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Exploring how residential mobility and migration influences teenage pregnancy in five rural communities in California: youth and adult perceptions

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ABSTRACT

Teenage birth rates among young people aged 15–19 years in California, USA, have declined from 47 births per 1000 in 2000 to 24 per 1000 in 2013. Nevertheless, the US counties with the highest teenage birth rates are predominantly rural and have a high proportion of Latinos/as. We conducted 42 interviews with key stakeholders and 12 focus groups with 107 young people in five rural communities to better understand local migration patterns and their influence on intermediate and proximate variables of pregnancy, such as interaction with role models and barriers to access contraception. The migration patterns identified were: residential mobility due to seasonal jobs, residential mobility due to economic and housing changes and migration from other countries to California. These patterns affect young people and families' interactions with school and health systems and other community members, creating both opportunities and barriers to prevent risky sexual behaviours. In rural areas, residential mobility and migration to the USA interconnect. As a result, young people dually navigate the challenges of residential mobility, while also adapting to the dominant US culture. It is important to promote programmes that support the integration of immigrant youth to reduce their sense of isolation, as well as to assure access to sexual health education and reproductive health services.

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Rural health; residential mobility; migration; teenage pregnancy; adolescence; mobility; USA

Background

The teenage birth rate in California, USA, has steadily declined in the twenty-first century, from 47 per 1000 in 2000 to 24 births per 1000 in 2013 (Martin et al. 2015). While the teenage birth rate has declined across all race/ethnicity groups in California, disparities remain by sociodemographic characteristics and region. For example, in California, the counties with the highest teenage birth rates are located in the predominantly rural Central Valley, such as Kern County, with a rate of 53.4 per 1000, and Fresno County, with 46.3 per 1000 (California Department of Public Health 2014). California mirrors national trends, as the US teenage birth

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rate is 30% higher in rural counties (43 per 1000) than in urban counties (33 per 1000), and this difference persists among all racial/ethnic groups (Hamilton, Martin, and Ventura 2010).

Potentially related to the increased teenage pregnancy rates in many rural areas, rural residency also has been associated with an increase in some sexual risk behaviours. Specifically, a secondary analysis of the 2005 California Health Interview Survey estimated that 33% of rural young people aged 16 to 17 years reported sexual intercourse, compared to 26% across the state as a whole (Curtis, Waters, and Brindis 2011). In addition, rural young people face poor access to sexual and reproductive health services (Curtis, Waters, and Brindis 2011; Elliott and Larson 2004). For example, awareness and access to preventive services, such as HIV testing and regular and emergency contraception, is lower for young people living in rural areas than for those who live in urban ones (Baldwin et al. 2008; Curtis, Waters, and Brindis 2011; Sampson et al. 2009). Furthermore, greater barriers to reproductive healthcare services have been documented among non-White youth living in rural areas as compared with Whites (Curtis, Waters, and Brindis 2011), youth who are not enrolled in school as compared with those enrolled in school (Elliott and Larson 2004) and Spanish speakers as compared with English-speakers (Sampson et al. 2009).

Besides youth risks and access to reproductive health services, another factor that might influence teenage birth rates and that has been scarcely studied is residential mobility among youth and their families. Residential mobility is defined as the number of moves within a city, county, state or country during a specific period of time or lifetime (Larson, Bell, and Young 2004). A systematic review about residential mobility in the USA identified only six studies focused on youth health and concluded that the number of residential moves increases the odds of teen pregnancy, as well as drug use, behavioural problems, depression and lack of a consistent medical provider (Jelleyman and Spencer 2008).

Although there is limited literature focused on the effects of residential mobility in the USA, there are a greater number of studies that address the effects of migration to the USA on young people's health (McDonald, Manlove, and Ikramullah 2009). Some of those studies measure acculturation as a multidimensional process that implies changes in beliefs, attitudes and values (Thomson and Hoffman-Goetz 2009; Wallace et al. 2010). Almost all studies found that more acculturated Latino youth – measured by multidimensional scales that include nativity, language use, language and media preference, generation, ethnic identity, cultural orientation and behaviours and interactions – report initiation of sexual intercourse at an earlier age and are more likely to use contraception compared with less acculturated youth, and that this association persists even after adjustment for socioeconomic variables (Afable-Munsuz and Brindis 2006; Gilliam et al. 2011; McDonald, Manlove, and Ikramullah 2009; Raine, Minnis, and Padian 2003).

