Values for gender roles and relations among high school and non-high school adolescents in a Maya community in Chiapas, Mexico

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*I*n the current study, I describe values for gender roles and cross-sex relations among adolescents growing up in a southern Mexican Maya community in which high school was introduced in 1999. A total of 80 adolescent girls and boys, half of whom were attending the new high school, provided their opinions on two ethnographically derived vignettes that depicted changes in gender roles and relations occurring in their community. Systematic coding revealed that adolescents not enrolled in high school tended to prioritise ascribed and complementary gender roles and emphasise the importance of family mediation in cross-sex relations. Adolescents who were enrolled in high school tended to prioritise equivalent and chosen gender roles, and emphasised personal responsibility and personal fulfillment in cross-sex relations. Perceptions of risks and opportunities differed by gender: girls favourably evaluated the expansion of adult female role options, but saw risks in personal negotiations of cross-sex relations; boys emphasised the loss of the female homemaker role, but favourably evaluated new opportunities for intimacy in cross-sex relations.

Keywords: Adolescence; Values; Gender; Sexuality.

When I taught English class at the new high school in the Maya community of Zinacantán in the autumn of 2009, students wanted to know, "*Cómo se dice 'te amo?*" (How does one say "I love you?"). Like many teenagers around the world, adolescents in Zinacantán were often occupied with thoughts about romantic partnering. However, what was unique about these adolescents is that they were the first generation in their community to attend high school and socialise in non-kin, mixed-sex peer groups outside of family supervision. As such, they were departing from ascribed gender role duties and family mediated marriages that constituted pathways of adolescent development in previous generations (see Vogt, 1969). Importantly, high school attendance was not universal in 2009; two pathways of adolescent development, one with and one without secondary education were both normative in the community. The current study focuses on value differences among adolescents travelling along these two pathways to adulthood as they make sense out of changes in gender roles and relations happening in their generation.

The emergence of high school in Zinacantán

When the Mexican government inaugurated a high school in the municipal center of Zinacantán in the highlands of Chiapas, Mexico in 1999, social and economic changes from subsistence corn farming towards greater integration into a cash-based market economy had been underway in the community for over two decades (Cancian, 1994). Before the 1980s, Zinacantec men were cultivating corn to feed their families while women made tortillas, wove and raised children. Families arranged their children's marriages in elaborate year-long rituals (Fishburne, 1962). With government investment in public works programmes and road construction in Chiapas, occupations in Zinacantán diversified. Men established greenhouse flower production businesses, became full-time merchants, construction labourers, masons, truck drivers and government workers. Women also participated to a greater extent in commercial markets, selling vegetables and weavings to tourists. Families moved out of rural hamlets into the ceremonial center of the municipality, transforming it into commercial hub with electricity, shops and paved roads (Vogt, 1990). Elopements (a couple deciding to marry without consulting parents) increased as young men gained more financial independence in a cash economy (Flood, 1994).

Formal schooling was rare until the late 1970s, when boys and some girls began attending the Mexican elementary schools being built in Zinacantán (Cancian, 1994).

Learning to read and write in Spanish became desirable in this Tzotzil-speaking community because it prepared young people to participate in Mexico's market economy. As Zinacantán became more open to a cash-economy in the 1990s and 2000s, enrollment in the community middle school (established in the 1980s) and high school (1999) steadily increased. Secondary education further emerged as a viable pathway towards adult roles when the bilingual teacher-training institute in Zinacantán center and the Intercultural University in San Cristobal were established in the early 2000s; both aimed to attract indigenous students. Also, in 2009, a federal programme called *Oportunidades* paid families 1500 pesos (US$130) every two months for each child in high school and 800 pesos (US$70) for each child in middle school.

Higher levels of formal education and economic shifts in Zinacantán epitomise changes occurring around the world. Pinquart and Silbereisen (2004, 2005) explain how globalisation, increasing mobility and rapid economic changes are destabilising deep-rooted values and practices guiding adolescent development. Youth, such as those in Zinacantán, are faced with a plurality of choices as they forge new pathways towards adulthood. Adolescents are sensitive to the influence of sociodemographic change because they are making decisions and behavioural changes to prepare for adult work and family roles under uncertain conditions. Their behaviours and attitudes then constitute new norms and values in the process of cultural change.

