

ORIGINAL RESEARCH ARTICLE

Differences by age group in gender-related attitudes in Oromia, Ethiopia: Findings from a cross-sectional study of women of reproductive age

DOI: 10.29063/ajrh2023/v27i5s.6

Elizabeth Millar^{1*}, Fikadu Mitiku², Honelgn N. Hiruy³ and Janine Barden-O'Fallon^{1,4}

Carolina Population Center, University of North Carolina at Chapel Hill, Chapel Hill, NC, USA¹; Department of Agricultural Economics and Agribusiness Management, Jimma University, Jimma, Ethiopia²; Independent consultant, Addis Ababa, Ethiopia, ORCID: 0000-0002-9160-9887³; Department of Maternal and Child Health, Gillings School of Global Public Health, University of North Carolina at Chapel Hill, Chapel Hill, NC, USA ORCID: 0000-0001-6410-7200⁴

*For Correspondence: Email: emillar@email.unc.edu; Phone: +1 (609) 464-3415; ORCID: 0000-0002-3464-0175

Abstract

Attitudes on gender roles affect decision-making dynamics, resource distribution, and income-generating opportunities. However, little is known about how attitudes on gender roles differ by age group. Cross-sectional data collected from 1,113 households in Oromia, Ethiopia were used to assess differences in gender-related attitudes across female “youth” (ages 15–24), “young adults” (ages 25–34), and “older adults” (ages 35–49). Fifteen survey questions using a Likert scale measured attitudes on sexual and reproductive behaviors, expectations around livelihood activities, and perceived influence in household decision making. Associations between attitudes and age group were assessed using the Chi-squared test. Measures of perceived influence in decision making differed significantly by age group for household decisions about participation in wage employment, and use of revenue generated from wage employment, and crop and livestock production. Response patterns were consistent, with youth least likely to feel they have influence in decision making. The results suggest that policies and programs should continue to support the agency of female youth. (*Afr J Reprod Health* 2023; 27 [5s]: 36-45).

Keywords: Attitudes, decision making, gender roles, Oromia, Ethiopia, youth

Résumé

Les attitudes sur les rôles de genre affectent la dynamique de prise de décision, la distribution des ressources et les opportunités génératrices de revenus. Cependant, on sait peu de choses sur la façon dont les attitudes à l'égard des rôles de genre diffèrent selon le groupe d'âge. Des données transversales recueillies auprès de 1 113 ménages à Oromia, en Éthiopie, ont été utilisées pour évaluer les différences d'attitudes liées au genre entre les femmes «jeunes» (15 à 24 ans), «jeunes adultes» (25 à 34 ans) et «adultes plus âgés» (35-49 ans). Quinze questions d'enquête utilisant une échelle de Likert ont mesuré les attitudes sur les comportements sexuels et reproductifs, les attentes concernant les activités de subsistance et l'influence perçue dans la prise de décision du ménage. Les associations entre les attitudes et le groupe d'âge ont été évaluées à l'aide du test du chi carré. Les mesures de l'influence perçue dans la prise de décision différaient considérablement selon le groupe d'âge pour les décisions des ménages concernant la participation à l'emploi salarié et l'utilisation des revenus générés par l'emploi salarié et la production agricole et animale. Les schémas de réponse étaient cohérents, les jeunes étant les moins susceptibles d'avoir le sentiment d'avoir une influence sur la prise de décision. Les résultats suggèrent que les politiques et les programmes devraient continuer à soutenir l'action des jeunes femmes. (*Afr J Reprod Health* 2023; 27 [5s]: 36-45).

Mots-clés: Attitudes, Prise de décision, rôles de genre, Oromia, Éthiopie, jeunesse

Introduction

Gender role attitudes refer to the views held by individuals regarding the roles that men and women play or should play in a society¹. Attitudes on gender roles at the household and community levels

affect the distribution of resources, food security, opportunities for income generation, decision-making capability, political will, and household dynamics²⁻⁵. Gender norms are the social expectations about men's and women's or boys' and girls' appropriate roles, rights, and

responsibilities⁶. Inequitable gender norms within communities and households have been linked to increased risk for intimate partner violence⁷⁻⁸, food insecurity⁹, risk of HIV and other sexually transmitted infections¹⁰. Male dominance in household decision making has been identified as a barrier to the use of modern contraceptives¹¹⁻¹³ and more equitable gender norms both at the household and community-level are associated with increased contraceptive use¹⁴⁻¹⁷.