Given that teenage birth rates are still persistently high in many rural areas in California, we explored migration patterns and the occurrence of teenage pregnancy among young people living in rural areas by conducting a qualitative study in five rural communities in California. The objectives of the study were to: (1) identify recent migration patterns and demographic changes in the communities and (2) explore the mechanisms by which the migration patterns may influence intermediate and proximate variables of teen pregnancy. We used the Social Ecological Model (Bronfenbrenner 1979) to consider the concurrent effects of community, family and individual-level variables on behaviour and health outcomes among youth. We also incorporated Bongaart's (1978) framework that classifies cultural, behavioural and biological factors as proximate determinants of fertility, and asserts that intermediate variables,

such as neighbourhood and environmental factors, affect fertility through proximate variables. This study is a sub-analysis of a larger study assessing how factors at the different levels of the socioecological model influence teenage pregnancy in communities in California (Decker et al. [Forthcoming](#)). In this paper, we analysed the perspectives of youth and adults regarding the challenges of preventing teenage pregnancy in light of demographic changes and migration patterns in their communities.

Methods

Sample selection and design

Five communities in California were purposively selected based on their: (1) having a teenage birth rate above the state average at two time periods (2004–05 and 2009–10) at the Medical Service Study Area level in California, (2) being representative of multiple geographic areas throughout the state, and (3) being a rural service area with a population density of less than 250 people per square mile with no population centre that exceeds 50,000 (Office of Statewide Health Planning & Development 2013). Medical Service Study Areas are comprised of contiguous census tracts that provide a smaller unit of analysis than counties and therefore may help reveal important differences at the sub-county level (Office of Statewide Health Planning & Development 2013).

Only service areas with at least 30 teenage births in each aggregated two-year period were eligible for selection to further improve the reliability of the calculated rates and data stability. Eligible rural Medical Service Study Areas had a teenage birth rate higher than the California average in 2004–05 (38.8 per 1000) and in 2009–2010 (33.5 per 1000). Of the 541 Medical Service Study Areas in California, 60 met these three criteria. Five rural Medical Service Study Areas were then purposively selected in three counties to represent different geographic areas: Tehama, Fresno and Kern (Table 1).

Adult respondents were purposively selected in each Medical Service Study Area to represent a range of backgrounds and experiences including working with community-based organisations, religious institutions, clinics, schools and law enforcement and governmental agencies. Eligible participants were identified through referrals by community gatekeepers such as maternal child and adolescent local coordinators, district supervisors, county officials and online searches of relevant organisations.

Potential sites for youth focus groups were identified through community gatekeepers, adult respondents and online searches for youth-serving organisations. Focus-group sites were selected to attract different populations of young people, including high school students, church youth groups and expectant and parenting young adults. Once a site was selected, researchers worked with youth-serving agencies to recruit participants. To be eligible, youth had to live within the selected Medical Service Study Areas, speak English or Spanish and be aged 13–18 years.

Data collection and study procedures

We chose a qualitative methodology to better understand young people's and adults' perspectives on the migration changes that have occurred in their communities and how they may have affected behaviour and health outcomes among youth. In each of the five

Table 1. Comparative teenage birth rates and socio-demographic data from the communities selected in 2005 and 2010.

County	Fresno			Kern			Tehama									
	2005	2010	% change	2005	2010	% change	2005	2010	% change							
Medical Service Study Area Community		27			60			221		222						
		Coalinga			Delano/McFarland			Gerber/Red Bluff		Coming/Los Molinos						
Teenage Birth Rate*	43.5	71.8	65.0	73.6	108.7	47.6	82.4	71.0	49.2	53.6	8.7	67.5	58.9	-12.8		
Total population	15,464	17,362	12.3	24,709	27,425	11.0	73,420	92,872	26.5	32,728	33,439	2.2	18,756	19,789	5.5	
Foreign-born population [§]	20.2	18.6	-7.9	18.2	19.1	4.7	37.4	38.3	2.33	9.0	7.5	-16.3	15.4	13.8	-10.2	
Percent of total population by race [§]																
White	93.8	95.2	1.4	91.4	93.3	2.1	80.6	83.4	3.5	92.9	94.6	1.7	94.5	96.2	1.8	
Black	1.9	1.5	-23.0	3.6	3.6	0.0	4.9	4.0	-17.1	0.8	0.6	-27.7	0.5	0.3	-36.5	
Native American	1.4	1.0	-26.5	1.4	0.8	-45.8	1.2	0.7	-45.1	2.4	1.8	-23.2	1.9	1.3	-34.0	
Asian/Pacific	1.6	1.4	-15.1	2.1	1.5	-27.6	12.6	11.4	-9.2	1.4	1.2	-17.3	0.7	0.5	-32.1	
Two or more races	1.2	0.9	-24.1	1.4	0.7	-48.0	0.8	0.5	-41.5	2.5	1.9	-24.1	2.4	1.7	-27.8	
Percent of total population Hispanic [§]	57.3	62.2	8.6	19.4	24.3	25.5	72.8	78.1	7.2	13.7	16.7	21.4	29.9	35.4	18.4	
Percent of population below 150% of poverty level	32.0	32.0	0.0	29.4	30.3	3.2	43.1	43.7	1.4	27.0	28.9	7.1	33.9	36.0	6.1	
Unemployment rate	12.5	24.2	92.9	8.0	14.7	84.3	25.6	58.5	128.0	6.6	15.9	142.1	7.4	17.7	138.0	