Applying Greenfield's (2009) theory of social change to gender and sexuality

Greenfield (2009) asserts that individualistic values increase when societies shift towards greater involvement in a market economy and when higher levels of formal schooling become widespread. Her theory of social change and human development is based on Ferdinand Tönnies (1957) distinction between *Gemeinschaft* and *Gesellschaft* social ecologies. Greenfield theorises that family interdependence and obligation are adaptive in *Gemeinschaft* social ecologies, which are rural, subsistence agricultural communities with an apprenticeship model of learning. Individual independence and choice are adaptive in *Gesellschaft* social ecologies, which are more urban, market-based societies, with high levels of technology and formal schooling. Sociodemographic changes occurring in either the Gesellschaft or Gemeinschaft direction shift cultural values and socialisation practices towards relatively greater individualism (Gesellschaft) or greater collectivism (Gemeinschaft). Indeed, social change in the Gesellschaft direction is associated with the rise of individualistic values in the Maya community of Zinacantán (Manago, 2014).

Manago, Greenfield, Kim, and Ward (2014) applied Greenfield's (2009) theory to gender and sexual development during adolescence. They posit that Gemeinschaft-adapted collectivistic values translate to *complementary* and *ascribed* gender role development, and *procreation* and *family responsibility* in sexual development. Gesellschaft-adapted individualistic values translate to *chosen* and *egalitarian* gender role development, and *personal pleasure* and *personal responsibility* in sexual development. Movement towards Gesellschaft sociodemographic conditions should shift values in the direction of chosen and equal gender roles, and pleasure and personal responsibility in sexuality. Empirical support for their framework comes from cross-cultural survey research (Williams & Best, 1990), longitudinal survey research on all six inhabited continents (Inglehart & Norris, 2003), and long-term ethnographic research in countries such as India that are undergoing change in the Gesellschaft direction (Seymour, 1999).

Scholars of social change suggest that secondary education during adolescence is particularly powerful in shaping individualistic values for gender roles and relations (e.g., Mernissi, 1987). Tracking changes from 1981 to 2001 in 70 different countries with the World Values Survey, Inglehart and Norris (2003) concluded that post-industrialization entails greater gender egalitarianism because higher levels of schooling in post-industrialised countries provide women with more options to fulfill adult roles outside the home (*shift from complementary and ascribed, to chosen and equal gender roles*) and also foster women's control over their sexuality (*shift from family control and procreation to personal responsibility and pleasure*). Advanced education is connected to fertility decline when school provides women with new opportunities to achieve adult social status and material resources outside of marriage and childbearing (Handwerker, 1986). In short, advanced education, alongside other Gesellschaft sociodemographic changes, may promote an emphasis on choice and personal fulfillment in gender and sexual development during the transition to adulthood.

Yet, as Pinquart and Silbereisen (2004) contend, adolescents cope with social changes differently depending on the choices available to them and the consequences of behavioural changes. With gradual change, ways of thinking and behaving prevalent among previous generations continue to influence what the younger generation perceives as positive consequences for the future and avoidable risks. Tensions are likely to arise when socioeconomic and gender role shifts destabilise family structure and functioning. Prevailing values in older generations may then set up boys and girls to see the consequences of gender role behavioural changes differently. Some have noted that women more than men are faced with messages that alternative role options outside the family are threatening to family values and the stability of society (e.g., Mernissi, 1987; Fincher, 2014). For example, Leta Hong Fincher (2014) has written about

state run media campaigns in China that chastise women beyond the age of 27 who have postponed marriage to pursue education and a career as "leftover" and unwanted. Thus, one of the goals of this study was to explore perspectives of change through the eyes of adolescent girls and boys who are negotiating male–female relations and prospects for adult gender roles that were not widely available in the previous generation.

