, civic responsibility, and ego-resiliency. Data are from a mixed-method study of Latine youth and parents in rural and agricultural families in the U.S. Midwest. The present study uses qualitative data from a subsample of 47 youth (*Age* = 11.42, 48.8% boys) who participated in interviews and survey activities. Thematic coding of the interviews revealed sociocognitive, socioemotional, skilled-related, and physical experiences, as well as prosocial considerations that included perspective taking, moral reasoning, and empathetic concern. Integrating qualitative and quantitative data showed that these experiences were distinctively associated with higher other-oriented and lower self-oriented prosocial behaviors and higher ego-resiliency. Further, farmworker youth also showed significantly lower civic efficacy, indicating that farmwork may discourage some aspects of civic responsibility. The results can inform policy and program designs on promoting Latine youth's positive development in the face of adversity, such as by highlighting character development and bridging youth engagement with civic spheres.

KEYWORDS

civic responsibility, ego-resiliency, farmwork experiences, latine adolescents, positive development, prosocial behaviors

HOW LATINE YOUTH'S POSITIVE DEVELOPMENT UNFOLD THROUGH FARMWORK IN RURAL MIGRANT FARMWORKER FAMILIES IN THE U.S. MIDWEST

Latine families and youth's farm working experiences have been under public scrutiny for critical issues such as exploitation, harsh working conditions, and physical health concerns (Arcury et al., 2014; Barrick, 2016; Sagiv et al., 2023). However, recent research on Latine youth's voices from working in the fields has also revealed positive

experiences of engaging in such work, including autonomous decision-making, aspiration for livelihood, and prosocial considerations and actions (Arnold et al., 2023; Carlos Chavez et al., 2020). From a positive youth development perspective, youth may recognize socioemotional, sociocognitive, and skill learning experiences through farmwork that offer community learning situations and promote thriving despite adversities (Larson, 2000; Lerner et al., 2015). Specifically, youth may encounter situations that expand their capacity to voluntarily enact prosocial behaviors that benefit others (Arnold et al., 2023; Carlos Chavez et al., 2020; Knight et al., 2015), which in turn

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extend to youth's civic sphere and promote their contribution to communal welfare (Eisenberg et al., 2015), as well as situations that cultivate ego-resiliency as they acquire various life skills that foster self-regulatory processes (Eisenberg et al., 2004). Knowledge about how youth construct such experiences is rare and critical.

By examining these positive development factors, this study aimed to stimulate a holistic understanding of youth's assets and identify areas that require vital support to Latine youth and families in rural agricultural contexts. This information can advance knowledge about contextually embedded human development and can be used to design policies and programs that uphold protection, adjustment, and inclusion. We used mixed methods to illustrate how youth construct their farmwork experience and how they relate to their positive development. We use the term 'Latine' in this manuscript as a gender-neutral alternative to Latino that is grammatically consistent with the Spanish language. However, all our instruments refer to Latino/a/os and our participants self-identified as Latino/a.

Positive youth development through farmwork experiences

We utilized a positive youth development framework for the present study because this lens highlights adolescents' adaptive strengths despite adverse contexts, the use of critical individual and environmental resources, and their active engagement and contribution to their environment (Lerner et al., 2015). Adopting a positive development perspective to understand Latine youth's farmwork experiences can: (a) unveil successful and challenging processes through which youth participate in American society via prosociality and civic responsibility, and (b) move away from deficit approaches that stigmatize youth's experiences by highlighting resiliency and thriving pathways in the face of adversities (Fuller & García Coll, 2010; Suárez-Orozco et al., 2018). By delineating these complex relationships between Latine youth's farmwork experiences and positive development outcomes, this research refines existing work that focuses on the detrimental effects of farmwork and offers a more holistic understanding of Latine youth's farmwork participation. Such information is pivotal for understanding youth development and informing program and policy design targeting their wellness, while supporting livelihood.

Youth are active community learners and contributors, and their dynamic interactions with their environment, such as working with others on the farms, may enable their assets and agency to be conducive to positive development (Larson, 2000; Lerner et al., 2015). Besides structured school time, Latine youth from rural farmworker families may spend much of their time on farmwork. In a study of youth farmworkers from North Carolina, more than half of the participants reported working on weekends during the school year and about 80%–90% working during the days in the summer (Arcury et al., 2014). During this time in the

fields, youth could collaborate with others, use physical capacities, and acquire agricultural skills, which offer social, emotional, physical, and learning exercises. If appropriately guided, youth can use these enabling opportunities to develop competencies and adaptive strategies that facilitate their societal engagement and resiliency (Larson, 2000; Lerner et al., 2015).

Sociocognitive and socioemotional premises of unfolding prosociality via farmwork in adolescence

Youth's capacity to voluntarily enact prosocial behaviors that benefit others is a critical predictor of well-being and an asset for positive development. Research has identified robust sociocognitive and socioemotional sources of adolescent prosocial development, including moral reasoning, perspective taking, and empathetic concern (Eisenberg et al., 2015). Youth tend to engage in more prosocial behaviors when they reason others' needs and act on help provision, understand others' points of view, and respond to others' emotional experiences with similar comprehension. These sociocognitive and socioemotional dispositions are evident among Mexican-heritage youth from the U.S. (Carlo et al., 2011). Although the developmental patterns of prosocial behaviors vary by targets of help, personal cost, and study characteristics (e.g., measures), the prosocial premises of perspective taking, moral reasoning, and empathetic concerns generally increase with age in adolescence (Eisenberg et al., 2015; Hoffman, 2000).

At the sociocultural level, cultural values and caregiver socialization can foster prosocial tendencies (Eisenberg et al., 2015). Latine communities value *familismo*, which encompasses beliefs and attitudes about respect, support, and obligation to one's family, as well as practices such as shared living arrangements and financial, instrumental, and emotional support (Calzada et al., 2012). A family-oriented focus predicts various forms of prosocial behaviors in youth, such as altruistic and self-enhanced helping (Knight et al., 2015, 2016). For example, when mothers endorse *familismo* during middle childhood, they also expect and foster their children to conform to these values, promoting children's endorsement of *familismo* and prosocial behaviors during adolescence (Knight et al., 2016). Further, the youth's endorsement of *familismo* can indirectly affect their prosocial tendencies through supporting moral reasoning and perspective taking (Knight et al., 2015). Youth can acquire and practice other-oriented reasoning and care by considering family members' needs, taking on household duties, and providing support.

Although limited in number, investigations of Latine youth's motives to participate in farmwork in rural America have consistently revealed an other-oriented prosocial reason—working to support the family financially (Arnold et al., 2023; Carlos Chavez et al., 2020). Youth in these studies who were involved in seasonal work shared that they work in the fields to earn money so that they can provide

financial support to immediate family members, to be self-reliant so that they are not consuming existing family resources, and to help other distant family members who are in need (Arcury et al., 2014; Arnold et al., 2023). Engaging in farmwork offers opportunities for youth to consider and fulfill families' and members' necessities as they exercise perspective taking, moral reasoning, and empathetic concern, promoting prosociality.

Moreover, in examining various motives and contexts underpinning prosocial intentions, researchers have delineated between self-oriented and altruistic behaviors that are either self-enhancing or other-oriented (Knight et al., 2015). The former seeks external recognition through public display, while the latter generates actions without expecting reward but focusing on benefiting others. Consequently, researchers often find a negative correlation between altruistic behavior and familism during adolescence (Knight et al., 2015). This might be attributed to familism discouraging youth's assistance to individuals beyond family circles, thus reinforcing an in-group preference centered around the family. If youth participate in farmwork primarily for family-centered reasons, such motives may undermine their other-oriented concerns for members from outside of the family or in communal spheres. Overall, it is unclear how youth's farmwork experiences relate to self- or other-oriented helping. We explored these gaps in the present study.

Youth's civic responsibility through prosociality in farmwork

Civic responsibility entails individuals' attitudes and actions about personal contribution to community welfare (Silva et al., 2004). It aligns with the voluntary notion of prosocial help that benefits others (Eisenberg et al., 2015). Exercising such citizenship can benefit Latine youth's welfare when they support and improve institutions, environments, and people in their communal spheres and become empowered with agency to advocate for their communal welfare and responsibilities (Jensen, 2008; Suárez-Orozco et al., 2015).

