JOURNAL OF
Research on Adolescence

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JOURNAL OF RESEARCH ON ADOLESCENCE, 32(4), 1546–1565

Youth's Family and Non-Family Roles as Predictors of Subjective Adulthood in Three Low-Income Agricultural Settings

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Subjective adulthood, or feeling like an adult, captures identity development relative to the local context that shapes life course processes. Most research on this topic is conducted in wealthy developed countries. Instead, we draw on household-based survey data from the Family Migration and Early Life Outcomes project (FAMELO) to estimate ordinal logistic regression models predicting how often adolescents aged 11–17 in Jalisco, Mexico (n = 1,567); Gaza Province, Mozambique (n = 1,368); and the Chitwan Valley, Nepal (n = 1,898), identify as adults. The relationships between adult roles, family capital, youth characteristics, and youth's adult identities vary substantially across the sites. The findings highlight how the transition to adulthood reflects the cultural and structural conditions of adult identities.
Key words: adult roles – comparative sociology – transition to adulthood

As young people transition into adulthood, both their internal orientations and their behaviors evolve. Their beliefs and values fluctuate less (Kiley & Vaisey, 2020; Neugarten, Moore, & Lowe, 1965), they engage in risky behaviors less often (Massoglia & Uggen, 2010), and they become more engaged in their communities, for example, by voting and by joining civic organizations (National Research Council (U.S.) et al., 2005). The entry into adult identity is structured both by institutionalized transitions (such as leaving school, starting full-time work, and marriage) and by developmental processes. In addition, subjective perceptions of adult identity—whether young people consider themselves to have entered adulthood—are related to attitudes and behavior independently of adult roles and development (Arnett, 2001; Macmillan, 2006; Žukauskienė et al., 2020). Subjective perceptions of age categories reflect how individuals and communities understand these categories and how youth experience these age categories in their everyday lives. Subjective perceptions may also shed light on contexts where internal developmental processes and individual relationships are temporally mismatched with institutionalized role transitions.

In many wealthy industrialized countries, youth's subjective adult identities revolve around processes that involve separation from the natal family. For example, in the United States, family transitions (marrying, establishing an independent residence, and parenthood) and financial independence are the strongest predictors of adult identities (Shanahan, Porfeli, Mortimer, & Erickson, 2005), and adult identities fluctuate if these markers become unstable (Benson & Furstenberg, 2006). However, because life course stages are socially constructed, the determinants of adult identity are likely to vary across social and cultural contexts. In low- and middle-income countries, and particularly in agricultural economies, families play an important role in providing economic and practical support throughout the life course (Cain, 1983; Whyte, Alber, & van der Geest, 2008; Zimmer & Dayton, 2005). Intergenerational coresidence is common, even for adults, and children often make meaningful contributions to family production (e.g., agricultural output, household tasks, childcare, and family

This work was supported by the National Institutes of Health, Eunice Kennedy Shriver Institute of Child Health and Human Development via grants P01 HD080659 (Glick, PI); Ohio State University's Institute for Population Research (P2C-HD058484); and Pennsylvania State University's Population Research Institute (P2C-HD041025). The content is solely the responsibility of the authors. Data for this publication were obtained from the FAMELO Research Consortium—a multi-institution research collaboration (https://famelo.netlify.app/). Research contributors included study investigators and their graduate students funded by the Eunice Kennedy Shriver National Institute of Child Health & Human Development of the National Institutes of Health under Award Number P01 HD080659. We are grateful for feedback from participants of the American Sociological Association's 2020 session "Age Matters: Explorations of Age Categories in Social Life," as well as the four anonymous reviewers and editorial team at the Journal of Research on Adolescence. We also thank Melissa Alcaraz, Sarah Miller, and Jingyi Xu for their contributions to the analyses.

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DOI: 10.1111/jora.12731

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businesses; Bourdillon, Levison, Myers, & White, 2010; Proctor, 2012; Singh, 2019). In these settings, independence from the family of origin may be less central to establishing adult identity, and interactions within the natal family may be highly salient. However, limited research has examined the predictors of subjective adulthood in low- and middle-income countries.

In this paper, we describe factors associated with youth's perceptions of adult identities (subjective adulthood) in low-income rural settings in Mexico, Mozambique, and Nepal. Our primary goal is to understand how both role transitions outside of the family of origin and roles and responsibilities within the family of origin relate to subjective adulthood. For each of the three countries, we conduct ordinal logistic regression models predicting how often youth ages 11–17 report identifying as an adult. We take a case-study approach to comparative analysis across the three settings, identifying consistencies and inconsistencies between countries in order to understand the degree to which the development of adult identities may be shaped by distinct elements of local context.

Subjective Adulthood

With the spread of age-graded institutions and policies such as mandated education and child labor laws, the first half of the twentieth century saw a standardization of the life course, and in particular the transition to adulthood, in industrialized countries. As adolescence became more structured by non-family institutions, such as formal schooling, it became more uniform, with more adolescents following the same sequence and timing of transitions to adult roles (Kohli, 2007). Over the last decades of the twentieth century, and into the twenty-first century, this pattern of standardization has been reversed, with more variation in the timing and sequencing of transitions to adult roles (school leaving, employment, residential independence, marriage, and childbearing; Shanahan, 2000). In the absence of shared expectations around the timing and order of transitions, subjective perceptions play a more important role in defining adulthood. Independent of adult roles, subjective adult identities predict life satisfaction (Nelson, 2009; Žukauskienė et al., 2020), as well as rates of depression and risk behaviors (Galambos, Kolaric, Sears, & Maggs, 1999; Luyckx, De Witte, & Goossens, 2011; Nelson & Barry, 2005).

Subjective adulthood can be operationalized in different ways (for a review, see Settersten & Mayer, 1997). Commonly used approaches include questions about whether people perceive themselves to be an adult (with some versions of these questions specifying how often or under what circumstances); whether people think other people (their age or different ages) are adults; and what people identify as characteristics or experiences that signify adulthood (Nelson & Luster, 2015). Definitions of adulthood vary depending on both the measure and the sample. For example, asking teenagers what experiences characterize adulthood may elicit different responses from asking people in their twenties whether they have reached adulthood. In this article, we focus on young people's (age 11–17) reports of whether they, themselves, feel like an adult. This measure captures identity development relative to the local context that shapes life course processes.

Subjective adulthood is often studied in the context of delayed transitions to adult roles, but it is also relevant for understanding early transitions. Burton (2007) proposed the term "childhood adultification" to describe the experiences of children in low-income families who take on responsibility for managing family burdens by contributing caregiving, earnings, and instrumental tasks. Adultification is marked by children's understanding of their family roles and relationships as well as by specific behaviors or outcomes, and this subjective perception has consequences for children's development and socioemotional wellbeing. For example, adolescents in the United States systematically report feeling older than their chronological age (Montepare & Lachman, 1989), and this disparity is associated with hardships such as feeling unsafe and being resource deprived (Johnson & Mollborn, 2009), as well as adolescent experiences such as dating and sexual initiation (Arbeau, Galambos, & Mikael Jansson, 2007).