Current study

In this study, I examine how Maya adolescents on two pathways to adulthood, one with and one without formal secondary education, respond differently to ethnographically derived vignettes that depict changes in gender roles and cross-sex relations in Zinacantán. I hypothesised that a greater proportion of high school adolescents will articulate values for chosen and equal gender roles, and pleasure and personal responsibility in cross-sex relations. Girls and boys who discontinued their education after elementary school will be more likely to articulate values for ascribed and complementary gender roles, and procreation and family responsibility in matters of partnering. I also aimed to document gender differences in the way adolescents negotiate old and new forms of thinking and behaviour, as both may hold sway during gradual cultural change (Pinquart & Silbereisen, 2004). I hypothesised that boys would be more likely to emphasise losses in gender role changes whereas girls would be more likely to favourably evaluate gender egalitarian role options.

METHOD

Participants

In 2009, Zinacantán high school enrolled 114 students, 39 girls, most living in Zinacantán center, which comprises a population of 3700 (Instituto Nacional de Estadística y Geografía [INEGI], 2005). During a school-wide meeting at the beginning of the school year, the principal announced to students that I was conducting a study on the changes happening in Zinacantán and that I wanted to interview them about how people in the community behave. They were told they would receive 200 pesos (about US$20) for their time and that in order to participate, they would have to bring with them to the interview a same-sex cousin, neighbour, sibling or family friend who was also a teenager but discontinued schooling after elementary school. The school principal then randomly selected students' names from a hat from each of the three grades in the school. All of the students who were selected chose to participate in the study and received their parents' approval to participate. However, one boy and one girl who were selected for the study were eliminated because they were not able to bring a same aged non-high school counterpart to the interview. The final sample included 20 girls and 20 boys attending Zinacantán high school and 20 girls and 20 boys who discontinued schooling after elementary school. This matching strategy, recruiting adolescents by relationship, led to sociodemographic equivalence of high school and non-high school samples, by and large. Average age, years of schooling for mothers and fathers, parental involvement in a market economy, hours of television per day, and family wealth were similar across the four groups of adolescents. However, high school adolescents were more likely to access the Internet using computers in the community library, and high school boys reported significantly more technology items in the home compared to non-high school boys, indicating greater wealth and exposure to Western values (see Table 1 for sociodemographic characteristics of adolescents).

Procedure

College students from Zinacantán helped me to conduct interviews with adolescents in their native language of Tzotzil. Interviews were conducted in a private room at Zinacantán's library in the mornings and early afternoons before school (classes at Zinacantán high school last from 2 p.m. to 9 p.m.). High school adolescents arrived for their interview appointments in pairs with their same sex non-high school partner; then one waited in a separate room while the other was being interviewed. Participants were assured that anything they said during the interview would be kept confidential among the researchers. Interviews began with sociodemographic background questions, then the vignettes, read out loud to the participants in Tzotzil. Interviews lasted between 30 and 40 minutes and participants were paid 200 pesos after the interview was completed.

Measures

Age

Participants were asked their age in years.

Schooling

Participants were asked how many years of schooling they had completed, and how many years of schooling their fathers and mothers had completed.

Involvement in commerce

Participants were asked in an open-ended format what their fathers and mothers did for work. An additional prompt asked specifically to what extent their work directly involved them in commerce. Level

TABLE 1
Means and standard deviations of sociodemographic characteristics of adolescents

	Non-high school girls (n = 20)	High school girls (n = 20)	Non-high school boys (n = 20)	High school boys (n = 20)
Age	16.00 (2.38)	17.15 (1.09)	17.60 (2.09)	17.00 (1.38)
Mother years of schooling	1.95 (2.63)	1.65 (2.66)	1.35 (2.48)	2.60 (3.02)
Father years of schooling	3.00 (3.02)	4.32 (2.95)	3.45 (2.26)	3.80 (2.69)
Mother involvement market economy (1–3 scale)	2.00 (.73)	1.80 (.77)	1.65 (.59)	1.40 (.60)
Father involvement market economy (1–3 scale)	2.26 (.56)	2.25 (.58)	2.26 (.45)	2.42 (.51)
Wealth (# of items in home, 0–6)	3.00 (1.49)	3.01 (1.34)	**2.55 (1.19)**[a]	**3.60 (1.14)**[b]
Hours of T.V./day	1.45 (1.04)	1.34 (.85)	1.00 (.95)	1.45 (.93)
Frequency of computer Internet use in past week	**0.15 (.49)**[a]	**1.14 (.89)**[b]	**0.25 (.41)**[a]	**1.88 (2.04)**[b]