Source: Geolytics, Inc. provided population estimates at the Census tract level for 2005 and 2010, based on 2000 Census tract boundaries. Tract-level data were used to calculate population estimates at the MSSA level.

*TBR is a combined average of 2004–2005 and 2009–2010. Data provided by the State of California, Maternal, Child and Adolescent Health Division

& Estimates based on the five-year American Community Survey from 2009 and 2012. Tract-level data were used to calculate population estimates at the MSSA level. Margins of errors were high so the estimations should be taken with caution.

§ The US Census uses two different questions to collect data on race and Hispanic origin. For the purposes of this report, we also consider race and Hispanic origin as two separate and distinct concepts.

communities, we conducted in-depth interviews with 5–10 adult key stakeholders and 2–3 same-sex focus groups, with either male or female young adults. Prior to the focus group, participants also completed a short demographic survey.

Researchers held focus groups in private settings, typically classrooms, conference rooms or community rooms. An average of eight young people participated in each focus group. All interviews and focus groups were conducted in English. Although young people were offered the opportunity to participate in a Spanish language focus group, none chose this option.

Adults were asked questions focused on recent demographic changes in their communities (How would you describe this neighbourhood? How has this neighbourhood changed in the past 5–10 years?), including changes in racial/ethnic composition and patterns of residential mobility (In the time that you have lived/worked here, have you noticed any changes in the groups of people moving into or leaving the community?) and their impact on other factors at the community, family and individual level related to teenage pregnancy. Focus-group questions provided young people with the opportunity to describe what it was like to live in their communities (how would others describe your neighbourhood?), perceptions of their interactions and trust in neighbours (do you know your neighbours?), sources of socioemotional support from parents and other adults (are there adults in your neighbourhood that you look up to? If a teenager had a problem who would they turn to?), attitudes toward teenage pregnancy (what do people in your neighbourhood think about teen pregnancy?) and access to contraception (where do teens get birth control or condoms?).

Focus group interviews were professionally transcribed verbatim, and individual interviews were transcribed by a research staff member. The protocol was approved by the California State Committee for the Protection of Human Subjects and the University of California, San Francisco Committee on Human Research.

Data analysis

Three researchers independently reviewed a sample of transcripts and fieldwork notes of the interviews and focus groups to create a codebook. We tested the codebook using a selected subset of interviews to assure consistency in the coding among team members. Two researchers independently coded two interviews (blinded to the coding of each other), and an additional researcher reviewed the coding previously made by both coders and resolved any disagreements. Researchers met on a weekly basis to discuss their findings, consolidate thematic codes and make slight changes in the codebook to improve its reliability and consistency in the coding process. In addition, we measured inter-coder reliability using Cohen's Kappa values among the coders in a random subsample of 16 interviews and 6 focus groups, obtaining an average satisfactory score of 0.60 (Burla et al. 2008).

Three researchers conducted the coding and analysis of the responses in Atlas.ti 7.0 (Scientific Software Development, Berlin, Germany). The codes emerged from the questions included in the interview and focus-group guide and from the narratives of the participants (Miles and Huberman 1994). Codes used in this analysis included: changes in racial composition, changes in migration, changes in housing, neighbourhood descriptions, relationships with neighbours, attitudes toward teen pregnancy, role models and relationships with parents. The following themes emerged from reviewing patterns and linkages between the codes: neighbourhood descriptions including demographic changes, migration patterns and changes in the racial/ethnic composition in the last 5–10 years; the biggest challenges

to reduce teen pregnancy in the community; social norms and attitudes toward teenage pregnancy; sources of socioemotional support; family structure and supervision; and parent-youth communication. For this paper, we analysed the perspectives of young people and adults regarding the challenges of preventing teen pregnancy in light of demographic and migration changes in their communities.