Exercising the intention to help others through farmwork may enhance Latine youth's civic responsibility. Theorists suggest that early prosocial behaviors and emotions can lead to a broader concern for others later in life (Eisenberg et al., 2015). Studies have found positive and long-term connections between prosocial behaviors during early adolescence and civic outcomes during late adolescence and early adulthood (Luengo Kanacri et al., 2014; Reinders & Youniss, 2006). Therefore, when Latine youth engage in activities like farmwork to support their families, such experiences may broaden their perspectives and empathy toward others, thus enhancing their ability to contribute to their civic communities. Nevertheless, as discussed earlier, youth who are strongly motivated to help their families may prioritize in-group assistance, potentially reducing their concern for non-family members and impeding civic responsibility. Taken together, it is unclear whether farmwork experiences

promote or hamper civic responsibility, and we examined these associations in the present study.

Ego-resiliency and farmwork learning

Ego-resiliency is a dispositional trait that reflects how individuals flexibly adapt to environmental stressors, uncertainty, situational demands, and change (Block & Block, 1980). Ego-resiliency has been associated with prosocial tendencies such as empathy in a small body of research, but typically in early childhood (e.g. Taylor et al., 2013). It has also been associated with Latine adolescents' academic achievement, social competence, and mental and physical health (Swanson et al., 2011; Taylor et al., 2019; Taylor & Jones, 2020). Specifically, ego-resiliency was linked to lower depression, higher academic efficacy, and fewer conduct problems in Latine children from migrant farmworker families (Taylor et al., 2019). Ego-resiliency could be a key factor that assists Latine adolescents in navigating the challenges they experience, and farmwork experiences may provide opportunities for such adaptation.

Individuals' mastery-oriented learning motivation and sense of self-efficacy promote ego-resiliency (Eisenberg et al., 2004). For instance, Latine youth and their parents have shared that mastering academic, daily life and self-regulatory competencies empowers them to overcome obstacles (Bosma et al., 2019). Similarly, the cultural process of "apprenticeship" in Latine families encourages children to become *educado* by learning skills through various activities both within and outside the family, such as housework and social interactions (Fuller & García Coll, 2010). While farmwork can have detrimental consequences (Arcury et al., 2014), it can offer skill-learning opportunities—such as financial, motor, and social skills—and youth who participate in farmwork may have increased ego-resiliency due to these experiences.

THE PRESENT STUDY

Latine youth from rural agricultural families may encounter both positive and negative experiences when participating in farmwork. Focusing on positive youth development, youth may recognize sociocognitive, socioemotional, and skill learning situations that can expand their prosociality, ego-resiliency, and civic responsibility. Research on socioemotional and sociocognitive processes in farmworker youth can elucidate thriving pathways as well as risk factors in unconventional developmental contexts, inform program and policy design that protect youth from the detrimental impact of farmwork and foster their positive development, and advance knowledge about culturally embedded human development. Using a mixed method approach that compares qualitative interviews with survey reports, we examined youth's farmwork experiences and how they relate to youth's prosociality, civic responsibility, and ego-resiliency. Specifically, we explored:

1. Are there differences in self- and other-oriented prosocial behaviors, civic responsibility, and ego-resiliency between youth who worked in the fields and those who did not?
2. How do prosocial premises of moral reasoning, empathetic concern, and perspective taking experienced through farmwork relate to self- and other-oriented prosocial behaviors and civic responsibility?
3. Are skill learning experiences evident? Are they related to ego-resiliency?

Employing a convergent design (Creswell & Plano Clark, 2018), qualitative interviews were conducted to capture nuanced life experiences (Saldaña, 2021), corroborating, explaining, and comparing them with quantitative reports (Fetters, 2020). In the current study, codes and themes extracted from semi-structured interviews about farmwork experiences were compared with self-reports on prosocial behaviors, civic responsibility, and ego-resiliency collected from the quantitative phase.

METHOD

Participants and procedures

The present study uses data from the Purdue Puentes Project (multiple principal investigators Drs. Ruiz and Taylor), a longitudinal mixed-method study of Latine youth ages 10–15 years ($N=307$, $M_{age}=12.21$ years, 51.0% boys) and their primary caregivers ($N=284$, 87.7% mothers) in rural and agricultural families in the U.S. Midwest. The final analytic sample for this paper is composed of a subsample of 47 youth who participated in Wave 1 interviews during the summer of 2021 ($M_{age}=11.42$ years, 48.8% boys). Most (81%) of the youth's family incomes were below \$30,000 the previous year, and their mothers' education included 88% below high school and 45% below 7th grade. Almost half (48.8%) of youth were born outside of the U.S. in Guatemala (29.8%), El Salvador (8.5%), Honduras (4.3%), and Mexico (4.3%), and had resided in the US for 3.37 years on average.

Thirty percent of interviewees reported farmwork participation and related experiences ($n=14$, 71% boys, $M_{age}=12.07$ years, 36% foreign-born), 57% never participated in farmwork or any other employment ($n=27$, 41% boys, $M_{age}=11.48$ years, 56% foreign-born), and the remaining worked in other types of employment (but not farmwork) or were not asked about farmwork experience ($n=6$, 33% boys, $M_{age}=11.83$ years, 33% foreign-born).

Interviews were mainly completed (96%) with youth who participated in a Migrant Education Program (MEP), a federal program for migratory students whose families work seasonally, mainly in agriculture. Data were collected by trained research assistants at MEP sites, community locations, and participant homes after obtaining their consent and assent. Following IRB-approved protocols [#2019–590], research assistants garnered consent/assents and signatures

from participants before data collection. Participants completed survey activities on iPads. All materials were available in English or Spanish as preferred by each participant. Recruited youth were invited to additionally complete a one-on-one qualitative interview on a rolling basis using purposeful criterion sampling to reach data saturation (Guest et al., 2006). Sampling criteria focused on an equal number of males and females, developmental stages, and migration status. Interviews were conducted in person with a research assistant in private locations (e.g., school classroom) and audio recorded (average 60 min). In the present study, youth completed surveys mostly in English (72%). Interviews were conducted in English (72%) and Spanish (28%). Youth received \$35 for completing survey activities and \$20 for the interview.

The researchers

The interviewers were eleven graduate and undergraduate student research assistants who were predominantly Spanish bilingual (72%) and had diverse academic backgrounds, such as Human Development and Family Science and Public Health. On average, they received 18 hours of training covering theoretical frameworks, research methods, interview principles, procedures, interview simulations, and three feedback loops. The transcription team comprised 26 trained research assistants (53% Spanish bilingual) who joined the team across three semesters. Training included approximately 15 h of instruction and practice focusing on verbatim representation, accuracy, formatting, and three feedback loops on average. The team utilized Otter.ai for English interviews and Sonix.ai for Spanish, both AI-based transcription platforms.

Two trained coders crafted the codebook. The primary coder (first author) developed the initial codebook using her specialty in child development in rural and migrant contexts, and the second coder (last author) refined the codebook employing her specialty in health disparities, community-engaged research, and Latine upbringing. Leveraging diverse cultural backgrounds, the two coders addressed potential biases through perspective switching and assumption monitoring (Miles et al., 2020).

Interview protocol

Bilingual researchers designed, translated, and back-translated the interview protocol. Questions utilized to solicit participant responses for this study primarily focused on farmwork experience. Interviews asked participants to describe their farmwork experiences. Specifically, participants were asked to visualize their daily field experiences and confirm their employment status. Next, participants describe the types of work, duration, schedule, and involvement of others. Probes then tapped into reasons, attitudes, values, emotions, and interpersonal relationships

to uncover socioemotional and sociocognitive experiences. Other probes sought insights into whether work interfered with adolescents' lives, such as friendships and schoolwork. Sample questions included: *Can you tell me why you work? What type of work you do? Describe what you like about working in the field? Have you ever experienced someone being negative towards you because you work in the fields?* (Protocol is available from last author upon request).

Quantitative measures

All quantitative measures were available in Spanish from published sources of the scales, and measures were chosen because they have been validated with Spanish-speaking populations.