Note. Values in bold represent statistically significant differences between high school and non-high school adolescents. Higher levels of wealth among high school boys compared to non-high school boys, $t(38) = 2.85$, $p = .007$. More frequent computer use among high school girls compared to non-high school girls, $t(38) = 4.36$, $p = .0001$, and among high school boys compared to non-high school boys, $t(38) = 3.49$, $p = .001$.

of involvement in a market economy was classified according to a 1-to-3 scale: (1) work characteristic of a Gemeinschaft ecology (subsistence agriculture work including raising animals, weaving only for the family, and housework), (2) work in transition to a Gesellschaft ecology (growing agricultural products and selling them outside Zinacantán, cultivating flowers, weaving and embroidery but selling these products through an intermediary), (3) work characteristic of a Gesellschaft ecology (merchant of flowers or weavings, professional work, wage work such as bricklayer and taxi driver).

Wealth

Wealth was indexed by asking adolescents how many of the following technology possessions were present in the family home: television, vehicle, house phone, cell phone, radio and sewing machine. The quantity of goods a family possesses is a good indication of wealth in Zinacantán, especially owning a vehicle, as this has been the basis of a new economic elite after the period of commerce (Cancian, 1994).

Exposure to TV and the Internet

Adolescents were asked to estimate on average, how much time they spend watching television per day. They were also asked how many times they used a computer to access the Internet in the community library in the last week.

Vignettes

In each story, a dilemma is presented and one character articulates a Gemeinschaft-adapted perspective, while another character articulates a Gesellschaft-adapted perspective. Participants are asked to choose the character in the story with whom they most agree and why. Two

vignettes involving issues of gender and female–male relations were selected from eight vignettes that were created from my ethnography in Zinacantán to index values underlying perceptions of changes happening in the community (see Manago, 2014). In that article, character choices for the eight vignettes were summed for quantitative analysis. Here, drawing on the same sample, each vignette is analysed individually, with the accent on qualitative analysis of reasoning behind the character choices and gender differences in this reasoning.

In the first vignette, "*Who makes the tortillas?*," a husband and wife argue about the wife working outside the home. Maruch has an opportunity to travel daily to the nearby city to work for her sister and earn money. Xun does not want his wife to go because then she would not be able to make tortillas to feed him. Maruch argues that Xun's mother, who lives with them, could make them, but Xun says it is not the same and that Maruch should stay home and make tortillas.

In the second vignette, "*Boys and girls talk*," Xun and Maruch are high school students in Zinacantán who socialise with one another during classroom breaks, and walk home together among mixed-sex peers after school. Participants were asked whether they agree with some people in their community who believe that this kind of mixed-sex socialising is wrong or with others in their community who believe that it is acceptable and appropriate for youth to socialise with mixed-sex peers.

Analysis

The Zinacantec college students translated the interviews into Spanish so that the author (fluent in Spanish) and a Spanish-speaking Mexican American undergraduate student in Los Angeles could code participant responses to the vignettes. Responses to the scenarios were coded as either endorsement of a Gemeinschaft point of view ("1"), endorsement of a Gesellschaft point of view ("3"),

or Mixed endorsement ("2"). The two coders coded the entire adolescent sample separately and then a weighted Kappa was calculated for each scenario. Kappas ranged from .82 to .91, all above .80 and thus the inter-rater reliability is considered "very good" (Landis & Koch, 1977).