Results

Sociodemographic characteristics

Table 1 shows quantitative sociodemographic data from each selected community from 2005 and 2010. The communities had a Latino population ranging from 17–78% in 2010, and had experienced an increase in the Latino population ranging between 7–26% from 2005 to 2010 (Table 1). A total of 107 young people aged 13–18 years old participated in seven male and five female focus groups; two of the female focus groups were with parenting and pregnant young women (Table 3). Of focus group participants, 62% self-identified as Latino/Hispanic, 34% as White and less than 1% as Asian American or African American. All but one of the participants were currently enrolled in school (data not shown) and 16% reported they had had a child (Table 2). A total of 42 adults were interviewed: 30 female and 12 male; 13 from Fresno, 16 from Kern, and 13 from Tehama (Table 3). We interviewed adult representatives from middle and high schools ($n = 12$), clinics ($n = 9$), juvenile justice and law enforcement institutions ($n = 7$), government agencies ($n = 6$), political groups ($n = 5$), youth focused non-profit organisations ($n = 3$), religious groups ($n = 3$) and charitable foundations ($n = 2$). Three adults represented more than one type of organisation.

Through the narratives of youth and adults participants, we identified three major types of migration patterns: residential mobility due to seasonal jobs, residential mobility due to economic deprivation and housing changes, and migration from other countries to the USA. The following sections describe the migration patterns and their impact on variables at the societal, community, family and individual level influencing young people's sexual initiation and contraceptive use.

Residential mobility due to seasonal jobs

Many adult respondents and some young people discussed the impact that seasonal jobs – particularly travelling for seasonal farm work – had on school performance, language skills, parental supervision, socioemotional support and interaction with others.

School performance and language acquisition

In the opinion of some adult participants, the nature of farm work compels foreign-born Latino families to move regularly to follow seasonal crops, impacting on their children's ability to consistently attend school and improve their English skills. One high school counsellor discussed the barriers their school district faces to improve the English skills of foreign-born students:

There is more transient population than ever used to. Our students move here to work in agriculture – or their families move here for them to work in agriculture, and they are living here for a year or so – or sometimes far less than that, maybe just for a season. As a result, students

Table 2. Sociodemographic and reproductive characteristics of focus-group participants (n = 107).

	<i>n</i>	%
Age group*		
13–14	3	3
15–16	56	53
17–18	47	44
Gender		
Male	50	47
Female	57	53
County		
Kern	49	46
Fresno	19	18
Tehama	39	36
Race/ethnicity**		
Hispanic/Latino	70	62
White	39	35
African American	1	< 1
Asian American	1	< 1
Other	2	2
Have you ever been pregnant or made someone pregnant?		
No	89	83
Yes	17	16
Not sure	1	1
Do you have a child (or children)?		
No	90	84
Yes	17	16

*Missing data for one participant, it was removed from the estimation of the proportions.

**Percentages total more than 100 because some young people marked more than one option.

Table 3. Youth focus groups and adult interviews identifiers and distribution by communities selected.

County and Medical Service Study Area	Communities	Focus groups with youth (n = 12)	Interviews with adults (n = 42)
Fresno 27	Coalinga	2 FG8 Female FG10 Male*	13 (P1, P2, P3, P4, P5, P6, P7, P8, P9, P38, P39, P40, P41)**
Kern 60	Delano/ McFarland	4 FG2 Female FG3 Male FG11 Parenting/pregnant FG12 Male	8 (P14, P15, P16, P17, P18, P19, P26, P27)
Kern 57.2	McKittrick/ Taft	2 FG1 Male FG9 Female	8 (P10, P11, P12, P13, P22, P23, P25, P42)
Tehama 222	Corning/ Los Molinos	2 FG6 Parenting/pregnant FG7 Male	6 (P20, P21, P33, P34, P35, P36)
Tehama 221	Gerber/ Red Bluff	2 FG4 Male FG5 Female	7 (P31, P32, P24, P28, P29, P30, P37)

*FG indicated focus group and number indicates the focus group identifier (e.g. Focus group number 8, which was only conducted with women) The number before FG is the number of focus groups that were conducted in each MSSA.

**P indicates 'participant'. Number indicates the participant identifier number (e.g. P1= Participant 1). The number outside of the parenthesis is the number of interviews conducted in each MSSA.

who have been here for years still don't speak any English, or they speak very limited English. (Interview 10, school staff, Kern)

Interaction with role models

Some young people voiced that their parents' job conditions and migration patterns acted as a barrier for them to develop relationships with other adults or peers that could be role models. As one explained: 'The only one ... I've ever been able to look up to was my mum, because moving from school to school to school, year after year – [I] don't really got anyone to look up to' (Focus group 4, young men, Tehama).