Discriminatory social norms and practices constrain women's empowerment and restrict their access to opportunities and rights including their reproductive freedom, participation in economic opportunities, as well as opportunities to serve in community leadership roles¹⁸. Gender-inequitable norms are common in Ethiopia. An *Assessment of Health and Socio-Economic Indicators in Buno Bedele and Illu Abba Bora Zones of Oromia Regional State, Ethiopia* found that men have a dominant role in economic participation and financial decision making as compared to women¹⁹. The assessment also found that farming in the area is dominated by men and that young married girls in the region are typically not expected to participate in income-generating activities, and in cases in which they do, they are expected to hand over their income to their parents¹⁹. Furthermore, the 2016 Ethiopia Demographic and Health Survey (DHS) found that 63% of women surveyed and 28% of men felt that wife beating was justified for at least one reason, though these gender norms have shifted over time, falling from 81% of women and 52% of men in 2005²⁰⁻²¹. During the same period, the percentage of women reporting that they participated in decision making for their own health care, for major household purchases, and for visiting relatives increased from 61% to 75%²⁰⁻²¹.

Some evidence indicates that gender roles and norms vary across age groups in Ethiopia. For example, in 2016, 62% of cash-employed women reported making decisions about how to spend their earnings jointly with their husbands, while 30% reported they made these decisions independently²⁰. The percentage of married women who alone decided how to use their cash earnings increased with age, with 40% of women ages 45–49 making decisions independently²⁰. Among contraceptive users, older married women (ages 35–49) were also more likely to participate in the decisions about

family planning use (26.7%) compared to younger women ages 15–24 (19.2%) and 25–34 (19.7%)²⁰. Research from the Wolaita and Dawro zones in Southern Ethiopia showed that women ages 21–30 were twice as likely to report participating in decision making around their own health care compared to women ages 20 and under, and that women ages 30 and above were seven times more likely to participate in decision making compared to those younger than 20²².

Studies from Southern Ethiopia have found being over the age of 35, exposure to mass media, higher socioeconomic status, higher educational status, higher family size, and knowledge of maternal and child health were positively associated with women's decision-making autonomy, especially in decisions associated with women's health care²²⁻²⁴.

Although the evidence shows that there are gender-related differences in decision making across age groups in Ethiopia, the examination of differences in gender-related attitudes and expectations by age group is lacking. As health and livelihood programs aim to reduce gender imbalances and increase women's participation in income generation, it is important to know if attitudes about gender roles differ by age and whether this impacts the decision-making process and, ultimately, the ability of women to access economic and material resources. The research set out to fill this knowledge gap by exploring the extent to which attitudes toward women's reproductive health, livelihood generation, and household decision making related to economic resources vary across age groups of women living around the Yayu Coffee Forest Biosphere Reserve in Oromia, Ethiopia.

Methods

Study design and data

The data for the analysis come from a cross-sectional survey collected for the baseline of a mixed-methods outcome evaluation of the FUTURES project (baseline report: <https://www.data4impactproject.org/publications/evaluation-of-the-futures-project-baseline-report/>). The FUTURES Project is an integrated, multi-sectoral Packard Foundation-funded project