The two coders also coded reasons for one's endorsement of the character in the two vignettes. I first created categories of reasons inductively for each scenario based on adolescents' explanations for their decisions. Categories of reasoning were not mutually exclusive and one response could contain multiple categories. The second coder was trained on the first 10 adolescent participants in each of the four groups: high school girls, non-high school girls, high school boys and non-high school boys (40 total). After training, the two coders decided separately if a category of reasoning was present or not present in the remaining participants' explanations of their character endorsements (40 total). Unweighted Kappa's were then calculated for each of the categories of reasoning between the two raters' codes for those last 40 participants. Kappas ranged from .83 to perfect agreement, with the average Kappa being .93, considered "very good." After the Kappas were calculated, the two raters discussed disagreements until they reached agreement.

RESULTS

Who makes the tortillas?

In responding to this vignette, non-high school adolescents endorsed different characters in the story compared to adolescents enrolled in high school, $\chi^2(2, N = 80) = 8.89$, $p = .012$. Non-high school adolescents tended to choose Xun (72.5%), who represented the Gemeinschaft view prioritising ascribed and complementary gender roles. To a lesser extent they endorsed Maruch (25%), or were categorised as Mixed (2.5%). High school students more frequently endorsed Maruch (50%), who represented the Gesellschaft view prioritising chosen and relatively more independent gender roles. To a lesser extent they endorsed Xun (40%), or were categorised as Mixed (10%).

Girls' reasoning

Categories of participants' reasoning about their character selection in the vignettes are listed in Table S1, Supporting Information, and reveal differences between high school girls and non-high school girls. The most common reason among non-high school girls, referenced by 80%, was that a women's place is in the home; that is, their view included an implicit assumption of ascription and complementarity. For example, one non-high school girl said,

"*It is better what Xun says because it is his wife, so she is the one that should make the tortillas*."

For these girls, women's responsibility for the domestic sphere is interpreted as a matter of fact in the social organisation of daily living where particular domains of work are clearly demarcated so that the family can function together smoothly and efficiently. Non-high school girls' responses to this vignette implicitly prioritised the state of the family as a whole; in general, they focused on Maruch in terms of her duties in the family.

Although about half of the high school girls also articulated this value, the most common theme in high school girls' responses was the assumption of the equivalency of gender roles in work outside the home (identified in 75% of the sample). For example, the following comment from a high school girl was categorised as, "Women and men both work outside the home" and "More money for family is good":

"*It is better what Maruch says, they both earn money for the family to eat. What Xun says isn't good, it's not only the woman of the house that can make the tortillas and food, they can all help between them*."

High school girls saw earning money outside the home as a positive way that women could not contribute to the well-being of their families. In this kind of reasoning, values for family obligation are adapted to the circumstances of economic development. That is, values for family duty were high among high school girls, but transformed in that it involved women being more separated from the home. As such, their conceptions of female roles violated traditional meanings for gender in Zinacantán and jettison the interdependent complement to the husband's role for smooth family functioning. In other words, high school girls' perspectives on gender are a bit more predicated on seeing men and women as separate individuals with a variety of options for contributing to the family, rather than interpreting what it means to be a man or woman in terms of the ascribed roles they fulfill for the family.

Yet, some high school girls ($n = 7$) combined values for women working outside the home with women's ongoing responsibility for maintaining the house. For example, some high school girls did say that Maruch should work outside the home but should also leave tortillas ready made for the husband. I detected a pattern revealing that the more high school girls "bought into" a monetary economy, the more likely they were to articulate a more absolute shift away from women's obligation to perform domestic duties. I found that high school girls who emphasised the positive aspects of commerce and money also saw women's responsibility for the home as oppressive to personal choice and as a barrier to taking advantage of new career opportunities. The following example illustrates this phenomenon, categorised as "Women and men both work outside the home" and "Woman's choice":

These days one can buy tortillas … I think it's bad when men prohibit women to work, like prisoners or slaves, we have to pay attention to the man but it's not like this, it's ok that the women leaves to look for money …

In sum, positive views of equivalent gender roles among high school girls were generally predicated on family values and new ways to support the family, duties that are relatively more independent compared to traditional gender roles. A smaller minority of high school girls explicitly stated values for personal choice and fulfillment.