Parental supervision and socioemotional support

In almost all communities, both adult and youth participants mentioned Latinos' agricultural work, as well as their engagement in multiple jobs, as factors that influence parental supervision and the provision of socioemotional support. As one counsellor said, '[In] Hispanic families, both parents work in the fields and they are exhausted. "Did you do your homework?" They don't even ask. We find this all the time' (Interview 40, government agency staff, Fresno).

Young people expressed mixed feelings about their parents' supervision and provision of socioemotional support. Only young women complained about overprotection if their mothers stayed at home, or their parents set strict rules at home. Others noticed a lack of socioemotional and/or supervision if both parents worked outside of the home:

P1: There are a lot of girls that as soon as their parents are asleep they sneak out.

P2: And a lot of their parents go to sleep early because they work in the fields. They have to wake up at 3:00 in the morning. So they go to sleep early. So kids are like, 'Okay let's go'.

P3: That's how the Mexicans are ... they work in the fields, so they're gone throughout half of the day. By the time they get home, they are tired so they go to sleep. So I guess they don't really have a part in their children's life. (Focus group 2, young women, Kern)

Residential mobility due to economic deprivation and housing changes

Almost all adults and youth participants mentioned that there had been notable changes in the racial/ethnic composition of their communities in the last decade. These changes affected the availability of resources, family structures and social cohesion.

While some communities had experienced economic improvements through new employment opportunities, many of the communities experienced declines in other economic sectors that required different types of skills. For example, the closing or reductions in major industries, such as oil fields in Kern and Fresno and the timber industry in Tehama, forced people to move in search of new employment. As a result, some adult participants explained that professionals with more resources decided to move to neighbouring communities that offered more services and a better quality of life, as well as increased job opportunities. The job loss related to these industries was often associated with professional positions and other jobs with better salaries and benefits. In most cases, these types of positions were not replaced, particularly during the economic recession. However, a couple of communities in Fresno and Kern offered new sources of employment in state mental hospitals and state prisons. These opportunities attracted new professionals, particularly Southeast Asians

(rather than Latinos) who were often more involved in community activities, had better job security and were less mobile than other recent migrants.

Resources and funding for schools and teen pregnancy prevention programmes in high mobility communities

Some adult participants noted negative effects of the changes in community composition due to outmigration in terms of the loss of contribution in time and resources from families with higher incomes. These families used to support schools and community programmes that benefit and engage youth, especially in more isolated areas. One participant spoke about the impact of limited funding:

There's a gap in access to programs. So you have a program like Girls Inc. where it's free to the families, but costs the schools. But because these schools are in these impoverished communities that don't have a lot of money, they can't afford to have the programs. (Interview 32, youth-focused organisation, Tehama)

Family dynamics and structure

Another theme that emerged, and was only mentioned by adults, was the high rate of foreclosures and evictions. This was associated with young people and families being forced to relocate and share apartments with other families, live in motels, move out of the community to find affordable housing or to become homeless. For instance, a high school counsellor explained:

It's also the number of our students that are homeless ... the majority are families that have lost jobs ... face evictions. All of that ... takes its toll on our students When you don't know exactly where you are going to be staying or you are staying in a crowded home with relatives ... they can't necessarily focus or have time or place to do homework and make sure they are getting things taken care of – even basic things like rest. (Interview 29, school staff, Tehama)

Although, young people did not link the foreclosures and evictions with changes in family structures, they did notice that some young people in their communities lived with their grandparents or extended families, and discussed the presence of homeless in their communities.

Changes in racial diversity and social cohesion

Approximately half of the adults and youth participants noted that recent increases in racial diversity generated challenges in terms of social cohesion across the community, such as lack of support from neighbours, defensive or unfriendly attitudes between community members and problems in advocating, planning and accomplishing community projects. Young women who had children as teenagers said:

P1: My neighbourhood is kind of friendly because we're from the same country. So we can understand each other. And we feel comfortable with each other.

P2: It [racism] hasn't changed a lot because some people that are Americans like to tell bad stuff to us. But we just ignore them and just keep going with our friends or neighbours.

P1: Yeah, we feel more comfortable when we speak with people from where we are ... I think it's like trust. (Focus group 6, young women, Tehama)

Migration from other countries to the USA

Nearly all adults and many teenagers mentioned a number of different challenges that first-generation youth and their parents face in navigating school, social and health systems. The most frequently mentioned challenges are described below.