developed to address many of the health, agriculture, livelihood, and conservation concerns of the Yayu Coffee Forest Biosphere Reserve region through gender transformative interventions. FUTURES' multi-sectoral approach integrates conservation, livelihood, and reproductive health activities to achieve (1) improved access and use of voluntary family planning/reproductive health information and services for women and youth, (2) improved livelihood opportunities for women and youth, (3) improved climate-smart agriculture and forest conservation practices, and (4) effective multi-sectoral partnerships that support collective action and programming. FUTURES works in 28 kebeles in Chora, Dorani, and Yayu woredas. The baseline survey was collected from a sample of 1,113 households sampled from 38 kebeles in six woredas in the study area. A quasi-experimental design was used to select three intervention and three non-intervention woredas, and 19 intervention and 19 non-intervention kebeles from those woredas. Following the selection of kebeles, the respondent households were selected based on probability proportional to size using the number of households in each kebele. The data were collected from married and unmarried women ages 15–49 identifying as “head of household” or “married to the head of household.” Data were collected from one woman per household, as described, and no data were collected from households that did not have someone meeting this description. A structured questionnaire was developed in English and translated to Afan Oromo, the local language. Prior to data collection, the questionnaire was pre-tested in similar households that were not included in the final sample. The survey was implemented by a team of 20 enumerators, including four field supervisors and one coordinator affiliated with Jimma University, who were able to work both in English and Afan Oromo. The survey was implemented using Open Data Kit on tablets and mobile phones²⁵. Simultaneous data quality checks were completed through the transfer of data using a secure File Transfer Protocol, in keeping with approved data security requirements. Data collection occurred November 30–December 12, 2021. Interviews lasted an average of one hour. (Further details of the baseline survey are available at <https://www.data4impactproject.org/publications/evaluation-of-the-futures-project-baseline-report/>).

Prior to data collection, ethics approval was obtained from the Jimma University College of Agriculture and Veterinary Medicine Research Ethical Review Board (Ref. No. R/GS/S22/2021, October 22, 2021), the Jimma University Faculty of Public Health Ethical Review Board (Ref. No. IHRPG 1/2021, November 26, 2021), and the University of North Carolina at Chapel Hill Institutional Review Board (Study #21-2143, October 14, 2021).

Measures

Gender-related attitudes: Fifteen questions were used to measure gender-related attitudes of the respondents. Respondents were asked to say whether they “strongly agreed,” “agreed,” “neither agreed nor disagreed,” “disagreed,” or “strongly disagreed” with each statement. Two statements collected information on attitudes related to the sexual and reproductive behavior of adolescents, one statement collected information on reproductive decision making, four statements assessed expectations of economic participation of married and unmarried women, and eight statements collected information on perceived influence in household livelihood decision making. The specific statements used in the survey are included in Additional File 1. A Likert scale was used to code responses. For analysis, ease of interpretation, and given that respondents were very few for some response categories—for instance, less than 3% for “strongly disagree”—the codes were collapsed into a three-point scale of -1 if respondents chose “strongly disagree” or “disagree,” 0 if they chose “neither agree nor disagree,” and 1 if they chose “agree” or “strongly agree.”

Age group: Age was measured in the survey using completed years. Respondents were then grouped into three categories, “youth” (ages 15–24), “young adults” (ages 25–34), and “older adults” (ages 35–49). This grouping follows a precedent used by DHS (2016) and the 2016–2020 Ethiopia National Youth Strategy²⁶.

Socio-demographic characteristics of the study population are used descriptively and include marital status, highest level of education, employment within the last 12 months, whether the respondent has access to a bank account, whether

the respondent has access to credit, whether the respondent participates in women's associations or self-help groups, whether the respondent's name is on the title or deed to the land, woreda of residence, and household wealth. The household wealth index was constructed using variables associated with housing material, access to utilities, ownership of household assets, number of farm animals, ownership of transportation means, and size of agricultural land owned. Using these variables, households were divided into five wealth quintiles: lowest, second, middle, fourth, and highest.

Analysis

A descriptive analysis was performed on gender-related attitudes. All analyses were conducted in Stata version 15 (Statcorp, 2015). Sample weights and adjustments for the multistage sampling design were used. Specifically, the "surveyset" command was used to account for the complex survey data. Strata were thereby defined based on the project area (intervention vs. comparison), a finite population correction was applied for the selection of kebele and household, and weights were used to account for unequal probability of selection. Weight was calculated as the inverse of the probability of selection of a household, which was normalized by dividing it by the mean weight.

Frequency, percentage, and ninety-five percent confidence interval were used to present background characteristics of respondents. The presence of association between gender-related attitudes and age group was assessed using Chi-squared test. Fisher's exact test was used in times when the assumption of Chi square was not fulfilled.