Boys' reasoning

Table S1 lists reasons for non-high school and high school boys' character endorsement and demonstrates the complexity and contradictions involved in negotiating changes in gender roles. A common remark among both groups of boys agreed with dominant reasoning of the non-high school girls, referencing complementary roles in terms of woman's place in the home (85% of non-high school boys' responses; 60% of high school boys' responses). For example, one non-high school boy said,

"*It is better that the wife makes the tortillas because if Xun has to order his mother to make tortillas, for what reason has he looked for his woman?*"

This kind of reasoning reflects the traditional notion that a man finds a wife to make his tortillas and a woman finds a husband to bring her corn (see Vogt, 1969). High school boys also endorsed complementary roles because women's commitment to domestic duties grants men the opportunity to fulfill the male provider ideal. The following response from a high school boy was coded as both "Women's place is in the home" and "Paternalism:"

"*It's Xun because we say it is the man who can work more, the woman should rest in the house only to make the food, the tortillas.*"

Yet boys, especially those in high school, also endorsed equivalent gender role work outside the home. In fact, high school boys' endorsement of women and men both working outside the home was just as frequent as "women's place is in the home." However, unlike the girls, none of the boys reasoned that income generated by working women benefits the family. Perhaps recognising this possibility undermined their ideological beliefs that men provide for the family, a case of ideals trumping economic practicalities. Instead, what seemed to drive high school (and non-high school) boys' endorsement of equivalent gender roles were notions of personal choice, values that were actually less present in girls' reasoning.

The following comment from a high school boy exemplifies this kind of reasoning:

"*It would be like impeding something she wants to do … the husband should accept it, the mother will stay to make the tortillas and the wife will work because that's what she wants.*"

The more that high school boys were convinced of the importance of individual pursuit of fulfillment, the less they prioritised family harmony as ideally achieved through ascribed and complementary gender roles, and the more they endorsed women's work outside the home. In contrast to girls who rationalised women working outside the home in terms of family values and the practicality of increased monetary resources, boys who endorsed Maruch working outside the home rationalised their opinion in terms of personal choice. This pattern of results illustrates that ideological and economic concerns intersect differently for women and men negotiating social change. Girls more easily combined family duties with economic practicalities of women's work outside the home, whereas economic practicalities of women's work seemed to violate boys' notions of family duty as a male provider; therefore, it is only boys who are more compelled by values of personal fulfillment who endorse equivalent gender role work outside the home.

Boys and girls talk

Chi Square analyses showed significant differences in endorsements between non-high school and high school students, $\chi^2(2, N = 80) = 12.00, p = .002$. Non-high school students tended to have Mixed endorsement (55%). To a lesser extent, they rejected any kind of cross-sex socialising (22.5%) or fully endorsed cross-sex socialising (22.5%). High school students tended to have Mixed endorsement of cross-sex social interactions (55%) or to fully endorse cross-sex social interactions (45%). None of the high school students rejected cross-sex socialising.

Girls' reasoning

The categories of reasons in girls' responses to this vignette are listed in Table S2. The two most common themes in both groups of girls were "mixed-sex interactions are dangerous" and "mixed-sex interactions only if trust." Thus, even though high school girls were more likely to endorse mixed-sex socialising in high school, when further describing the reasons for their endorsement, they maintained concern about the difficulties negotiating friendship and potential emotional intimacy between sexually mature but unmarried girls and boys. The following statement from a high school girl was coded as "mixed-sex interactions are dangerous" and

"mixed-sex interactions only if trust" and illustrates perceptions that girls become more self-assured as they navigate cross-sex relations:

> It was bad before when we were separated, it's good how it is now, the only thing is that we are responsible, because the boys won't respect us then … Girls were more reserved in the past, now no, already they speak to boys.

Notwithstanding this common concern about the danger of cross-sex relationships without family protection, non-high school and high school girls departed in their responses to this vignette. Some non-high school girls invoked tradition as a reason not to participate in cross-sex relationships (20%), whereas none of the high school girls did. Also, a greater proportion of high school girls (65%) mentioned that cross-sex relationships were good because they allow girls to go to school. For example,

> "Now it is better, we can talk to our classmates, before they wouldn't let us leave the house to study."