Research on subjective adulthood in wealthy industrialized countries points to the importance of socioeconomic variation in shaping adult identities, both among children experiencing early adultification and among young people experiencing delayed adulthood (e.g., Benson & Furstenberg, 2006; Burton, 2007; Silva, 2013). Young people in low-income families may take on adult responsibilities early due to demands from their family of origin, or they may be delayed in achieving adult milestones due to resource constraints. This research largely examines variation *within* industrialized contexts, where economic production takes place outside the family and where formal institutions (e.g., education) structure the transition to adulthood.

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A smaller but growing body of research considers young people's perceptions of adult identity in low- and middle-income countries (LMIC) (e.g., Arnot & Swartz, 2012; Azaola, 2012; Ji, 2013; Seiter & Nelson, 2011; Zhong & Arnett, 2014). These studies find points of commonality with research in high-income industrialized countries but also illustrate differences in the determinants of subjective adulthood. For example, much like young people from high-income countries, young Ghanaians equate adulthood with maturation into family roles, but in Ghana, physical development is a strong predictor of adult identity, which develops at relatively young ages (Arnot, Jeffery, Casely-Hayford, & Noronha, 2012). In many high-income countries, education and family formation are perceived as competing demands, but Nepalese norms compel young women to combine family and student roles as they transition to adulthood (Ji, 2013). These single-country studies show variation in the degree to which young people consider themselves to be adults and in how that consideration is determined. However, systematic predictors of this variation have not yet been established.

Current Study

In this article, we contribute to building the knowledge base on subjective adulthood in rural regions in LMIC. We take a case-study approach, drawing on comparable survey data from Latin America (Jalisco state, Mexico), East Africa (Gaza Province, Mozambique), and South Asia (the Chitwan Valley, Nepal) to generate evidence for future theory-building. We focus on a relatively young age group (11–17), younger than in many studies of transition to adulthood in wealthy industrialized countries. Given the relatively early transitions to adult roles (school leaving, marriage, and childbearing) in LMIC and the substantial family responsibilities taken on by young people in these study contexts, a focus on a younger age group is appropriate. Adolescents' subjective adult identities vary by more than chronological age (e.g., hardships, dating, and sexual initiation). It is important to understand subjective perceptions of adulthood in this group because subjective age identity correlates with maturity, mental illness, and risk behaviors (Arbeau et al., 2007; Galambos et al., 1999; Johnson & Mollborn, 2009).

We draw on two conceptual frameworks for understanding adult identity. First, we analyze how children's roles in institutions outside the natal family are related to subjective adulthood. We consider two role transitions commonly treated as predictors of social adulthood, leaving school and entering the workforce (Furstenberg, Kennedy, McLoyd, Rumbaut, & Settersten, 2004; Modell, Furstenberg, & Hershberg, 1976). We also include measures of romantic relationships and desired age at marriage as indicators of adolescents' pathways toward family formation, another adult role transition. Second, we use Burton's (2007) conceptual model of childhood adultification to highlight roles and responsibilities within the natal family that may be associated with subjective adulthood. In Burton's model, which draws on qualitative research with low-income families in the United States, adultification occurs when children take on responsibilities on behalf of the family. Burton outlines characteristics of both the family and the child that can contribute to this process. *Family capital* includes parental capital (time and skills) and social capital (presence of other adults). Families that have less family capital rely more on children for family functioning, and children living in these families are more likely to experience adultification. Relevant child characteristics that allow the child to take on responsibility, and thus may lead to early adultification, include birth order, health status, and practical competencies.

In addition to key predictors of adult identity suggested by these two frameworks, we consider chronological and physiological maturity as core developmental predictors of adult identity. Chronological adulthood may be defined through legal regulation (e.g., definition of the age of majority, laws regarding minimum age for employment, or marriage) and through social ritual (e.g., confirmation in the Catholic church, the *quinceañera* in Mexico). Physical development is also an important contributor to adult identity, and physiological changes related to the onset of reproductive capacity may be particularly salient (Arnot et al., 2012; Seiter & Nelson, 2011). Also, the transition to adulthood in many contexts is gendered. Therefore, we account for age, pubertal development, and sex in all models.

Our analysis is guided by two primary research questions regarding subjective adulthood among young people aged 11–17 in rural settings in low- and middle-income countries:

(1) How are role transitions outside the family (work for pay or for kind, school enrollment, dating, and preferred age of marriage) related to subjective adulthood?
(2) How are dynamics with the family related to subjective adulthood, specifically:

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(a) the family capital (dependency ratio, caregiver monitoring, household wealth, and food insecurity) available within a household?
(b) the responsibilities (older sibling, self-reported health, and time spent on domestic tasks) young people take on within the family?

Based on the conceptual frameworks outlined above, we propose several hypotheses:

H1

Adolescents who have experienced transitions to adult roles will identify as adults more often than adolescents who have not experienced these transitions.

H2

Adolescents in families with less family capital will identify as adults more often than adolescents in families with more family capital.

H3

Adolescents with greater capacity for taking on adult responsibilities will identify as adults more often than adolescents with less capacity.

We describe the measures used to operationalize key concepts in the Method section below.

Given the limited previous research conducted on subjective adulthood outside of the United States, and in particular the paucity of cross-national comparative studies, the evidence base is insufficient to propose specific hypotheses regarding the most important contextual factors. We approach our three countries as opportunities for generating theory about the extent and nature of variation rather than theory-testing. In the discussion section, we use our results to propose speculative hypotheses that may be used to guide future research.

The Transition to Adulthood in Mexico, Mozambique, and Nepal

The three study sites differ substantially in the level of economic development, the nature of family systems, and the strength of the educational system and other non-family supports for adolescent development; cases were chosen to maximize variation. In this section, we present characteristics of our study sites that are relevant for understanding subjective adulthood, including economic and institutional factors that shape adolescent experiences (e.g., education system, and labor market), key elements of family systems, and the average timing of adult role transitions. Much of our discussion is drawn from Table 1, which provides an overview of key elements of the adolescent experience and the transition to adult roles in the three sites.

Though there is large variation in the institutional, economic, social, and cultural contexts that shape life course stages both across and within LMIC, this broad category remains useful for understanding some contextual features relevant to the transition to adulthood. One key feature that most LMIC share, in contrast to wealthy industrialized countries, is the relative weakness of non-family institutions that support child and adolescent development and provide social safety nets (United Nations Development Programme, 2019; U.N. Economic & Social Council, 2020). For instance, the uneven expansion of formal schooling systems means that age at school leaving is likely to be more variable within (and across) LMIC than in wealthy industrialized countries, and given the weak social safety nets, we may expect families to be an important source of support throughout the life course.