Prosocial behaviors

Youth's other- and self-oriented prosocial behaviors were assessed using two subscales from the Prosocial Tendencies Measure-Revised (Carlo et al., 2003). Youth self-reported on a four-point scale (1-Never, 4-Always) to seven statements about public behaviors (helping in front of an audience; *I can help others best when people are watching me*; $\alpha = .86$) indicating self-oriented behaviors and altruistic behaviors (helping without expecting personal gain; *One of the best things about doing charity work is that it looks good*; $\alpha = .79$) indicating other-oriented behaviors). Each subscale showed good internal consistency when applied to U.S. Latine adolescents and their primary caregivers (Davis & Carlo, 2018).

Civic responsibility

Youth's civic responsibility was measured by ten items on their beliefs and perceived actions in community affairs ($\alpha = .87$; Furco et al., 1998). Three dimensions assessed on a four-point scale (1-Never, 4-Always) included Connections to Community (*I feel like I am a part of the community*; $\alpha = .68$), Civic Awareness (*I like to help other people, even if it is hard work*; $\alpha = .79$), and Civic Efficacy (*I feel like I can make a difference in the community*; $\alpha = .75$).

Ego-resiliency

Ego-resiliency was measured with 10 items (Alessandri et al., 2011; Block & Block, 1980), assessing openness to life experiences (*I like to take different paths to familiar places*) and capacity for self-regulation (*I quickly get over and recover from being startled*). Youth indicated levels of agreement on a four-point scale ranging from 1=Never to 4=Always ($\alpha = .84$). The scale's psychometric properties have also been validated across different cultural contexts

(Alessandri et al., 2011), including with Latine children (Taylor et al., 2019; Taylor & Jones, 2020).

Data analysis

The first and last authors conducted an iterative thematic analysis using NVivo 14 to uncover participants' farmwork experiences and prosociality emerging from farmwork participation (Saldana, 2021). Coding focused on participants' responses to the farmwork-specific questions, but we also looked for responses to other questions that demonstrated youth's understanding of farmwork and families' working experiences. In the first cycle, the first author developed the draft codebook by identifying implicit and explicit reasons, concepts, emotions, and values, marked socioemotional and sociocognitive prosocial experiences informed by the literature, and generated tentative categories of the codes based on logical relationships (e.g., causal, structural, evaluative). The last author used the draft codebook to conduct coding independently and provided refinement suggestions, such as additional codes and revision of code definitions. In the second coding cycle, both coders used the tentative codebook to conduct systematic coding again to compare inter-coder agreements (Cohen, 1960). The analysis crystallized 141 codes and categories in total. Categories and codes were synthesized in the last coding cycle.

Three steps of quantitative and qualitative analyses were conducted and integrated to examine the associations between farmwork experiences, sociocognitive and socioemotional prosocial experiences, and positive outcomes (Fetters, 2020; Younas et al., 2023). First, we examined statistical differences in the prosocial behaviors, civic responsibility, and ego-resiliency measures between youth who participated in farmwork and those who did not participate in any form of farmwork using SPSS 29. Levene's tests of equal variances between the two groups were examined and met. Independent sample t-tests were then applied by farmwork participation status based on hypothesized directions.

Second, we examined the relationships between themes of farmwork experiences and prosocial premises and the three positive outcome scores among youth who worked in the fields ($n = 14$). We used the Crosstab Query available in NVivo 14 to examine the frequencies of themes by the outcome variable scores. We first transformed variables into a categorical format to conduct Crosstab analysis in NVivo 14 and increase results interpretability (MacCallum et al., 2002). For each variable, we created two groups based on their scaling of 4-point agreement (i.e., 1-Never, 4-Always): Scores rounded up to integers of 1 or 2 were categorized into the Lower agreement group and 3 or 4 in the Upper agreement group. These agreement group classifications were attributed to each participant accordingly within NVivo 14 via importation. We then assessed how often farmwork experiences and prosocial premises themes overlapped with either lower or upper agreement groups. The frequency and percentage of each compared

theme and variable group were reported. Finally, to examine congruence and discordance between quantitative and qualitative results, we contrasted results from the first and second steps and drew meta-inferences regarding the patterns (Fetters, 2020; Younas et al., 2023).

RESULTS

Youth's farmwork experiences

A total of four experiential domains related to farmwork were crystalized, including sociocognitive, skill-related, socioemotional, and physical experiences. Table 1 illustrates theme definitions, inter-coder agreement, and representative excerpts.

Youth's attitudes toward working in the fields and reasons for doing so are characterized by sociocognitive experiences. Youth's attitudes about farmwork varied, including those who reported enjoying farmwork ($n = 7, 50\%$), disliking farmwork ($n = 4, 29\%$), and being neutral about farmwork ($n = 5, 36\%$). Youth enjoyed farmwork when they found practical values of learning financial responsibilities and earning money, as well as prosocial values such as having fun with cousins and friends and learning about parents' hardships. For instance, Carlos (boy, 15 years old) reflected, "*cus I got money because I did something to, I earned it...my mom goes she used to go in the morning till close to night. Like I see what she does.*" Youth's sense of financial competence, knowledge, and observation of their parent's work were evident. Youth were neutral when there was nothing they disliked or their feelings were mixed. "*I don't really like it. Nor do I dislike it. I just know I have to do it, and there's nothing I can do about it.*" Rafael (boy, 12 years old) shared a sense of obligation that dictated his feelings. The youth's reasons for disliking farmwork were clear and mostly due to the difficult working conditions, such as hot sun, humidity, and insects, or when other children would play around and interrupt the youth's work. When asked about what he disliked about working in the fields, Leonardo (boy, 11 years old) shared, "*In the morning, it was kind of humid. And then the afternoon it was really hot.*" Lorenzo (boy, 12 years old) also mentioned liking to work in the fields but not wanting to due to an acquaintance spreading rumors about the youth's family.

Youth reported multiple intrinsic and extrinsic reasons for working in the fields, some consistent with their positive attitudes, such as helping parents with field tasks ($n = 5, 36\%$), acquiring financial literacy and employment skills ($n = 5, 36\%$), earning money ($n = 5, 36\%$), and working with a cousin ($n = 1, 5\%$). Alejandro (boy, 12 years old) shared, "*I wanted to learn the responsibilities of money because I know my parents struggle with not that – we don't have much money. I mean, we do have money but not that much. So, I wanted to learn how it felt to earn your own money and spend your own money.*" The reasons for acquiring the skills to earn money to support their family in need and being independent are often interrelated logically in motivating youth

to work. Another youth, Pedro's (boy, 12 years old) reason for work was "*That I get to buy caramel apples*", reflecting a youth's wants. Other extrinsic reasons included being expected, obliged, or rewarded with materials ($n = 3, 21\%$) and no childcare available so they went to fields working alongside parents to be supervised ($n = 2, 14\%$).

Skill-related experiences were apparent ($n = 12, 86\%$) in which youth described employment-related knowledge, such as the characteristics of their work, including types of work and work schedule ($n = 12, 86\%$), occasional help around ($n = 5, 36\%$), and transportation availability ($n = 1, 7\%$). Financial experiences ($n = 8, 57\%$) included earning money ($n = 8, 57\%$) and learning financial literacy such as knowing payment schedules ($n = 3, 21\%$). Finally, procedural knowledge ($n = 8, 57\%$) entailed youth descriptions of work-day routines ($n = 2, 14\%$), steps ($n = 7, 50\%$), and coordinative processes with others ($n = 3, 21\%$). Rafael (boy, 13) knowledgeably described, "*They're (cantaloupes) dropped into this sort of steep thing. And then from there, they go up and they go to cleaning. And then they go straight to where they pack. And then I put the lids and then my cousin uses the forklift and puts them in the trailers*". Youth demonstrated breadth and depth of their knowledge about their work.