High school girls reasoned in ways that reflected their current position in their community as members of the first generation to participate in an institution in which mixed-sex relations are part of public life. Because they go to school, they may be more invested in the value of participating in the public sphere, and with that comes the necessity of interacting in some form or another with young men. Thus, they seem to be negotiating the desire for schooling and career options outside the home alongside the loss of family protection.

Boys' reasoning

Categories of boys' reasoning about this vignette are listed in Table 2S. Similar to the distinction between the two groups of girls, non-high school boys (35%) were more likely than high school boys (0%) to emphasise tradition. For example, one non-high school boy said,

> " … my father gives me permission to talk to girls but only one … that it is a true thing that I will stay with her, not playing with one and then another. That's what my father tells me."

High school boys' responses often contained multiple lines of reasoning. The three most common themes were: "mixed-sex interactions only if trust" (100%), "mixed-sex interactions necessary for girls to go to school" (80%), and "cross-sex relations valuable to get to know the other sex" (70%). It is notable that very few of non-high school boys, non-high school girls or high school girls prioritised emotional intimacy between women and men in their rationales. High school boys were more likely than any other group to articulate, or feel comfortable talking about, the importance of male–female compatibility

in terms of an emotional connection and support. For example,

> " … sometimes we learn a lot of things with [girls] because they think differently than us … before we couldn't talk to them and that is bad, now we can talk to them if we are sad, if it is a girl it helps us a lot because she sometimes has more knowledge."

As this quote suggest, boys who have regular contact with girls in school may be learning about and appreciating the potential for emotional and intellectual bonds between women and men outside of a traditional framework for male–female unions based on gender role complementarity. Thus, in contrast to girls, boys seem to be negotiating a desire for increased cross-sex intimacy alongside the loss of the male provider ideal as women pursue a wider expanse of gender role options outside domestic duties.

DISCUSSION

The current study supports Greenfield's (2009) theory that formal schooling during adolescence socialises individualistic values. Applying Greenfield's theory to domains of gender and sexuality, I found that high school students more frequently endorsed equivalent gender roles and individual negotiations of cross-sex relationships. Adolescents not enrolled in high school showed more frequent endorsement of ascribed and complementary gender roles and family responsibility for romantic partnering.

Because non-high school and high school adolescents were similar on a variety of sociodemographic background characteristics, including exposure to television, parent education and involvement in commerce, the differences between the two groups can be explained in part by their involvement in mixed-sex secondary education. Adolescents who discontinued their education after elementary school were engaged in an apprenticeship style of learning with same gender models. Living with a family in Zinacantán, I observed adolescent girls not in school engaged in work at home, primarily weaving, sibling caretaking and other household duties, all in the company of other women. Boys not in high school were working in the fields, in the greenhouses, transporting goods or doing construction with other men. In contrast, high school students were engaged in educational practices that intrinsically treated boys and girls as equivalent learners. They also had many opportunities to participate in cross-sex interactions on a daily basis, including breaks between classes and school-sponsored dances.

A variety of factors both stemming from and coinciding with high school attendance could account for the differences between the two groups of adolescents. Values for personal fulfilment and choice are embedded in the high school curriculum, which is established by the

Mexican ministry of education and taught by Mexican teachers. I observed a teacher in social studies class lecturing on the importance of exploring an array of career opportunities outside the village and following personal interests in career choices. High school students also had greater exposure to professional women in that one of the teachers, who was also the school principal, was female. I also observed high school students using the Internet to do homework and then watching YouTube videos. High school students reported more frequently accessing the Internet compared to non-high school adolescents. More research is needed to understand how adolescents in locales such as Zinacantán internalise values from global media via the Internet.

Another question that arises is whether the adolescents were already different before entering high school. Boys in high school tended to be from wealthier families compared to non-high school boys. Wealthier families owned televisions, radios, cellphones and automobiles; these items offer exposure to individualistic ideals through mass media and greater contact with Mexican society. In the interviews, 62% of high school boys said they continued schooling to earn a better job in the future; 60% of non-high school boys said they preferred to work to earn money and 30% said that their family needed their labour. These data suggest that wealth may initiate boys on a more individualistic pathway of development, and once in high school they may continue to experience socialisation contexts emphasising gender egalitarianism and personal fulfillment. Personality characteristics may be more relevant in initiating girls on an individualistic pathway of development; 76% of high school girls said they continued schooling because they liked school and wanted to improve themselves; 65% of non-high school girls indicated a preference for household chores over schooling.