Parental involvement in schools and the community

Three factors were specifically mentioned by youth and adults as reasons for limited involvement: lack of time due to multiple jobs or extended job hours, limitations of parents' English proficiency and undocumented status. One focus-group participant said:

I feel like Hispanic families were so afraid to stand up for their rights just because their parents are scared to speak up because they're immigrants. For example, they might not be able to speak the English language or anything. And so they might feel like they need help to go out there and speak their minds. They think they don't have rights. (Focus group 8, young women, Fresno)

Parent-youth communication

Adults mentioned differences in English language proficiency between young people and their parents in Latino migrant families and their consequences for parent-youth communication, power dynamics in the family and the provision of social and emotional support. Some adults explained that young people become far more familiar and comfortable with English through schools, while their parents are often only Spanish speakers. Therefore, a lack of understanding and communication grows over time due to the language differences. Interestingly, as one respondent indicated, due to the better English proficiency of migrant young people, especially as compared to their parents, they tend to have more power in family decision-making in contrast to youth whose parents are fluent in English.

Language barriers experienced by indigenous migrant groups to access health services

Some adult participants discussed the language barriers that Indigenous groups from Mexico face in communicating in either Spanish or English. A nurse who provided services to Indigenous migrants from Mexico described these barriers:

We have a lot of Indigenous people from Oaxaca here who speak different languages, like ... Zapoteco and Mixteco – so there is another communication barrier there Even though they may speak some Spanish, their Spanish isn't fluent – so if we have a Spanish interpreter, it's still difficult ... I'll ask whoever is interpreting for me, 'what do you think their command of Spanish is?' and if it's not good, then we do have an interpreting video and telephone so we can call up an interpreter and they can talk to the patient in their specific dialects. (Interview 39, clinic staff, Fresno)

Dating norms and cultural attitudes toward teenage pregnancy

Many adult participants, but none of the young people themselves, mentioned that cultural values associated with motherhood in specific racial/ethnic groups may result in a positive attitude towards teenage pregnancy. Underlying reasons given for this attitude were either because teenage pregnancy is a common occurrence within that ethnic/racial group or because large families are valued and there is strong family and social pressure for young women to get married and start having children at an early age. One participant explained that this pressure is even stronger among recent immigrant youth (first-generation), compared

with young people who have lived in the USA longer or those who are second-generation immigrants. One nurse explained:

They [first-generation Latina migrants] have this pressure to get pregnant at an early age and finishing high school is not a priority. They are not expected to go to college, not expected to do things outside of the home. A lot of times their families – it's almost like an arranged marriage – and it can be with an older guy. Whereas girls that have been here for a while maybe feel more comfortable connecting with guys in high school. (Interview 42, clinic staff, Kern)

In contrast, a small number of adult participants disagreed, noting that stereotyping the behaviour of some cultures conceals differences in attitudes by socioeconomic level, education or place of migration among members of the same cultural or ethnic group. An interview participant mentioned that Mexicans who emigrate from urban areas in Mexico often look down on teenage pregnancy and expect that their children will attend college, a view that is not shared by those Mexicans who emigrate from rural areas:

A lot of people coming from Mexico [City] can't accept that [teen pregnancy]. If she gets pregnant ... they're upset because they want her to graduate, find a man, support yourself, etcetera. For the people who come from the ranches, from the rural areas, it's totally different. (Interview 40, clinic staff, Fresno)

We summarise in Figure 1 the main results of the study identified through the narratives of the participants. It describes each type of migration (Column 1) and its impact on youth through intermediate variables (Column 2) at the societal, community, family and individual level. These variables are perceived as influencing – either in a positive or negative direction – contraceptive use and sexual initiation that are proximate determinants (Column 3) of teenage pregnancy.

The above Figure reveals potential connections between risk and protective factors, and contraception use and sexual initiation among youth. We identified a total of 20 intermediate variables (Column 2). The majority are risk factors for teenage pregnancy related to education, socioemotional support, cultural values and access to services. We identified two perceived protective variables (Column 2) for teenage pregnancy: more parental supervision associated with the presence of mother or other caregiver at home in families working in seasonal jobs, and disapproval of teenage pregnancy due to dating and value norms in migrant groups who have higher educational expectations for their children.