Across LMIC, educational enrollment rates increased starting in the second half of the twentieth century (Dorius, 2013). Still, because of incomplete expansion of education systems, rates of completion of secondary school and post-secondary education are much lower in LMIC than in wealthy industrialized countries, and intra-national variation can be heavily gendered (Psaki, McCarthy, & Mensch, 2018). Comparing across the three study sites, Mexican and Nepalese children included in our sample have higher levels of school enrollment than in Mozambique. Within the study area in Mexico, most towns and villages have their own secondary school, and most adolescents enroll in secondary school, though not all complete it. There are no fees for public schooling, and social welfare systems provide cash payments to low-income families to support children's schooling (Azaola, 2013). In the study area in Nepal, there is a robust network of both public and private schools, although children living in more rural areas may still have to travel some distance to

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TABLE 1
Comparisons of Child Development Settings

Context/characteristics	*Jalisco, Mexico*[a]	*Gaza Province, Mozambique*[b]	*Chitwan District, Nepal*[c]
Gross Secondary School Enrollment[d,e]	86% male; 92% female	28% male; 25% female	41% male; 46% female
Literacy (age 15–24)[f,g]	98% male; 98% female	78% male; 62% female	86% male; 75% female
Child Labor (age 5–14)	5%	22%	34%
Modes of production	Large- and small-scale farming, agricultural processing, manufacturing	Small-scale farming	Small-scale farming, small-scale manufacturing
Religious/ethnic context	Predominantly Christian, some indigenous groups	Predominately Christian, ethnically homogeneous	Hindu and some Buddhist, Caste stratification
Family system	Marriage and consensual unions, extended family coresidence prevalent but not dominant	Some arranged marriage, polygamy, patrilocal and patrilineal, informal unions and formal marriage, complex households	Some arranged marriage, patriarchal, mostly monogamous, patrilocal, some extended family coresidence
Demographic conditions (national level)[h]	TFR = 2.3; IMR = 14.1; HDI = 0.77	TFR = 5.9; IMR = 86.0; HDI = 0.33	TFR = 2.6; IMR = 53.0; HDI = 0.46
Timing of first union[i]	Men: 41% by age 20; Women: 63% by age 20	Men: 36% by age 20; Women: 56% by age 18	Men: 34% by age 20; Women: 41% by age 18
Average age parents expect children to marry[j]	27.2 male; 25.8 female	25.1 male; 23.5 female	26.3 male; 23.8 female
Timing of first sex[k]	Men: 70% by age 18; Women: 53% by age 18	Men: 86% by age 20; Women: 79% by age 18	Men: 44% by age 20; Women: 40% by age 18

[a]Vargas-Valle (2012).
[b]Agadjanian, Yabiku, and Cau (2011), Madhavan and Landau (2011), Ministerio de Saude (MISAU), Instituto Nacional de Estatistica (INE) e ICP International (ICFI) (2011) and Yabiku, Agadjanian, and Cau (2012).
[c]Ghimire, Axinn, Yabiku, and Thornton (2006), Massey, Axinn, and Ghimire (2010), Ministry of Health and Population (MOHP), New ERA, and ICF International Inc. (2012) and Wagle (2012).
[d]Population Reference Bureau, The World's Youth 2013 Data Sheet.
[e]Demographic and Health Survey 2011 (men, age 25–29; women, age 20–24).
[f]Population Reference Bureau, World Population Data Sheet 2012.
[g]Demographic and Health Surveys 1997 (men, age 25–29) and 2003 (women, age 20–24).
[h]United Nations Development Program 2019 Human Development Report; HDI = Human Development Index; IMR = infant mortality rate; TFR = total fertility rate.
[i]For Mexico and Mozambique, where cohabitation and informal marriage are widespread, the proportion in union applies to both formal and informal marriage. For Nepal, this statistic refers only to formal marriage.
[j]Drawn from FAMELO data. Data on children's preferences are listed in Table 2.
[k]2010 National Youth Survey (Mexican Youth Institute, 2011), young people up to age 29.

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school. Compared to Mexico and Nepal, levels of school enrollment and completion are lowest in Mozambique, where the school infrastructure is sparser and where the formal labor market provides fewer opportunities for employment of school graduates (Fox, Santibañez, Nguyen, & André, 2012). Many of the locations in the Mozambique study site do not have a secondary school, and students must travel to a larger town to enroll. Although school enrollment is free in Mozambique, there are costs associated with schooling (uniforms and supplies), and families are expected to contribute to the upkeep of schools either with money or with labor (e.g., to help maintain the school building).

Despite efforts to regulate child labor, many young people across LMIC begin working before age 18, either in family agricultural production or in the paid labor force to contribute to family income (Staff, Mont'Alvao, & Mortimer, 2015). Child characteristics, such as whether or not they are an older sibling, can often influence whether children acquire labor responsibilities (Edmonds, 2006). Many children in the three sites included in our study take part in work related to agriculture or animal husbandry as part of household production (see Table 2 below). In all three sites, agriculture is a major component of economic production. (Data collection in Mexico took place only in rural areas of Jalisco.) Relative to the other two sites, households in Mexico are less likely to depend on subsistence agriculture for economic support.

Because of both normative expectations and economic constraints, people in LMIC are much less likely to live alone than people in wealthy industrialized countries, particularly in Latin America and in Asia, and particularly in early adulthood (age 25–29; Esteve, Reher, Treviño, Zueras, & Turu, 2020). In the three study sites included in our study, extended family households are common, but children in the sample are somewhat less likely to live with grandparents or other family members in Mexico than in Mozambique or Nepal. The timing of the first coresidential union is similar across the three study sites (Table 1), but social norms around adolescent romantic and sexual relationships differ substantially (Anderson, Panchaud, Singh, & Watson, 2014). In all three sites, adolescent romantic relationships can be perceived as problematic or disruptive. However, social and parental controls over adolescent sexuality are much stricter in Nepal, and to a lesser extent in Mexico, than in Mozambique. Both casual and serious relationships are common among adolescents in the study site in Mozambique, and these relationships often include a sexual component.

As young people stay in school longer, the age at first marriage and the age at first birth have increased; these changes have been larger for women than for men in much of the world (Mensch, Singh, & Casterline, 2005; Pesando, Barban, Sironi, & Furstenberg, 2021). However, early family formation continues to be common in many LMIC, particularly for girls. For example, an analysis of the United Nations Population Division Database found a substantial proportion of girls marry before age 18 (Mensch et al., 2005), though rates remain notably higher in specific regions, like Southeast Asia (Nahar, Xenos, & Abalos, 2013; Xenos et al., 2006). A comparative study of trends over time using data from the Demographic and Health Surveys on women aged 15–30 described both the timing of family formation events (first sex, first marriage, and first birth) and the sequencing and duration between transitions (Pesando et al., 2021). Early, rapid transitions to adulthood—sequences in which women experience first sex, first union, and first birth in close succession before age 18—were the most common trajectories in sub-Saharan Africa, Central America, and South Asia. Even among the cohorts born in the 1980s, approximately half of women experienced these early transitions. Delayed transitions (in the mid-twenties) became more common in East Africa and Southeast Asia but declined in South Asia and Central America. When comparing across the included study sites, birth rates are lowest in Mexico and highest in Mozambique (Table 1).