Youth's socioemotional experiences highlighted positive affect stimulated via farmwork ($n = 12, 86\%$). Youth obtained companionship from working alongside family members and peers and sometimes had fun with them ($n = 11, 79\%$), expressed positive affect, such as excitement and enjoyment when describing farm experiences ($n = 6, 43\%$), felt helpful to be able to support others ($n = 2, 14\%$), or felt mildly liking farmwork ($n = 2, 14\%$). Andrés (boy, 15) shared his sense of helpfulness, "*Well, I felt good, because I was helping my mom and everything.*" Lucia (girl, 10) recounted the companionship, joy, and discomfort she simultaneously experienced, "*It was actually fun one time hhh. Florida, we were like it was a weekend my parents had to work, and they didn't want to leave us and I didn't want them to leave. So hhh she- they took us to the field. And we worked for a little while. I got tired because of the sun hhh. And because of moving around.*" Two youth also mentioned feeling positive about their parents' recognition and encouragement for their work (14%). However, a few youths also had negative socioemotional experiences ($n = 4, 29\%$). Some encountered peers who judged or were mean toward them for working in the fields, "*He said, 'why do you have a job if you're only like eleven?' Then, I got mad. Then, I threw an apple at him. I don't know why I had the apple at the time. But yeah.*" Pedro (boy, 12) recounted an incident. One youth also mentioned that adults from the field criticized the quality of their work, and one was angry about their parents, who promised to give his earnings from work but did not. Others reported neutral experiences ($n = 8, 57\%$) reflected in not receiving negative treatment or maintaining friendships while working.

Youth's physical experiences ($n = 8, 57\%$) primarily reflected their perceptions of difficult working conditions (e.g., sunburn, insects, dirt) and negative physical experiences (e.g., minimal sleep, long walks, sore body, and feeling tired or hard). Lorenzo (boy, 12) shared that a cause of his stress was body soreness:

TABLE 1 Youth farmwork experiences ($n = 14$).

Themes	Definitions	Frequencies n (%)	Cohen's kappa	Excerpts
Sociocognitive Experiences	Youth's sociocognitive experiences included their reasons and attitudes toward working in the fields.	12 (86)	.96	
Reasons	Youth explained intrinsic motives, such as to acquire skills, help parents' work, earn money for personal purchase, as well as external motives, such as meet parental expectations, earn money for family purchases, and to obtain parental supervision by working along in the fields.	12 (86)	.96	Diego (boy, 11): <i>I just go there to help my dad.</i> Liliana (girl, 12): <i>When I was, like 10, or 8, my mom would take us to like, because like she was already working with farm11027. But she would sometimes go to the fields to like see what's going on. And she'll take us because it was summer. And we would like, kind of help a little bit.</i>
Attitudes	Youth expressed liking, disliking, and/or neutral attitudes about working in the field.	10 (71)	.96	Lius (boy, 12 years old): (Interviewer: What do you like about it?) <i>Eh, it's a new experience.</i> (Interviewer: A new experience?) <i>Yeah, I uh get to experience um from young how to handle the money too.</i>
Skill Experiences	Youth's skill experiences are reflected in three domains, including employment, financial, and procedural.	12 (86)	.97	
Employment	Employment experiences included characteristics of farmwork, such as schedules, types of work, and transportation.	12 (86)	.98	Rafael (boy, 13): <i>I work short, because I have to take care of my younger brother. And he goes to a summer uh school (train blares) program. And it's from six to one, and so I have to babysit him the rest of the day from there.</i>
Financial	Financial experiences included earning money and payment characteristics, such as schedule and instability.	8 (57)	.97	Alejandro (boy, 12): <i>It would usually vary from day and week. It would just every day it would be different. Some days I would get paid every day. Some, times I will get paid every like every week. It- It just depended on how the person that I work for decided to do it.</i>
Procedural	Procedural experience is reflected in the youth's description of the steps of their specific field tasks, such as routines and collaboration with others.	8 (57)	.97	Diego (boy, 11): <i>Uh...what's it called I put- there's like four, four tubes, and I put them on the cows like this (gestures off audio) and put a green thing. Then when they're-all of them-when all of them are done, I push a button and I- and then someone else makes the cows lead that way.</i>
Socioemotional Experiences	Youth's socioemotional experiences were classified into positive, neutral, and negative experiences.	12 (86)	.96	
Positive	Positive experiences were characterized by companionship in farmwork, positive feelings working in the fields and with others, and the recognition and encouragement gained from parents.	11 (79)	.97	Alejandro (boy, 12): <i>It was fun, some of me and my friends and cousins had some laughs when we were talking and working. Yeah, I enjoyed it.</i>
Neutral	Neutral experiences included youth report of not receiving negative treatment from others in the fields and maintaining friendships even when they worked in fields.	8 (57)	.88	Liliana (girl, 12): (Interviewer: Did, did anything change about your friendship because you were working in the fields?) <i>No.</i> Alejandro (boy, 12): (Interviewer: Was anybody ever negative toward you because of like, that job that you had?) <i>Uhh no, not really.</i>

(Continues)

TABLE 1 (Continued)

Themes	Definitions	Frequencies <i>n</i> (%)	Cohen's kappa	Excerpts
Negative	Negative experiences were primarily reflected through others' negative treatments, such as peers judging youth for working in the fields and adults criticizing youth's performance.	4 (29)	1	Rafael (boy, 13): <i>Yeah, they call me a picker and crap so... (Interviewer: Does that offend you? Does it make you feel bad?) No. I mean, I've gotten used to it. I've been going to school for nearly ei-nine years. So it's not that bad. Now, I've gotten used to it.</i>
Physical Experiences	Youth recounted difficult conditions in the fields and negative physical experiences going through those conditions, as well as work protection provided by adults.	8 (57)	1	
Difficulty	Difficult conditions included unpleasant weather, work conditions, and physical challenges, such as feeling tired, hard, minimal sleep, and no breaks.	7 (50)	.99	Pedro (boy, 12): <i>It's hot. It's sweaty. There's a lot of insects. And... the apples are mostly dead (Interviewer chuckles) and smell terrible.</i>
Protection	A few youth mentioned protective measures taken by adults to ensure breaks given and proper task assignment based on age.	2 (14)	1	Luis (boy, 12): <i>There is um a breakfast break at 9, um lunch break at 12 and (increasingly louder cricket sounds) There's a couple little breaks after that. Then like it's usually um eight hours work.</i>
Physical Change	A youth noted himself gaining muscles from hard work.	1 (7)	1	Carlos (boy, 15): <i>Tomatoes. What else... like... the good part, but then also, like to work with it, like, like, like after you had to wear like, like shorts, stuff like that. But you don't. If you do, you get sunburnt. So, I put a jacket on. It was like so super sweaty so like pants, (speaking in background 4:52–5:04) wool pants, old clothes. Then my uncle from Mexico sends us like some sombreros, I put it on when I'm over there, it was like...And I came back all muscles, and so they were like, wow!</i>

"Sometimes when... if I go to work with my mom, my legs will hurt very much, and my fingers and my hands will get sore." However, Carlos (boy, 12 years old) was excited about gaining muscles from working. Physical experience was someone's burden and another's excitement. A couple of youths ($n=2$, 14%) also mentioned that adults restricted their task assignments to age-appropriate levels and provided multiple breaks.

Sociocognitive and socioemotional premises of prosociality

Some youth experiences aligned with the theoretical operations of perspective taking, moral reasoning, and empathetic concern when participating in farmwork (Table 2).

Perspective taking

Youth's perspective taking reflected their knowledge about parents' working experiences ($n=11$, 79%), such

as parents' work schedule ($n=7$, 50%, e.g., long hours, strict hours), work history ($n=3$, 21%; e.g., changed jobs, worked since a young age), and types of vocations ($n=9$, 64%; e.g., construction, factory, farm). The quality of this knowledge was congruent with their awareness of parents' responsibilities and devotion to families ($n=3$, 21%) and financial limitation of not earning a lot ($n=1$, 7%). For instance, when asked about the aspects youth liked about working in the fields, Alejandro (boy, 12) stated, "Usually, like earning the money and having—having to learn the responsibility, how hard your parents work and pretty much the laughs." A few youths also mentioned other family members, such as siblings' farmwork experiences ($n=2$, 14%).

Moral reasoning

Youth's moral reasoning was reflected in the internalization of the responsibilities for themselves to become self-reliant and helpful to their families ($n=3$, 21%) and

TABLE 2 Socioemotional and sociocognitive prosocial premises ($n = 14$).