A gender lens of analysis

Previous studies have documented that the impacts of social change on pathways of development differ by gender (Elder, 1974) and that girls tend to be less traditional in their gender role perspectives (Gibbons, Stiles, & Shkodriani, 1991). Qualitative analyses of adolescents' reasoning suggest a potential explanation based on cognitive processes of assimilation and accommodation (Piaget, 1977) in adapting to social change. For girls, new economic opportunity to take care of their families was the most compelling reason for them to endorse equivalent gender roles over complementary gender roles. They could *assimilate* new ways of being a woman into collectivistic value frameworks for family duty. The pursuit of equivalent gender roles outside the home did not require a complete rejection of collectivistic values; girls could map new ways of being a woman onto long-standing

values for family obligation. Indeed, others have also shown that values for gender roles can shift while values for family obligation are maintained (Georgas, Berry, van de Vijver, Kağitçibaşi, & Poortinga, 2006). New cultural practices that resonate with previously established cultural values and psychological needs (i.e., gender role practices that give girls expanded opportunities to fulfill family duties) may be adopted more easily even as they channel behaviours and values in new directions (away from duties that are complementary and interdependent with male roles).

For boys, endorsement of equivalent gender roles required *accommodation*, a more intense switch to an individualistic value system over a collectivistic one. For boys, women's work outside the home did not resonate with collectivistic values or psychological needs; to the contrary, it is threatening to the male provider role in an interdependent family system. Women working outside the home detract from men's ability to sustain the paternal ideal, that is, excelling as a provider so that women and children are so well-cared for that they do not have to risk their well-being to procure resources. Thus, it was only those high school boys who showed a more extreme individualistic orientation, explicitly articulating notions of personal fulfillment, who fully endorsed equivalent gender roles.

In many small-scale agricultural societies, adolescent sexual behaviour is problematic because of the consequences of reproduction outside a family lineage, often tied to land rights and the transfer of family resources (Mukhopadhyay & Higgins, 1988). Many Gemeinschaft societies control adolescent sexuality to prevent reproduction outside kinship systems (Schlegel & Barry, 1991). Gender segregation of unmarried adolescents began to break down in Zinacantán with a shift towards a market economy in the 1980's (Flood, 1994). The advent of high school in Zinacantán, where mixed-sex relations become normative and necessary to some extent, is further promoting personal responsibility in romantic partnering. Both boys and girls recognised the necessity for cross-sex relations in school.

Importantly, girls and boys had different perspectives of gains and losses that come with individual negotiations of cross-sex relations. Girls recognised that individual negotiations of cross-sex relations entail a relinquishing of family protection. They saw the lessening of family protection as a loss. Risks and losses were less pronounced in high school boys' responses. What was salient to them, but not to high school girls, was that cross-sex relations afforded them with opportunities to know girls more intimately. The appreciation of cross-sex emotional connection illustrates how high school is an important developmental context socialising values for companionate love, found more commonly in individualistic and post-industrial, Gesellschaft, societies (Hatfield & Rapson, 1996).

In sum, boys and girls have differing perspectives of sociocultural change because the pushes and pulls are different. Girls are navigating tensions between increased opportunities to pursue interests outside the home and the loss of family protection. Boys are navigating tensions between the opportunity for increased intimacy with girls and the loss of paternal ideals and its entitlements as the provider and manager of family resources. These differences underscore the importance of a gender lens of analysis in understanding the incentives and disincentives of gradual sociocultural change.

SUPPORTING INFORMATION

Additional Supporting Information may be found in the online version of this article:

TABLE S1. Frequency of reasons for participants' endorsement in "who makes the tortillas?".

TABLE S2. Frequency of reasons for participants' endorsement in "boys and girls talk".

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