METHOD

Sample and Data Collection

We use survey data from three study sites collected by the Family Migration and Early Life Outcomes (FAMELO) project. FAMELO is a household-based survey with data collected from children aged 5–17 and their primary caregiver in the household (most often the mother). The original focus of the study was on the impact of parental migration on children; the three sites were chosen because they all had high rates of out-migration but displayed variation in other elements of social context in order to facilitate cross-national comparison. Site selection followed the logic of the diverse case selection method described by Seawright and Gerring (2008), in which cases are chosen to maximize

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TABLE 2
Distribution of Dependent and Independent Variables

	Mexico (N = *1,567)*			*Mozambique* (N = *1,368)*			*Nepal* (N = *1,898)*		
Variable	*Mean/Prop.*	SD	*Min/Max*	*Mean/Prop.*	SD	*Min/Max*	*Mean/Prop.*	SD	*Min/Max*
How often do you feel like an adult?									
Never/rarely	0.48			0.73			0.31		
Sometimes	0.38			0.16			0.42		
Often/always	0.14			0.11			0.27		
Girl	0.48			0.49			0.49		
Age									
13 and younger	0.44			0.48			0.37		
14 and older	0.56			0.52			0.63		
Has hit puberty	0.86			0.36			0.71		
Child has worked for pay/kind	0.43			0.11			0.12		
Enrolled in school	0.89			0.81			0.91		
Dating	0.30			0.19			0.07		
Preferred age of marriage	26.17	4.50	13/52	25.48	7.23	12/45	25.21	3.58	17/45
Dependency ratio (# Kids/# Adults)	1.20	0.81	0/6	1.96	1.23	0.2/8	1.04	0.71	0.14/4
Monitoring scale (mean centered)	0.00	0.69	−3.19/1.28	0.00	0.69	−1.89/1.14	0.00	0.62	−3.95/0.82
Household wealth (mean centered)	0.00	0.02	−0.07/0.02	0.00	0.02	-0.05/0.03	0.00	0.02	−0.08/0.02
Food insecurity									
Never	0.65			0.83			0.86		
A few or many times	0.35			0.17			0.14		
Is an older sibling	0.62			0.75			0.15		
Self-reported health									
Good, okay, or bad	0.81			0.64			0.89		
Very good	0.19			0.36			0.11		
Time spent on household tasks (hours)	2.28	2.30	0/16	3.12	2.90	0/16	1.84	1.55	0/15

Note. Results are presented as proportions rather than frequencies given that multiple imputation relies on proportions rather than exact values.

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variation and generate evidence for future theory construction.

In all three sites, a two-stage sampling procedure was used, with primary sampling units (PSUs) selected first and then households sampled within PSUs. In Mexico, the PSUs were localities in rural areas of Jalisco state with high intensity of migration as measured by migration indices constructed from Mexican census data (Geografía [INEGI], 2010). In Nepal, PSUs were wards selected with probability proportionate to size. In Mozambique, PSUs were census enumeration areas, stratified by rurality and selected with probability proportional to size. In all three sites, an eligibility survey was carried out to identify households with at least one child between the ages of 5–17 and a consenting adult caregiver. Either one or two children were interviewed in each household, with households randomly assigned to the number of children interviewed. (For further details on sampling procedures, see Glick et al., 2017). Surveys were conducted by trained local interviewers between the end of 2017 and the beginning of 2018.

Measures

Measures used in the surveys were developed based on widely used existing measures and adapted to local contexts based on consultation with local research partners and key informants, as well as pilot interviews with 60 parent-child pairs in each setting.

Dependent variable. Children aged 11–17 were asked "How often do you feel like an adult?" Response categories were never, rarely, sometimes, often, or always. This question was adapted from similar questions used in the Youth Development Study (Mortimer, PI) and the National Longitudinal Study of Adolescent to Adult Health (Add Health; Harris & Udry, 2021). Because categories at the extremes tended to be chosen less frequently, we collapsed some categories for analysis, combining "never" with "rarely" and "often" with "always."

Independent variables. *Controls.* All models control for age, sex, and physiological development. In order to capture nonlinearities in the relationship between age and subjective adult identity, we divide age into two categories, age 11–13 and age 14–17. These categories were chosen based on consultation with local research partners and key informants, who indicated that these were meaningful groupings in local understandings of "older" and "younger" children. To measure physiological development, we include a binary indicator for whether the child reported having experienced changes associated with puberty (menstruation for girls, voice changing and wet dreams for boys).

Roles outside the family. We operationalize adult roles as whether or not the child has done work for which they were paid in cash or in-kind exchange during the previous six months, has attended school in the previous 30 days, or has ever been in a romantic relationship (knows a girl/boy who is "more than a friend"). Only children aged 14 and older were asked if they had engaged in a romantic relationship. We label all children aged 13 and younger as never having engaged in a romantic relationship; this decision likely leads to conservative estimates (i.e., coefficients biased toward zero) for the true association of relationship formation with adult identities. (Of those aged 14 and over who have had a romantic partner, youth experienced their first relationship, on average, at 12 years old in Mexico and 13 years old in both Mozambique and Nepal.) These role variables (previously worked, attended school, and romantic engagements) are binary variables indicating whether or not the child had engaged in those roles. In addition, we include the child's preferred age at marriage as an indicator of their perception of normative ages of transition. Preferred age of marriage correlates with marital timing (Bayer, 1969), as recently shown in Nepal (Allendorf, Thornton, Mitchell, Young-DeMarco, & Ghimire, 2017). We measure preferred age of marriage through a combination of questions. First, we ask if children know the age they would like to marry. If so, we use this response. If they were unsure of their preferred marriage age, children were asked the earliest and latest age they would marry. If both those questions were answered, we use the average of the responses. If only one of those questions were answered, we use that response. The initial preferred age of marriage question was unanswered by 5% of Mexican, 6% of Mozambican, and less than 1% of Nepalese respondents.

Roles inside the family. Following Burton's (2007) framework for childhood adultification, we differentiate family and child characteristics that contribute to youth's proclivity to take on responsibilities on behalf of the family.