Themes	Definitions	Frequencies n (%)	Cohen's kappa	Excerpts
Perspective Taking	Theoretical (Carlo, 2006; Davis, 1983): Understanding others' situations and needs.	11 (79)	1	
Knowledge about Parents' Working Experiences	Local: Youth's knowledge about parents' working experiences included types of job, working schedule, and working histories.	11 (79)	1	Sofía (girl, 10): <i>So in El Salvador he used to like, have this like, thing, I don't know how to explain it, but like it's a long thing. And like, so like, there was like family people living there, but they didn't want other cars to go there. So like he put like the thing down so like this (gestures off audio). And then there was like a rope thingy. And he pulled it with both hands. He went like this (gestures off audio), then that thing lifted up for like, for only the cars that lived there. And so like they could go on and he pulled it back down.</i>
Awareness of Parents' Responsibilities and Devotions to Families	Local: Youth's awareness of parents' responsibilities, contributions, and devotions to families.	3 (21)	1	Carlos (boy, 15): <i>What I liked about it was like I got paid out there. So like, was good, like cus they paid me cus I got money because I did something to, I earned it. And that cus like my mom goes she used to go in the morning 'till close at night. Like I see what she does. Like... searching a lot.</i>
Knowledge about Other Family Members' Working Experiences	Local: Youth's knowledge about cousin or siblings' working experiences, such as hardship.	2 (14)	1	Alejandro (boy, 12): <i>I mean my sisters worked in-my-my older sisters they worked in the week, they got off on the weekends. I just chose that- they didn't let me work during the week because I was on-I was younger. But I chose to work during the weekends.</i>
Moral Reasoning	Theoretical (Carlo et al., 1992): Considering situations when others need help and why providing help.	8 (57)	1	
Helping Family	Local: Youth explained reasons of working in the fields as helping parents with tasks and financially, such as paying the coyote.	7 (50)	1	Liliana (girl, 12): (Interviewer: What do you wish you could do instead?) <i>Um, help my mom.</i> (Interviewer: Help your mom with her work?) <i>Yeah.</i>
Youth's Own Responsibilities	Local: Youth assumed their financial responsibilities as self-reliance and supporting parents and families, especially in the future.	3 (21)	1	Rafael (boy, 13): <i>No. Um so far I've only spent about \$50 from what I've earned and the rest my mom has taken so, like it can be saved for college.</i>
Empathetic Concern	Theoretical (Hoffman, 2000): Comprehending other's feelings with similar affect or concern for others' emotional experiences.	3 (21)	1	
Youth Empathize Parents' Hardship and Appreciate Their Sacrifice	Local: Youth expressed that they felt bad, sorry, empathetic to the intensity their parents went through at work, their understanding of how such hardships were for them, and their appreciation for their parents' devotion and sacrifice for their families.	3 (21)	1	Lorenzo (boy, 12): <i>It's really difficult because they don't make that much money, but I still support them no matter what.</i> (Interviewer: What makes it hard about them not making much money?) <i>They can't... sometimes they can't pay rent on time, or our phone bill. And they got... and... or food for us.</i>

for directly supporting their families by providing help with farmwork and earnings ($n = 7$, 50%). For example, a 15-year-old boy who migrated with his mother shared that the reason for him to work was “*Because my mom [mamá] had to pay the coyote [smuggler of immigrants] and she didn't have that much money.*” When further asked how he felt about working in the field, he said, “*Well, I felt good, because I was helping my mom and*

everything”, reflecting positive affect derived from internalized responsibility.

Empathetic concern

Three youths (21%) shared that they empathized with their parents' hardship and sacrifice and felt the financial

difficulty for their parents. For instance, when asked about how they feel about their parents' work in the fields, Carlos (boy, 15) described an affective observation: *"That I have like an appreciation for my mom like, it's like she had to like, all week. Like, wow. It's like, like it's hard for me just do one day, imagine her."* The youth experienced difficulties working in the field, was concerned for his mother's emotional experience by "imagining," and felt appreciative.

Farmwork experiences, prosocial premises, and prosocial behaviors

There was no significant difference between farmworker youth and non-farmworker youth on other-oriented prosocial behavior, $t(39) = .65$, $p = .52$, $d = .22$, and self-oriented prosocial behavior, $t(39) = -1.18$, $p = .25$, $d = -.39$. Most farmworker youth reported upper agreement on other-oriented behavior ($n = 11$, 79%). Crosstab analysis showed that among these youth, 10 (91%) reported sociocognitive, 10 (91%) socioemotional, 9 (82%) skill-related, and 6 (55%)

physical experiences. Most farmworker youth also reported lower agreement on self-oriented behavior ($n = 11$, 79%). Among them, 11 (100%) reported socioemotional, 10 (91%) sociocognitive, 10 (91%) skill-related, and 6 (55%) physical experiences. Although no statistical significance was found, qualitative results showed that farmwork experiences are distinctively related to the two forms of prosocial behaviors. Further, youth who reported prosocial premises of perspective taking, moral reasoning, and empathetic concern tended to report upper agreement with other-oriented and lower agreement with self-oriented prosocial behaviors (Table 3).

Farmwork experiences, prosocial premises, and civic responsibility

No significant group differences were detected for overall civic responsibility, $t(38) = -1.37$, $p = .18$, $d = -0.46$, civic connection, $t(38) = -1.39$, $p = .17$, $d = -0.46$, and civic awareness, $t(38) = -0.24$, $p = .82$, $d = -0.08$, between

TABLE 3 Crosstab of perspective taking, moral reasoning, and empathic concern themes by prosocial behaviors and civic responsibility.

	Other-oriented		Self-oriented		Civic responsibility		Civic efficacy		Civic connection		Civic awareness	
	Lower n (%)	Upper n (%)	Lower n (%)	Upper n (%)	Lower n (%)	Upper n (%)	Lower n (%)	Upper n (%)	Lower n (%)	Upper n (%)	Lower n (%)	Upper n (%)
Perspective Taking	2 (67)	9 (82)	8 (73)	3 (100)	5 (100)	6 (67)	10 (100)	1 (25)	7 (88)	4 (67)	3 (100)	8 (73)
Knowledge about Parents' Working Experiences	2 (67)	9 (82)	8 (73)	3 (100)	5 (100)	6 (67)	10 (100)	1 (25)	7 (88)	4 (67)	3 (100)	8 (73)
Awareness of Parents' Responsibilities and Devotions to Families	0 (0)	3 (27)	3 (27)	0 (0)	1 (20)	2 (22)	3 (30)	0 (0)	2 (25)	1 (17)	1 (33)	2 (18)
Knowledge about Other Family Members' Working Experiences	1 (33)	2 (18)	2 (18)	1 (33)	1 (20)	2 (22)	2 (20)	1 (25)	2 (25)	1 (17)	1 (33)	2 (18)
Moral Reasoning	2 (67)	6 (55)	6 (55)	2 (67)	1 (20)	7 (78)	5 (50)	3 (75)	4 (50)	4 (67)	1 (33)	7 (64)
Helping Family	2 (67)	5 (45)	5 (45)	2 (67)	1 (20)	6 (67)	4 (40)	3 (75)	3 (38)	4 (67)	1 (33)	6 (55)
Youth's Own Responsibilities	0 (0)	3 (27)	2 (18)	1 (33)	0 (0)	3 (33)	3 (30)	0 (0)	2 (25)	1 (17)	0 (0)	3 (27)
Empathetic Concern	1 (33)	3 (27)	3 (27)	1 (33)	1 (20)	3 (33)	2 (20)	2 (50)	3 (38)	1 (17)	1 (33)	3 (27)
Youth Empathize Parents' Hardship and Appreciate Their Sacrifice	1 (33)	3 (27)	3 (27)	1 (33)	1 (20)	3 (33)	2 (20)	2 (50)	3 (38)	1 (17)	1 (33)	3 (27)

Note: Each cell represents the frequency and percentage of the theme that occurred within the variable group.

youth who participated in farmwork and those who did not. Civic efficacy, however, there was a significant difference between farmworker youth and non-farmworker youth, $t(38) = -2.09$, $p = .04$, $d = -0.69$. In congruence with quantitative data, a high percentage of farmworker youth reported a lower agreement with civic efficacy ($n = 10$, 71%). Crosstab analysis revealed that among the youth in the lower agreement group, 9 (82%) youth reported sociocognitive, 9 (82%) socioemotional and skill-related each, and 6 (55%) physical experiences. For civic awareness, however, most farmworker youth rated upper agreement ($n = 11$, 79%). Among them, 9 (82%) youth reported sociocognitive, socioemotional, and skill-related experiences each, and 5 (45%) with physical experiences. The pattern was less distinctive with civic connection, where 8 (57%) youth reported lower agreement and 6 (43%) upper agreement group. The most apparent difference was that 6 (75%) youth in the lower agreement group reported physical experiences. Interestingly, when adding the three youth who reported working in other vocations to the analysis, there was a significant difference between youth who worked and those who never worked on civic connection, $t(41) = -1.70$, $p = .05$, $d = -0.53$. Further, youth who reported perspective taking tended to rate lower on civic efficacy and civic connections, but perspective taking and moral reasoning were related to upper agreement with civic awareness (Table 3).