Discussion

In rural areas, residential mobility in the USA and migration to the USA interconnect, therefore some Latino youth might be navigating the challenges of frequent residential mobility and the challenges of understanding and adapting to the dominant culture. This study provides new information about the nuances of the mechanisms by which residential mobility and migration affects young people and their families, such as limitations to actively participate in the school system, barriers to improve English skills, lack of sufficient time and opportunities to create strong social networks and mentoring, and reduced sources of social and emotional support – factors that ultimately shape teenage pregnancy rates in rural communities in California. This study adds to the literature existing by providing an in-depth qualitative analysis of demographic changes and migration patterns in rural areas with high teenage birth rates that have been rarely studied. These findings are consistent with the few studies that have explored residential mobility among youth and have found that it increases the

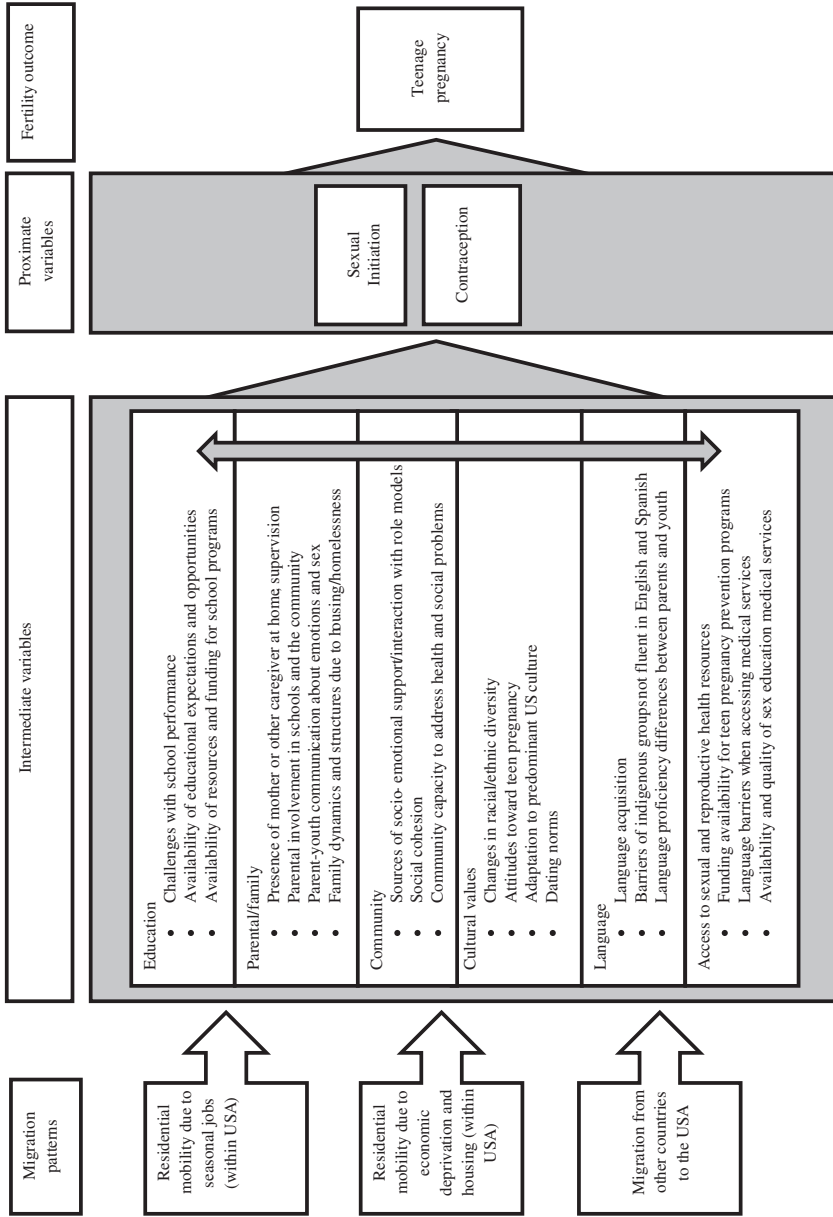


Figure 1. Mechanisms by which migration patterns may influence intermediate and proximate variables of teenage pregnancy.

risk of teenage pregnancy among other negative health outcomes (Jelleyman and Spencer 2008; South and Baumer 2000).

One of the main findings of this study is that young people mentioned fewer mechanisms by which migration affects the proximate determinants of teenage pregnancy as compared with adult respondents. This finding may reflect the fact that rural youth mentioned only those challenges that they or their peers had encountered. In contrast, adult participants may have had a wider perspective on demographic changes and teenage pregnancy in these communities. In addition, we did not ask young people directly about their views on demographic changes and racial diversity and their impact on teenage pregnancy. Nevertheless, we should be cautious with the findings that were only mentioned by adults and that are related with youth behaviour and practices, such as poor school performance, limited language acquisition due to mobility required by seasonal jobs, problems with parent-youth communication due to differences in language literacy, and dating norms and cultural values about motherhood that favour early pregnancy, since these were not confirmed by youth participants.