Family capital. Family capital is operationalized by the number of caregivers in the household relative to the number of dependents, parental skills,

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and household economic resources. We include the household dependency ratio, the ratio of the number of children (younger than 18 years old) to adults (18 years or older) in the household. The dependency ratio reflects the availability of adults to provide economic and childcare support for the household. Parental skills are operationalized through a caregiver monitoring scale; this is an average of responses to five questions asking children about the amount of oversight their caregivers have over their daily lives. Items were based on conceptualizations in the developmental literature (Dishion & McMahon, 1998; Steinberg, Fletcher, & Darling, 1994). For example, children are asked how often they have a curfew and how often they report their daily activities (e.g., what they plan on doing, who they plan on being with, and where they will be) to their caregivers. Alphas for this scale are adequate to good (alpha = .72 in Mexico and Mozambique, alpha = .60 in Nepal). We include two measures of household economic resources, a household assets scale constructed using principal component analysis (PCA; Filmer & Pritchett, 2001) to capture long-term stable wealth and a measure of food insecurity to capture short-term deprivation. PCA-based measures of household wealth are widely used as measures of economic resources in LMIC, where income is often variable or received in-kind and therefore difficult to measure (Filmer & Pritchett, 2001; Vyas & Kumaranayake, 2006). The PCA asset index approach has been shown to proxy economic resources as effectively as other measures such as income or expenditures (Vyas & Kumaranayake, 2006). This scale is based on household ownership of durable goods (e.g., television, bicycle, and refrigerator) as well as construction materials of the home; a full list of included assets is available in appendix Table A1. Following the standard approach, we use the predicted score based on the first component of the final PCA. We measure short-term availability of resources through an indicator of food insecurity adapted from UNICEF recommendations (Fram, Bernal, & Frongillo, 2015). Respondents were asked how often over the last three months, due to a lack of money or resources, "you were worried you would not have enough food to eat?"

Child characteristics. We consider children's health, practical competencies, and age relative to siblings to measure youth's proclivity to take on responsibilities on behalf of the family. We measure youth's health based on responses to a question asking "Overall, how good is your health?" Available responses include very good, good, okay, and bad (Fosse & Haas, 2009; Frankenberg & Jones, 2004). We create a binary variable indicating whether or not respondents assessed their health as "very good" or one of the other options. Practical competencies are operationalized by the amount of time youth contributed to their household the day before the survey. Children were asked a series of questions about tasks they did for the household the previous day (cook, clean, wash clothes, care for animals, care for family members, etc.) and then asked the total amount of time (in hours) they spent on those tasks. We create a variable for whether the child is an older sibling using the household roster data. If a younger sibling is listed in the household, then the focal child is identified as an older sibling.

ANALYTIC STRATEGY

To conduct our analyses, we use ordinal logistic regression with standard errors clustered at the household level to adjust for possible nonindependence of reports from siblings in the same household. Models are developed based on theoretical groups of variables: basic controls, adult roles outside the family, family capital, and child characteristics. We model each country separately. Prior to estimating models, we tested for multicollinearity using the *collin* function in Stata 16. No variable had a variance inflation factor above 2.25 with the majority of variables falling well below two. The variables with the greatest correlation are whether a child has hit puberty and age, the largest correlation being .73 in Nepal. The low variance inflation factor indicates this high correlation has little effect on our standard errors.

To determine whether ordinal logistic regression is appropriate, we used the Brant test in Stata 16 to assess whether the proportional odds assumption held in this sample. Results suggested we relax the assumption for a number of variables—self-reported health and hours spent on domestic tasks in Mozambique, and age in Nepal. To do so, we use the *gologit2* function. In Mozambique, the coefficients in the models with and without relaxing the assumption are very similar; however, the coefficient for self-reported health is more strongly associated with the difference between "sometimes" feeling like an adult and "often/always" than "never/rarely" and "sometimes." In Nepal, the coefficient for age differs between the two models; age is more strongly associated with the difference between "never/rarely" feeling like an adult

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and "sometimes" feeling like an adult than between "sometimes" and "often/always." Because the results in ordinal logistic regression models and models with the proportional odds assumption relaxed are largely similar, we present the simpler models in the main text. Results from models relaxing the proportional odds assumption are included in appendix (Table A2).

For all countries, we impute missing values using multiple imputation by chained equations using Stata 16 (MICE: White, Royston, & Wood, 2011), construct 20 imputed data sets for each country, and specify each of the missing variables by the appropriate model type (e.g., regression, logit, and ordinal logit). Most variables had fewer than 5% missing cases; the exceptions include preferred age of marriage in Mexico (5.2%) and Mozambique (6.9%), and hours spent on domestic tasks in Mozambique (20%). While our models account for clustering at the household level, we do not include this in the imputation models due to the number of clusters that would have to be included (Azur, Stuart, Frangakis, & Leaf, 2011). In Mexico, there are 1,272 households for our 1,567 observations; in Mozambique, there are 1,188 households for 1,368 observations; and in Nepal, there are 1,566 households for 1,898 observations. The estimated models with and without imputation are nearly identical. All observations are retained through multiple imputation. All variables in the analyses are included in the imputation process, and we impute values for the dependent variable for less than 1% of observations in Mexico and 1.8% of observations in Mozambique.

RESULTS

We present the results as three tables. In the first, we offer summary statistics to show the distribution of our dependent and independent variables in each of the three study sites (Table 2). The following table presents bivariate associations in the form of the proportion of respondents that identify as adults often or always according to the independent variables included in the models (Table 3). The final table presents the results of our ordinal logistic regression analyses (Table 4).

Descriptive Results

The proportion of respondents who identify as an adult "often or always" varies across sites, from a low of 11% in Mozambique to a high of 27% in Nepal, with Mexico in between at 14%. There is also variation in the distribution of the independent variables that may be associated with subjective adult identity. The proportion of girls in the sample is similar across sites, at just under 50%; the age distribution is slightly older in Nepal (63% age 14 or older) compared with the other two sites (56% age 14 or older in Mexico, 52% in Mozambique). Pubertal development is most advanced in Mexico and least advanced in Mozambique.

Among the measures of adult role transitions, respondents in Mexico are mostly likely to have worked for pay or for in-kind exchange 43% compared with 11% in Mozambique and 12% in Nepal. School enrollment rates are high in all three study sites but are slightly lower in Mozambique (81%) than in Mexico (89%) or Nepal (91%). The proportion of respondents who have been in dating relationships is highest in Mexico (30%), lower in Mozambique (19%), and lowest in Nepal (7%). The preferred age at marriage is similar in all three sites, around age 25 or slightly over.

The dependency ratio, the average number of children per adult in the household, is 1.20 in Mexico, 1.96 in Mozambique, and 1.04 in Nepal. Reported food insecurity is higher in Mexico (35% of children worrying about having enough to eat) than in Mozambique (17%) or Nepal (14%). In Mexico, 62% of respondents are older siblings (have a younger sibling in the household), compared with 75% in Mozambique and 15% in Nepal. In Mexico, 19% of respondents report being in very good health, compared with 36% in Mozambique and 11% in Nepal.