Farmwork experiences and ego-resiliency

There was no significant difference in youth's ego-resiliency between those who participated in farmwork and those who did not, $t(38) = .33$, $p = .37$, $d = .11$, and both groups reported high ego-resiliency on average ($M_{farmwork} = 2.90$, $SD_{farmwork} = .56$; $M_{nonfarmwork} = 2.83$, $SD_{nonfarmwork} = .65$). Most farmworker youth rated on the upper agreement group with ego-resiliency ($n = 11$, 79%). Crosstab analysis showed that among these youth in the upper agreement group, 11 (100%) youth reported sociocognitive, 10 (91%) skill-related and socioemotional each, and physical ($n = 7$, 63%) experiences.

DISCUSSION

From a positive youth development perspective, the present study revealed distinct associations between youth's positive development and farmwork experiences. The findings are aligned with prior work that has documented characteristics of youth's farmwork safety and motives (Arnold et al., 2023; Carlos Chavez et al., 2020) but build upon such work using a mixed-method approach in a sample of U.S. Latine farmworker youth residing in the Midwest. Youth's farmwork experiences primarily included a rich complexity of sociocognitive, socioemotional, skill-related, and physical experiences. Socioemotional and sociocognitive

premises underpinning prosocial development, including empathetic concern, moral reasoning, and perspective taking, were evidently embedded in those experiences. Distinct patterns of associations were also observable between perceived experiences and specific prosocial behaviors, ego-resiliency, and civic responsibility, offering future directions of inquiry.

Youth expand their prosociality and personal growth through farmwork

Consistent with our speculations, most youth engaged in farmwork while constructing skill-related, sociocognitive, and socioemotional experiences and attending to their physical experiences. They utilized the assets of perspective taking, moral reasoning, and empathetic concern to become competent and helpful for their families. When they identified their characters as contributors to their families, they also gained individual growth, such as financial and employment skills and socioemotional exchange with family members and peers. Youth's prosocial characters are accompanied by the positive experiences they constructed in farmwork.

However, statistical results showed no differences in self- and other-oriented prosocial behaviors between youth who worked and those who did not work in the fields. There may be several explanations for this finding. First, descriptive statistics showed that farmworker youth reported higher agreement with other-oriented prosocial behaviors and lower agreement with self-oriented prosocial behaviors than non-farmworker youth. Due to the small sample size, statistical significance may not be detected in the study. Second, we noticed that some youth from farmworker families who never worked in the fields reported perspective taking and empathetic concern, indicating that (a) adolescents undergo normative prosocial development and demonstrate prosocial behaviors regardless of farmwork experience, and (b) observing and internalizing family members' efforts may also promote prosocial intentions regardless of whether youth participate in farmwork. Future research that investigates the relationship between farmwork experiences and prosocial development should use a larger sample size and attend to variations within non-farmworker youth's prosocial experiences.

Youth demonstrated other-oriented prosocial tendencies when they find prosocial (helping family) and personal (earning money for personal wants, acquiring skills) reasons, hold positive attitudes, engage in positive socioemotional exchanges, and exercise skills despite challenges. These findings suggest that family-centered helping motives alone do not fully explain youth's altruistic intentions. Further, the farmwork experiences of prosocial and personal motives, skill mastery, and socioemotional exchange, may diminish self-enhancing help intentions aimed at public recognition because they are all intrinsically rewarding and aligned with a sense of

self-governing, which also give rise to equally intrinsic altruism (Ryan & Deci, 2000; Warneken & Tomasello, 2008). To further shed light on the dynamic nature of prosociality and youth's motives to work, future research should explore how Latine youth's intrinsic and extrinsic motives affect different types of helping intentions.

Negative physical experiences are linked to stress

Prior studies on farmwork note the negative physical experiences that can lead to negative attitudes toward farmwork and emphasize the harsh conditions and negative physical and mental health impacts (Arcury et al., 2014; Carlos Chavez et al., 2021; Sagiv et al., 2023). This study confirmed these associations. Further, hardships, family conflicts, and poverty are contextual factors that interact with household responsibilities that harm Latine youth's well-being (Patel & Stein, 2023; Telzer et al., 2015). Considering some youth saw farmwork as a family obligation and needed to be externally motivated, they are likely to be more susceptible to the negative impact of harmful physical experiences or other negative experiences encountered through farmwork. The positive and negative impacts of farmwork should be simultaneously explored in future investigations (Suárez-Orozco et al., 2018). Additionally, considering the quality of work can affect youth's career development into adulthood (Staff & Mortimer, 2024), farmwork quality as an employment experience warrants further investigation.

Youth exercise their ego-resiliency through skill and physical experiences

Integrative analysis suggests that youth's negative physical experiences and skill-related experiences were correlated with higher ego-resiliency, suggesting that youth adapt to challenges in ways that may enhance their resilience. Nonetheless, we did not find statistical significance between farmworker youth and non-farmworker youth's ego-resiliency. Interestingly, regardless of participation in farmwork, youth generally reported above-average levels of ego-resiliency. This may be attributed to their observations, understanding, and appreciation of their parents' hard work, which may foster adaptive skills and empathy even among those not engaged in farmwork. It could also be attributed to youth's general working experience. Joaqiun (boy, 14 years old) who did not work on farms but in roofing described how he persisted in harsh conditions: *"Because I had to wear these long sleeves. And it was like hot, and I was like 'I'm just gonna get used to it is, it is what it is, man.' And I got used to it, but I didn't like the sun."* Another explanation is that household activities could play a significant role in developing youth's skills and ego-resiliency. Previous research has shown that

Latine youth frequently engage in household responsibilities associated with protective benefits such as reduced internalization problems (Telzer et al., 2015). Similarly, participants in our study reported involvement in chores like cleaning and childcare, potentially enhancing their skill development and ego-resiliency. Future research may elucidate the associations between ego-resiliency and farmwork experiences more clearly by delineating different household responsibilities that youth partake in rural agricultural migrant families. And again, knowledge about when and how obligations and difficulties are beneficial or harmful for Latine youth at home or in the workforce is needed.

Farmwork is a double-edged sword to youth's civic responsibility

Farmwork experiences showed distinct associations with youth's civic awareness, efficacy, and connections. The youth's knowledge about their parents' hard work, occupation, and hardships appeared to discourage their sense of belonging and ability to make community change. But when youth exercised their assets of perspective taking, moral reasoning, and empathetic concern centered on family, they were also aware of individual members' needs in their broader community, supporting the hypothesis that prosocial intentions within family context may extend to civic spheres (Eisenberg et al., 2015), and partly challenges the finding about the negative association between familism and other-oriented prosocial behaviors (Knight et al., 2015). Contextual features such as farmwork characteristics and parents' occupations may influence youth's evaluation of targets of help (family, community members). Hence, the youth's understanding of the family's experiences in the rural agriculture community can be a double-edged sword that promotes awareness yet harms civic efficacy and connection to the community.

Notes on gender and age differences

Although we could not see distinct patterns in age and gender differences due to the small sample size in each age group, there were some possible future directions. Most noticeably, a large percentage of farmworker youth were male (71%) in the current study. Among the four girls who participated in farmwork, two of them were the youngest in the group (10 years old) and went with their parents to the field to be supervised since no adults were home or they worked with parents back in their home of origin when their lifestyle was subsistence-based, and they helped around in these situations. But most boys were older ($M_{age} = 12.4$ years, 11–15 years old) and did farmwork as employment to earn money, acquire skills, and fulfill family responsibilities. Previous studies also indicated that girls typically assume more household chores (Lam

et al., 2016). Further, we found that only boys demonstrated empathetic concern and only when they turned 12 years old. This also challenges previous meta-analysis findings that youth at 12 years old showed less instrumental helping than older youth (Fabes & Eisenberg, 1998). The development of empathy-related responses is likely linked to more in-depth working experiences to know what it takes and understand responsibilities. These patterns pointed to gender-based divisions in family duties and the dynamic interactions between developmental stages and contexts, which could significantly influence youth development. Further, how boys construct their farmwork experiences concerning their wellness and development warrants investigation.