Adults also noted that mobility decreased opportunities to have contact with non-Latino families and youth through school and community interactions, possibly making their process of acculturation and interaction with professional role models more challenging and further delayed. Moreover, for young people and families who work in migrant farming jobs, the process of acculturation might occur in a non-linear manner and at a slower pace. The study findings call for the need to better understand the connection between residential mobility and integration into mainstream US culture, as well as the importance of measuring residential mobility by itself and within the dimension of acculturation. Residential mobility could be measured using the number of times that a person has moved in their lifetime or a period of time, the distance of the move and the number of moves related with some event such as school or family employment changes (Larson, Bell, and Young 2004). This is relevant as apparently there is no research that uses residential mobility as part of an acculturation scale.

Participants in this study considered that cultural norms in certain migrant groups, as well as generational discrepancies in values and language between young people and parents, may influence teenage pregnancy rates in rural communities. In some instances, more traditional norms may act as a protective factor by providing adult supervision and discouraging sexual activity, while in other instances, more acculturated young people may be protected by being more likely to have the language skills and motivation necessary to access and use contraception. The literature on Latina migrants in California suggests that traditional gender norms and dating practices, as well as the ideals of a larger family size, all contribute to early childbearing and lack of contraceptive knowledge and use among migrant youth (Biggs et al. 2013; Maternowska et al. 2010; Minnis et al. 2013).

Findings from this study also emphasised the need to consider the place of residency prior to migration (urban versus rural) as another factor that accelerates or decelerates the adoption of values that discourage teen pregnancy. Other researchers have measured country of origin as part of multi-dimensional acculturation scales and have found differences in sexual and reproductive outcomes (McDonald, Manlove, and Ikramullah 2009). Nevertheless, there are no studies that take into consideration the dimension of urban versus rural residency prior to migration, or the place where the person grew up before migrating. This last variable is especially relevant since many Latin American countries face high rates of internal migration from rural or semi-urban areas to urban areas, as well as patterns of longer cross-migration

between Central American countries to Mexico. Therefore, young people born in rural areas may have lived in urban areas and have been exposed to more liberal values toward sexuality and birth control use before they even migrated. As some of the participants mentioned, stereotypical perceptions and categorisations of migrants may lead to inaccurate assumptions and judgmental attitudes toward migrants that might act as a barrier for health providers to offer adolescent sexual and reproductive health information and services.

This study also calls attention to an area of research that has been overlooked, namely the expectations and experiences of a growing demographic group in California: Indigenous groups from Oaxaca, other Mexican states and Central America. There is a need to better understand the migration patterns of Indigenous peoples and the additional barriers that they face in adjusting to mainstream US culture. This includes the importance of tailoring teenage pregnancy prevention programmes and sexual reproductive health services to meet their needs, as well as designing culturally sensitive strategies to reach out to Indigenous youth and their families in rural communities and outside of school settings. Without such cultural and community engagement, the likelihood of developing effective interventions will be compromised.

This study has several limitations. Even though 62% of the youth participants self-identified as Latino, all of the young people chose to participate in English. We did not conduct any focus groups with monolingual Spanish speakers or with Indigenous immigrant youth. In addition, in the brief demographic survey that young people answered before the focus-group discussion, we did not include questions about nativity, generation, language of preference or other acculturation scales. Although many of the adult respondents were parents, we interviewed them in their professional capacity and did not interview other immigrant parents about their experiences and opinions. Another limitation is that the majority of young people included in the study reported that they were enrolled in school, resulting in not gathering data from out-of-school youth whose experiences may reflect a greater sense of isolation and marginalisation. Even with these limitations, the variety of themes reflected in the responses of youth and adult informants provide valuable insights into the contextual factors shaping the experiences of youth growing up in rural communities and their potential impact on teenage pregnancy risk.

Conclusion

This qualitative study describes how residential mobility and migration to the USA influence teenage birth rates in rural communities in California, and generates hypotheses about the mechanisms by which these structural factors influence the intermediate and proximate variables of teenage pregnancy. Vital strategies for promoting positive youth development and integration include: supporting and creating programmes and policies that aim to generate more dialogue between different racial/ethnic groups living in the same community, improving the agency and integration of newcomers into the community, improving parent-youth communication, increasing youth interaction with role models and other sources of socioemotional support, and enhancing youth expectations and opportunities. This study also suggests the need to expand the study of acculturation by including structural factors that shape the connection between residential mobility and integration of immigrants to mainstream US culture. It is important to promote public health programmes that support the healthy integration of minorities and foreign-born youth, including their access to comprehensive healthcare services. This includes tailoring teenage pregnancy prevention

programmes and sexual reproductive health services to fulfil the needs of non-US born, transient populations, minorities and Indigenous youth.

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