Bivariate associations show that the key independent variables are correlated with subjective adulthood, although associations vary across study sites (Table 3). Boys report feeling like an adult more often than girls in all three study sites, although this difference is not statistically significant (based on ANOVA comparison of mean values) in Mexico. As expected, older children and children who have experienced puberty are more likely to report feeling like an adult.

Transitions to adult roles are also correlated with adult identity in all three sites. Children who have been working ($p < .01$, Mexico; not significant, Mozambique and Nepal), children who are not enrolled in school ($p < .05$, Mexico; $p < .001$, Mozambique; not significant, Nepal), and children who have been in a dating relationship ($p < .001$, Mexico and Mozambique; $p < .01$, Nepal) report feeling like an adult more often than children who have not experienced these transitions. Differences in subjective adult identity by preferred age at

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TABLE 3
Bivariate Associations between Independent Variables and Subjective Adulthood

		% Who Feel like an Adult Often or Always		
Variable	*Category*	*Mexico* (n = *1,567*)	*Mozambique* (n = *1,368*)	*Nepal* (n = *1,898*)
Sex	Boy	15	14**	34***
	Girl	13	9**	21***
Age	11–13	10***	7***	24**
	14–17	18***	15***	29**
Puberty	No	10	7***	24*
	Yes	15	19***	29*
Work	No	12**	11	26
	Yes	17**	15	32
Enrolled in school	No	20*	18***	33
	Yes	14*	10***	27
Dating	No	11***	8***	26**
	Yes	21***	25***	37**
Preferred marriage age[a]	≤24	14	11	28
	25	14	15	27
	26+	16	11	26
Dependency ratio[a]	<1	15	12	26
	1	12	11	28
	>1	15	11	28
Monitoring scale[a]	Lower 3rd	14	9*	24
	Middle 3rd	16	11*	28
	Upper 3rd	13	15*	30
Household wealth[a]	Lower 3rd	12	10	28
	Middle 3rd	16	13	27
	Upper 3rd	15	12	27
Food insecurity	Never	13	11	27
	Few/many times	16	13	27
Is an older sibling	No	12*	10	26
	Yes	16*	12	31
Self-reported health	Good, okay, bad	14	10*	27
	Very good	16	14*	27
Time spent on domestic tasks[a]	0 hr	14	11	27
	1 hr	13	10	26
	>1 hr	16	12	28

Notes. Significance level of ANOVA test comparing within-variable means for each country: *$p < .05$, **$p < .01$, ***$p < .001$.
[a]The variable is continuous in the models but split into tertiles for this table.

marriage are small and not statistically significant across all three sites.

Based on these bivariate statistics, roles and responsibilities within the family are less consistently associated with adult identity in these study sites. In Mexico, older siblings than younger siblings feel like an adult "often or always" ($p < .05$).

In Mozambique, children whose parents do more monitoring are more likely to feel like an adult often or always than less monitored children ($p < .05$), contrary to expectations. Children in very good health also report feeling like an adult more often ($p < .05$). In Nepal, differences in subjective adulthood across categories of family roles and responsibilities are small and not statistically significant.

Regression Results

Multivariable results from ordinal logistic regression models are shown in Table 4. We present results sequentially by country, then synthesize and compare across countries in the Discussion section.

Mexico. While age is a significant predictor of subjective adult identities in Mexico ($b = 0.63$, $p < .001$), neither sex nor puberty onset is, consistent with the bivariate results. With regard to roles outside of the family unit, whether youth engaged in a romantic relationship is the only significant predictor as dating experience correlates with more frequently identifying as an adult ($b = 0.47$,

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TABLE 4
Ordinal Logistic Regression predicting Subjective Adulthood (1[Never/Rarely] – 3[Often/Always])

Theoretical Construct	*Variables*	*Mexico*	*Mozambique*	*Nepal*
Basic controls	Girl	−0.12 (0.11)	−0.29* (0.14)	−0.90*** (0.1)
	Age	0.63*** (0.14)	0.25 (0.17)	0.40** (0.14)
	Puberty onset	0.27 (0.18)	0.73*** (0.16)	0.42** (0.15)
Adult transitions	Work for pay/kind	0.18 (0.11)	0.06 (0.20)	−0.06 (0.14)
	Enrolled in school	0.04 (0.17)	−0.54** (0.17)	−0.19 (0.15)
	Romantic relationship	0.47*** (0.13)	0.53** (0.17)	0.31* (0.16)
	Preferred age of marriage	0.01 (0.01)	0.01 (0.01)	−0.07*** (0.01)
Family capital	Dependency ratio	−0.08 (0.08)	0.07 (0.05)	0.05 (0.06)
	Monitoring scale	−0.03 (0.08)	0.27** (0.10)	0.30*** (0.08)
	Household wealth	2.94 (2.66)	2.89 (3.34)	−2.31 (2.27)
	Food insecurity	0.22 (0.11)	0.41* (0.17)	−0.11 (0.13)
Child characteristics	Older sibling	0.21 (0.11)	0.08 (0.17)	0.30* (0.13)
	Self-reported health	0.14 (0.13)	0.24 (0.14)	−0.09 (0.15)
	Hours on domestic tasks	0.04 (0.02)	−0.01 (0.02)	0.02 (0.03)
	Cut 1 constant	1.41*** (0.40)	1.41** (0.44)	1.34*** (0.39)
	Cut 2 constant	3.40*** (0.42)	3.31*** (0.45)	3.25*** (0.40)
	Observations	1,567	1,368	1,898

Note. Standard errors in parentheses.
*$p < .05$, **$p < .01$, ***$p < .001$.

$p < .001$). While work and educational enrollment are associated with adult identity in bivariate statistics (Table 3), these associations are not statistically significant in the regression model accounting for age as well as other roles and responsibilities. No roles or characteristics relative to their natal family are statistically significant. Child characteristics, operationalized as whether youth are an older sibling, self-reported health, and time spent on household tasks, show no significant correlation with adult identities. Thus, in Mexico, we find some support for H1 (regarding adult role transitions) and no support for H2 (regarding family capital) or H3 (regarding child capacities).

Mozambique. In Mozambique, sex and pubertal development are both associated with subjective adult identity. Among the measures of adult role transitions, schooling and romantic relationships are both predictive of subjective adulthood, supporting H1. Students have weaker adult identities than young people who are not enrolled ($b = -0.54$, $p < .01$), and adult identities are more often experienced by youth who have engaged in a romantic relationship ($b = 0.53$, $p < .01$). Family capital is also relevant for adult identity, but the direction of associations is not always consistent with H2. Contrary to our expectations, caregiver monitoring corresponds with identifying as adult *more* frequently. However, experiencing food insecurity is associated with feeling like an adult more frequently ($b = 0.41$, $p < .05$), as hypothesized. Measures of child capacity are not significant predictors of adult identity. H3 is not supported in Mozambique.