Limitations

Although the present study has shed new and significant light on the role of farmwork in youth development, methodological limitations precluded addressing some questions as fully as would be ideal. First, the study has several limitations related to instrumentation and linking qualitative and quantitative data. The semi-structured interview protocol aimed to uncover the general qualities of the youth's farmwork experiences rather than specific prosocial behaviors and positive development pathways. This may have increased variability in the data, as responses were spontaneous. Consequently, the frequency of certain experiences or prosocial constructs being coded could vary by individual differences and extraneous factors like participant's responsiveness, coding methods, and interview quality (Pezalla et al., 2012). We used strategies such as iterative coding cycles and consistent interviewer training to minimize these issues. We recommend that future research encountering similar validity threats report their training process in detail.

Moreover, for interpreting results, the weight of each code and theme cannot be solely attributed to individual variance and cannot be compared directly between groups within a variable. Thus, we focused on patterns within each group. The NVivo Crosstab function has only been recently introduced (Elliott, 2022) and lacks established guidelines, so we interpreted crosstab results conservatively, potentially omitting variance. Developing analytical criteria for this analysis is essential to better integrate qualitative and quantitative data.

Last, there were several limitations relating to both gender and developmental considerations. The majority of participants in the study who were farmworkers were boys, and while this is representative of the population we were not able to fully capture the experiences of girl farmworker youth. Further, the youth varied in age from 10 to 15 and likely farmwork experiences and other measures assessed in this study (e.g. prosocial behaviors and civic responsibility) differ across age. Due to our small sample size, we were unable to examine developmental differences effectively. Future work should address these important issues.

Implications

Centering on Latine youth's voices, the study supported a strength-based framework. Youth expanded their individual and cultural assets through farmwork experiences, which were conducive to their character and resilience. However, witnessing family members' hardship and working in the fields can also discourage youth's sense of empowerment to make a change and connect to their communities. Youth also encounter stigmatization from society from which biased perceptions about farmwork do not dignify farmworker families' sources of livelihood. As more Latine immigrants enter the host country seeking a better livelihood and shaping local demographics, these findings point to future investigations and policy and program design to focus on protecting youth from the harms of farmwork, navigating youth's learning in farmwork, and integration to the broader society when it is an important aspect of their lives. A culturally and developmentally sensitive and integrative approach is useful to identify opportunities and challenges that may play dynamic roles in youth's construction of farmwork experience and subsequent development and wellness in rural farmworker families in the U.S.

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CONFLICT OF INTEREST STATEMENT

We have no known conflict of interest to disclosure.

DATA AVAILABILITY STATEMENT

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.

PARTICIPANT CONSENT

Consent and assent were obtained from participants before data collection.

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REFERENCES

- Alessandri, G., Vecchione, M., Caprara, G., & Letzring, T. D. (2011). The ego resiliency scale revised. *European Journal of Psychological*

- Assessment, 28(2), 139–146. <https://doi.org/10.1027/1015-5759/a000102>
- Arcury, T. A., Rodriguez, G., Kearney, G. D., Arcury, J. T., & Quandt, S. A. (2014). Safety and injury characteristics of youth farmworkers in North Carolina: A pilot study. *Journal of Agromedicine*, 19(4), 354–363. <https://doi.org/10.1080/1059924X.2014.945712>
- Arnold, T. J., Arcury, T. A., Quandt, S. A., Sandberg, J. C., Talton, J. W., & Daniel, S. S. (2023). Understanding Latinx child farmworkers' reasons for working: A mixed methods approach. *Journal of Adolescent Research*, 38(6), 1142–1176. <https://doi.org/10.1177/07435584221144956>
- Barrick, K. (2016). Human trafficking, labor exploitation and exposure to environmental hazards: The abuse of farmworkers in the US. In J. Donnermeyer (Ed.), *The Routledge international handbook of rural criminology* (1st ed., pp. 147–155). Routledge. <https://doi.org/10.4324/9781315755885>
- Block, J. H., & Block, J. (1980). The role of ego-control and ego-resiliency in the organization of behavior. In W. A. Collins (Ed.), *Minnesota symposia on child psychology*, 13 (pp. 39–101). Hillsdale.
- Bosma, L. M., Orozco, L., Barriga, C. C., Rosas-Lee, M., & Sieving, R. E. (2019). Promoting resilience during adolescence: Voices of Latino youth and parents. *Youth and Society*, 51(6), 735–755. <https://doi.org/10.1177/0044118X17708961>
- Calzada, E. J., Tamis-LeMonda, C. S., & Yoshikawa, H. (2012). *Familismo* in Mexican and Dominican families from low-income, urban communities. *Journal of Family Issues*, 34(12), 1696–1724. <https://doi.org/10.1177/0192513X12460218>
- Carlo, G. (2006). Care-based and altruistically-based morality. In M. Killen & J. G. Smetana (Eds.), *Handbook of moral development* (pp. 551–580). Erlbaum.
- Carlo, G., Eisenberg, N., & Knight, G. P. (1992). An objective measure of adolescents' prosocial moral reasoning. *Journal of Research on Adolescence*, 2(4), 331–349. https://doi.org/10.1207/s15327795jra0204_3
- Carlo, G., Hausmann, A., Christiansen, S., & Randall, B. A. (2003). Sociocognitive and behavioral correlates of a measure of prosocial tendencies for adolescents. *Journal of Early Adolescence*, 23(1), 107–134. <https://doi.org/10.1177/0272431602239132>
- Carlo, G., McGinley, M., Hayes, R. C., & Martinez, M. M. (2011). Empathy as a mediator of the relations between parent and peer attachment and prosocial and physically aggressive behaviors in Mexican American college students. *Journal of Social and Personal Relationships*, 29(3), 337–357. <https://doi.org/10.1177/0265407511431181>
- Carlos Chavez, F. L., Gonzales-Backen, M. A., & Grzywacz, J. G. (2021). Work, stressors, and psychosocial adjustment of undocumented Guatemalan adolescents in United States agriculture: A mixed-methods approach. *Journal of Research on Adolescence*, 31(4), 1218–1234. <https://doi.org/10.1111/jora.12640>
- Carlos Chavez, F. L., Gonzales-Backen, M. A., & Perez Rueda, A. M. (2020). International migration, work, and cultural values: A mixed-method exploration among Latino adolescents in U.S. agriculture. *Family Relations*, 71(1), 325–351. <https://doi.org/10.1111/fare.12603>
- Cohen, J. (1960). A coefficient of agreement for nominal scales. *Educational and Psychological Measurement*, 20(1), 37–46. <https://doi.org/10.1177/001316446002000104>
- Creswell, J. W., & Plano Clark, V. L. (2018). *Designing and conducting mixed methods research* (3rd ed.). Sage Publications Ltd.
- Davis, A. N., & Carlo, G. (2018). The roles of parenting practices, sociocognitive/emotive traits, and prosocial behaviors in low-income adolescents. *Journal of Adolescence*, 62, 140–150. <https://doi.org/10.1016/j.adolescence.2017.11.011>
- Davis, M. H. (1983). Measuring individual differences in empathy: Evidence for a multidimensional approach. *Journal of Personality and Social Psychology*, 44(1), 113–126. <https://doi.org/10.1037/0022-3514.44.1.113>
- Eisenberg, N., Spinrad, T. L., Fabes, R. A., Reiser, M., Cumberland, A., Shepard, S. A., & Thompson, M. (2004). The relations of effortful control and impulsivity to children's resiliency and adjustment. *Child Development*, 75(1), 25–46. <https://doi.org/10.1111/j.1467-8624.2004.00652.x>
- Eisenberg, N., Spinrad, T. L., & Knafo-Noam, A. (2015). Prosocial development. In M. E. Lamb & R. M. Lerner (Eds.), *Handbook of child psychology and developmental science: Socioemotional processes* (7th ed., pp. 610–656). John Wiley & Sons, Inc. <https://doi.org/10.1002/9781118963418.childpsy315>
- Elliott, J. (2022). The craft of using NVivo12 to analyze open-ended questions: An approach to mixed-methods analysis. *The Qualitative Report*, 27(6), 1673–1687. <https://doi.org/10.46743/2160-3715/2022.5460>
- Fabes, R. A., & Eisenberg, N. (1998). *Meta-analysis of age and sex differences in children's and adolescents' prosocial behavior*. Unpublished manuscript. Department of Family Resources & Human Development, Arizona State University.
- Fetters, M. D. (2020). *The mixed methods research workbook: Activities for designing, implementing, and publishing projects*. Sage Publications Ltd.
- Fuller, B., & García Coll, C. (2010). Learning from Latinos: Contexts, families, and child development in motion. *Developmental Psychology*, 46(3), 559–565. <https://doi.org/10.1037/a0019412>
- Furco, A., Muller, P., & Ammons, M. S. (1998). *The civic responsibility survey*. Developed at the Service-Learning Research & Development Center, University of California Berkeley.
- Guest, G., Bunce, A., & Johnson, L. (2006). How many interviews are enough? An experiment with data saturation and variability. *Field Methods*, 18(1), 59–82. <https://doi.org/10.1177/1525822X05279903>
- Hoffman, M. L. (2000). *Empathy and moral development: Implications for caring and justice*. Cambridge University Press.
- Jensen, L. A. (2008). Immigrants' cultural identities as sources of civic engagement. *Applied Developmental Science*, 12(2), 74–83. <https://doi.org/10.1080/10888690801997069>
- Knight, G. P., Carlo, G., Basilio, C. D., & Jacobson, R. P. (2015). Familism values, perspective taking, and prosocial moral reasoning: Predicting prosocial tendencies among Mexican American adolescents. *Journal of Research on Adolescence*, 25, 717–727. <https://doi.org/10.1111/jora.12164>
- Knight, G. P., Carlo, G., Mahrer, N. E., & Davis, A. N. (2016). The socialization of culturally related values and prosocial tendencies among Mexican-American adolescents. *Child Development*, 87, 1758–1771. <https://doi.org/10.1111/cdev.12634>
- Lam, C. B., Greene, K. M., & McHale, S. M. (2016). Housework time from middle childhood through adolescence: Links to parental work hours and youth adjustment. *Developmental Psychology*, 52(12), 2071–2084. <https://doi.org/10.1037/dev0000223>
- Larson, R. W. (2000). Toward a psychology of positive youth development. *American Psychologist*, 55(1), 170–183. <https://doi.org/10.1037/0003-066X.55.1.170>
- Lerner R. M., Lerner J. V., Bowers E., & Geldhof G. J. (2015). Positive youth development and relational-developmental systems. In Overton W. F., Molenaar P. C. M. (Eds.), & Lerner R. M. (Editor-in-chief), *Handbook of child psychology and developmental science: 1. Theory and method* (7th ed). 607–651. Wiley.
- Luengo Kanacri, B. P., Pastorelli, C., Zuffianò, A., Eisenberg, N., Ceravolo, R., & Prapara, G. V. (2014). Trajectories of prosocial behaviors conducive to civic outcomes during the transition to adulthood: The predictive role of family dynamics. *Journal of Adolescence*, 37, 1529–1539. <https://doi.org/10.1016/j.adolescence.2014.07.002>
- MacCallum, R. C., Zhang, S., Preacher, K. J., & Rucker, D. D. (2002). On the practice of dichotomization of quantitative variables. *Psychological Methods*, 7(1), 19–40. <https://doi.org/10.1037/1082-989X.7.1.19>
- Miles, M. B., Huberman, A. M., & Saldaña, J. (2020). *Qualitative data analysis: A methods sourcebook* (4th ed.). Sage Publications Ltd.
- Patel, P., & Stein, G. L. (2023). Predictors of perceived unfairness of familial obligations among Latinx adolescents. *Journal of Latinx Psychology*, 11(2), 166–174. <https://doi.org/10.1037/lat0000219>
- Pezalla, A. E., Pettigrew, J., & Miller-Day, M. (2012). Researching the researcher-as-instrument: An exercise in interviewer self-reflexivity.