Nepal. In Nepal, all control variables are significantly associated with subjective adulthood, as expected. Of role transitions external from the family, dating and desired marriage timing are both relevant predictors of adult identities, supporting H1. Youth who have had a romantic partner tend to identify as adults more often ($b = 0.31$, $p < .05$), while those who prefer to marry later report feeling like an adult less often (controlling for age; $b = -0.07$, $p < .001$), perhaps because they are farther away from this transition. The only statistically significant family capital predictor is the parental monitoring scale; higher levels of parental monitoring correlate with stronger adult identities ($b = 0.30$, $p < .001$), contrary to the predictions of H2 but consistent with the results in Mozambique. Youth with younger siblings in the household identify as adults more frequently than without younger siblings ($b = 0.30$, $p < .05$), supporting H3.

DISCUSSION

Adolescents aged 10–19 make up an estimated 20% of the global population, and the majority of those 1.2 billion individuals live in LMIC (Anderson et al., 2014; Juárez & Gayet, 2014). Much

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theorizing has been done on how the transition to adulthood is changing in wealthy, industrialized nations, but the experiences of the majority of the world's youth, those in LMIC, have been largely absent from this discussion. Our research aims to include these youths' experiences in the conversation and to accomplish two goals. First, we offer an initial look at how subjective perceptions of adulthood vary regionally, focusing on how roles and responsibilities both inside and outside the family contribute to subjective understandings of adult identity. Our second goal is to use these cases to re-examine existing theory and support the generation of new hypotheses about variation in the predictors of subjective adult identity. In this discussion, we connect those two goals with our empirical results. Our discussion is organized around our three hypotheses. Each section reviews our results, details where the results did and did not align with our hypotheses, and offers theoretical implications of those patterns. We end with a discussion of the policy implications of our analyses, as well as limitations to their generalizability.

Hypothesis One

We hypothesized that adolescents who have experienced transitions to adult roles identify as adults more often than adolescents who have not experienced these transitions. To test this hypothesis, our regression models predict adult identities by whether youth worked for pay or kind, were enrolled in school, and had engaged in a romantic relationship, as well as their preferred age of marriage. Although many respondents in our sample reported working for pay or kind, particularly in Mexico, this experience was not significantly associated with adult identities in any of the sites in multivariable models. School enrollment was associated with feeling like an adult less often only in Mozambique, the site with the highest unenrollment rate. In all three sites, youth who have dated identify as an adult significantly more often, controlling for age and other household and child characteristics. In Nepal, where most of the sample had never been in a relationship, the age at which they intend to marry is also a significant predictor of adult identities.

Taken together, these results show general support for H1. Transitions to adult roles are associated with feeling with an adult more often. However, in this age group, the types of transitions that are most predictive vary across sites. Eliason, Mortimer, and Vuolo (2015) speculate that the importance of role transitions for subjective experiences of life course stages is related to the locus of control for a transition timing. Relative to transitions such as engaging in romantic relationships or choosing when to marry, when youth exit the education system is often less dependent on their personal preferences and more on the structure of the school system or on family resources. Without the autonomy to decide when these transitions occur, adolescents undergoing these rites of passage show no major differences in subjective adult identities. In Mexico and Nepal, where schooling is relatively easily accessible, especially in this age group, school enrollment is common, and dropout may be largely determined by family characteristics. In Mozambique, where enrollment rates are lower, children's own preferences may be more important for school enrollment and leaving school may be more salient for adult identities.

Romantic experiences, whether they be prospective or tangible, are associated with feeling like an adult more often. This finding suggests that marriage and romantic relationships are important milestones in the pathway to adulthood, consistent with research both from wealthy industrialized countries and LMIC (Pike, Mojola, & Kabiru, 2018; Shanahan et al., 2005). This connection could stem from the importance of dating and marriage for recentering, a process in which individuals experience a shift in their identity and roles "as dependents and the recipient of guidance, support, and resources" toward relationships that require them to take on commitments and responsibilities for others (Tanner & Arnett, 2016). Dating and marriage are part of a process leading adolescents to new roles outside of their natal families, and these close connections may offer youth a way to develop new identities as adults. This process appears to be salient even in contexts where romantic relationships are strongly discouraged and stigmatized, as in Nepal.

Hypothesis Two

Drawing from Burton's (2007) theory of early adultification, we hypothesized that adolescents from families with less family capital, operationalized via a dependency ratio, household wealth, food insecurity, and a caregiver monitoring scale, identify as adults more often than adolescents in families with more family capital. We find mixed support for our hypothesis. Support comes from our measure for food insecurity: in Mozambique,

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young people who experience food insecurity are more likely to identify as adults. Consistent with Burton's framework, economic hardship is associated with early adultification in at least one study site. However, the household dependency ratio and wealth measures did not correlate with adult identities in the study sites.

Contrary to H2, adult identities in Mozambique and Nepal correlate with *increased* monitoring from caregivers; in other words, the more monitoring caregivers maintained over their children, the more often children identified as adults. It is possible that parents may respond to children's path toward adulthood by increasing monitoring. For instance, parents may feel greater need to monitor children who spend more time outside the household or with romantic partners. However, it is also possible that increased monitoring may produce a greater subjective feeling of adulthood. One explanation for this trend comes from cross-cultural psychology, which describes cultures on a spectrum from individualist to collectivist (Triandis, 1995). Individualist cultures reinforce an ideology that values emotional independence, whereas collectivist cultures value group- or other-oriented goals and place group-interests above self-interests (Nelson & Luster, 2015). Rather than caregiver monitoring infantilizing youth, in collectivist cultures, these interactions could serve to promote group dynamics and this cohesion could be what promotes adult identities.

Hypothesis Three

Also drawn from Burton's (2007) early adultification theory, our third and last hypothesis predicted that adolescents with greater capacity for taking on adult responsibilities identify as adults more often than adolescents with less capacity. To examine this relationship, we assess whether having younger siblings, self-reported health, and contributions to household tasks correlates with adult identities. In general, we find little evidence to support our prediction. Only in Nepal, where being an older sibling correlates with feeling like an adult more often, did we find any evidence to support our prediction. Early adultification occurs when adolescents assume adult roles that are non-normative for a given society. That our findings reveal scant evidence of adultification could be because of the normative nature of the responsibilities that youth take on. For example, that older siblings in Nepal identify as adults more frequently could be the effect of relatively small family sizes, in which the few older siblings in a community compare the responsibilities they must take on for their younger siblings against their peers who lack that kind of responsibility.

Although variation in child capacities within each setting is not associated with variation in subjective adult identities, it is notable that we find relatively high proportions of children who report feeling like an adult at least some of the time in our sample, even at relatively young ages. For example, 10% of 11–13 year olds in Mexico report feeling like an adult often or always, as do 7% of 11–13 year olds in Mozambique and 24% in Nepal. It may be that children's capacities, and normative expectations around children's ability to contribute to their family, are a salient element of social context but do not explain within-context variation.