- Qualitative Research*, 12(2), 165–185. <https://doi.org/10.1177/1468794111422107>
- Reinders, H., & Youniss, J. (2006). School-based required community service and civic development in adolescents. *Applied Developmental Science*, 10(1), 2–12. https://doi.org/10.1207/s1532480xads1001_1
- Ryan, R. M., & Deci, E. L. (2000). Intrinsic and extrinsic motivations: Classic definitions and new directions. *Contemporary Educational Psychology*, 25(1), 54–67. <https://doi.org/10.1006/ceps.1999.1020>
- Sagiv, S. K., Mora, A. M., Rauch, S., Kogut, K. R., Hyland, C., Gunier, R. B., Bradman, A., Deardorff, J., & Eskenazi, B. (2023). Prenatal and childhood exposure to organophosphate pesticides and behavior problems in adolescents and young adults in the CHAMACOS study. *Environmental Health Perspectives*, 131(6), 67008. <https://doi.org/10.1289/EHP11380>
- Saldaña, J. (2021). *The coding manual for qualitative researchers* (4th ed.). Sage Publications Ltd.
- Silva, L. D., Sanson, A., Smart, D., & Toumbourou, J. (2004). Civic responsibility among Australian adolescents: Testing two competing models. *Journal of Community Psychology*, 32, 229–255. <https://doi.org/10.1002/jcop.20004>
- Staff, J., & Mortimer, J. T. (2024). Taking the long view of adolescent work quality. *Journal of Research on Adolescence*, 34(4), 1300–1311. <https://doi.org/10.1111/jora.12915>
- Suárez-Orozco, C., Hernández, M. G., & Casanova, S. (2015). “It’s sort of my calling”: The civic engagement and social responsibility of Latino immigrant-origin young adults. *Research in Human Development*, 12(1–2), 84–99. <https://doi.org/10.1080/15427609.2015.1010350>
- Suárez-Orozco, C., Motti-Stefanidi, F., Marks, A., & Katsiaficas, D. (2018). An integrative risk and resilience model for understanding the adaptation of immigrant-origin children and youth. *American Psychologist*, 73(6), 781–796. <https://doi.org/10.1037/amp0000265>
- Swanson, J., Valiente, C., Lemery-Chalfant, K., & O’Brien, T. C. (2011). Predicting early adolescents’ academic achievement, social competence, and physical health from parenting, ego resilience, and engagement coping. *The Journal of Early Adolescence*, 31, 548–576. <https://doi.org/10.1177/0272431610366249>
- Taylor, Z. E., Eisenberg, N., Spinrad, T. L., Eggum, N. D., & Sulik, M. J. (2013). The relations of ego-resiliency and emotion socialization to the development of empathy and prosocial behavior across early childhood. *Emotion*, 13, 822–831. <https://doi.org/10.1037/a0032894>
- Taylor, Z. E., & Jones, B. L. (2020). Cultural contributors to ego-resiliency and associations with depressive problems in Midwestern Latino youth. *Journal of Research on Adolescence*, 30, 349–361. <https://doi.org/10.1111/jora.12481>
- Taylor, Z. E., Ruiz, Y., & Nair, N. (2019). A mixed-method examination of ego-resiliency, adjustment problems, and academic engagement in children of Latino migrant farmworkers. *Social Development*, 28, 200–217. <https://doi.org/10.1111/sode.12328>
- Telzer, E. H., Tsai, K. M., Gonzales, N., & Fuligni, A. J. (2015). Mexican American adolescents’ family obligation values and behaviors: Links to internalizing symptoms across time and context. *Developmental Psychology*, 51(1), 75–86. <https://doi.org/10.1037/a0038434>
- Warneken, F., & Tomasello, M. (2008). Extrinsic rewards undermine altruistic tendencies in 20-month-olds. *Developmental Psychology*, 44(6), 1785–1788. <https://doi.org/10.1037/a0013860>
- Younas, A., Fàbregues, S., & Creswell, J. W. (2023). Generating meta-inferences in mixed methods research: A worked example in convergent mixed methods designs. *Methodological Innovations*, 16(3), 276–291. <https://doi.org/10.1177/20597991231188121>

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