Limitations

In this article, we analyze data drawn from three different study sites as part of an umbrella project focused on cross-national comparison. These sites were chosen to maximize variation across multiple characteristics rather than to facilitate comparison on specific variables. Thus, although our results are illustrative of the possible range of variation, they cannot be used to generalize across all lower and middle income countries or to test hypotheses about specific contextual factors. More broadly, our study is not designed to measure or analyze aggregate-level characteristics or their association with individual experiences. Disentangling the complex relationships between economic systems, social institutions, family structures, and cultural values and their interlocking effects on young people's experience of the life course is beyond the scope of this work.

In addition, because our analysis is cross-sectional, we cannot draw firm conclusions about causal directions. For instance, we consistently find that young people who have been in romantic relationships are more likely to feel like adults. It is possible that young people develop adult identities through interactions with partners in romantic relationships; alternatively, it could be that young people who feel more mature are more likely to seek out romantic relationships or to be accepted by others as romantic partners. Longitudinal analysis is necessary in order to resolve questions of causal direction. Still, identifying cross-sectional associations is an important step in designing future longitudinal analyses.

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Finally, we draw our results from youth aged 11 through 17 and are hesitant to project these findings to older age groups. Though research from the United States finds evidence to suggest otherwise (Arnett, 2001), the factors that contribute to an adult identity may vary over the life course (Shanahan, 2000); therefore, our results should be taken as a first step toward understanding perceptions of adulthood in these regions. Future research could analyze a wider variety of age groups and incorporate longitudinal data, which would allow for the analysis of changes as youth enter and exit adult roles.

CONCLUSION

Overall, our findings complement existing literature on subjective perceptions of adulthood by offering preliminary evidence to support the idea that youth's autonomy regarding adult role acquisition may correspond with adult identity development, that adultification is a relative experience and its negative effects could be mediated by local perceptions, and that recentering could be pivotal in the development of adult identities across societies. Local context sculpts subjective experiences of age and age categories. Our results identify some commonalities across contexts—romantic relationships are associated with subjective adulthood—and some key differences—the ways that work and schooling are connected to feeling like an adult vary. Both the timing of transitions to adult roles and the nature of the institutions that support them vary across contexts; future research could examine the relative importance of timing expectations and experience in work and school for subjective adulthood. For instance, research in the United States shows that the type of employment that youth participate in (ranging from compensation amount to occupational status) mediates its relationship with adult identities (Staff et al., 2015). Although we are not able to measure the nature of adolescent work, in general, young people in our study sites work in low-wage and low-status jobs, which could offer less support for their adult identities. Future research could explore these experiences more directly.

As they grow older and develop physically, cognitively, and emotionally, children around the world eventually take on adult roles and identities. Yet the values and institutions that shape this development vary across the world. In this article, we highlighted some of the ways that this variation is related to young people's experiences of feeling like an adult. Following our prediction, we find variation in how communities define adult identities. This variation should caution future researchers studying the transition to adulthood to consider the assumptions latent in findings and theories of one context and whether those assumptions are relevant to another. Interrogating these assumptions could improve research both in LMIC, where the research literature is young, and in wealthy industrialized countries with more established bodies of research. For instance, youth who take on adult roles before they develop adult identities (termed *unprepared adults*) struggle the most with definitions of the self (Nelson, 2009). Using indicators prevalent in wealthy, industrialized countries, we find little evidence of early adultification in our sites. However, early adultification is by definition a relative phenomenon based on youth perceiving their experience as non-normative. Considering that premise, our findings suggest that some of the factors thought to contribute to early adultification in wealthy, industrialized countries do not necessarily cause negative outcomes, but rather youth in wealthy, industrialized countries interpret their non-normative experiences as impediments to their following a transition to adulthood thought to be universal. More directly, considering how normative experiences vary both across and within contexts could contribute to a better understanding of healthy development.

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APPENDIX

TABLE A1
Items Included in the Household Assets Scale for the Principal Component Analyses

	Country		
Durable goods or construction materials	*Mexico*	*Mozambique*	*Nepal*
Household items			
Car	X		
Computer	X		
Fridge		X	X
Television		X	
Water Source			
Piped water in house or yard	X	X	
Water purchased in bottles or jugs	X		
Water purchased from truck at front door	X		
Type of toilet			
Flush toilet inside home	X		X
Flush toilet outside home	X		
No toilet for household		X	
Dwelling wall materials			
Bricks/cement/concrete			X
Cane with mud			X
Cement blocks/bricks/masonry		X	
Wood sticks and mud		X	
Dwelling roof materials			
Concrete	X		X
Thatch		X	
Tin/metal sheeting	X	X	X
Dwelling floor materials			
Bricks/tile	X		
Concrete	X	X	X
Mud/dirt		X	X
Fuel source			
Gas or kerosene	X		
LP gas			X
Wood	X		X
Electricity			
Yes or no		X	

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TABLE A2
Ordinal Logistic Regression predicting Subjective Adulthood (never/rarely, sometimes, often/always) in Mozambique and Nepal

Theoretical Construct	*Variables*	*Mozambique*	*Nepal*
Basic controls	Girl	−0.28* (0.13)	−0.90*** (0.10)
	Age[a]	0.24 (0.17)	0.65*** (0.14)
	Age[b]	0.24 (0.17)	0.03 (0.15)
	Puberty onset	0.71*** (0.16)	0.41** (0.14)
Adult transitions	Work for pay/kind	0.08 (0.19)	−0.07 (0.14)
	Enrolled in school	−0.47** (0.16)	−0.20 (0.16)
	Romantic relationship	0.59*** (0.17)	0.34* (0.17)
	Preferred age of marriage	0.01 (0.01)	−0.07*** (0.01)
Family capital	Dependency ratio	0.07 (0.05)	0.04 (0.06)
	Monitoring scale	0.28** (0.10)	0.30*** (0.07)
	Household wealth	1.78 (3.23)	−2.23 (2.21)
	Food insecurity	0.41* (0.17)	−0.11 (0.13)
Child characteristics	Older sibling	0.06 (0.16)	0.30* (0.12)
	Self-reported health[a]	0.22 (0.13)	−0.09 (0.14)
	Self-reported health[b]	0.44* (0.18)	−0.09 (0.14)
	Time spent doing tasks for family (in hours)[a]	−0.01 (0.02)	0.02 (0.03)
	Time spent doing tasks for family (in hours)[b]	0.03 (0.03)	0.02 (0.03)
	Constant	−3.43*** (0.40)	1.00* (0.43)
	Observations	1,368	1,898

Notes. Standard errors in parentheses.
[a]Parallel odds assumption relaxed, coefficients for never/rarely to sometimes.
[b]Parallel odds assumption relaxed, coefficients for sometimes to often/always.

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