Results

Of the 1,113 households surveyed, 261 respondents were ages 15–24, 474 were ages 25–34, and 378 were ages 35–49. As shown in Table 1, most respondents were married at the time of the survey. Of the three age groups, female youth were the most likely to have a secondary or higher level of education (41.0%). However, this age group was also the most likely to be unemployed (16.6%, compared to 14.7% and 12.7% for young adults and older adults, respectively) and the least likely of the

age groups to have access to a bank account or credit, to participate in women's associations or self-help groups, or have their name on the title or deed to land. Interestingly, a similar percentage of youth, young adults, and older adults were employed and paid in cash (approximately 29%). As shown in Table 2, seven of the fifteen assessed gender-related attitudes were found to have statistically significant differences by age group. Attitudes about acceptability of sexual activity among unmarried adolescents were generally negative; while almost no youth expressed such support, the percentage was slightly higher, at 5.9%, among the older adults. There were some differences by age group on whether unmarried women are expected to participate in income-generating activities, with fewer youth reporting they were neutral (6.5%) compared to young adults (7.5%) and older adults (11.8%) and more youth disagreeing (5.8% compared to 4.0% and 3.9%); though, overall, agreement was high across the age groups. When asked whether they had a lot of influence in the household decision-making process about their own participation in wage employment paid in cash or in-kind, most youth agreed (78.0%), though this was lower than for young adults at 80.6%, and older adults at 83.1%. The pattern of perceived influence in decision making increasing by age group was also found with the other significant measures.

Discussion

This paper presents results of a descriptive analysis of differences across three age groups of women of reproductive age (ages 15–49) on 15 measures of attitudes about sexual behavior among adolescents, reproductive behaviors, expectations around women's participation in livelihood activities, and perceived influence in household decision making. The analysis found that more of the measures of perceived influence on decision making showed a significant difference by age group compared to the attitudinal measures. Additionally, the response pattern was consistent for these indicators, with female youth the least likely to feel they have a lot of influence in decision making as compared to young and older adults. Our analysis found that the majority of respondents felt they had a lot of influence in household decision making about wage

Table 1: Background characteristics of female respondents ages 15–49 in Oromia, Ethiopia; N=1,113

	Youth (15–24)			Young adult (25–34)			Older adult (35–49)		
	n	%	SE	n	%	SE	n	%	SE
Marital status									
Married/in union	257	(98.12)	0.73	456	(96.32)	0.77	336	(90.50)	1.08
Not currently married/in union	4	(1.88)	0.73	18	(3.68)	0.77	42	(9.50)	1.08
Highest level of school attended									
No formal education	22	(7.18)	1.38	138	(26.86)	2.67	218	(57.28)	3.47
Primary	139	(51.78)	2.73	182	(36.29)	2.36	118	(29.55)	1.97
Secondary and above	100	(41.04)	3.10	154	(36.85)	3.56	42	(13.17)	2.39
Employment									
Not employed	44	(16.64)	2.12	63	(14.70)	1.45	50	(12.65)	0.92
Employed but not paid in cash	148	(53.89)	3.17	277	(55.96)	3.17	231	(57.68)	2.72
Employed and paid in cash	69	(29.47)	2.26	134	(29.35)	2.30	97	(29.67)	2.64
Has bank account									
No	190	(72.88)	3.06	324	(68.55)	2.94	252	(64.73)	3.12
Yes	71	(27.12)	3.06	150	(31.45)	2.94	126	(35.27)	3.12
Had access to credit in the past 12 months									
No	231	(86.78)	1.64	395	(82.75)	1.58	312	(83.11)	1.61
Yes	30	(13.22)	1.64	79	(17.25)	1.58	66	(16.89)	1.61
Participation in women’s associations or women’s self-help groups									
No	193	(74.16)	1.88	308	(64.28)	2.02	241	(63.36)	1.79
Yes	68	(25.84)	1.88	166	(35.72)	2.02	137	(36.64)	1.79
Woman's name is on title/deed (among households owning land, n=798)									
No	62	(37.65)	2.73	96	(29.64)	1.56	28	(8.97)	0.89
Yes	103	(62.35)	2.73	231	(70.36)	1.56	278	(91.03)	0.89
Woreda									
Alge Sachi	76	(45.78)	5.81	127	(42.80)	5.85	119	(45.37)	6.03
Bilo Nopa	15	(8.36)	2.40	29	(9.28)	2.53	34	(12.02)	3.58
Chora	49	(9.24)	2.85	85	(8.89)	2.70	59	(7.06)	2.25
Doreni	22	(4.20)	2.01	37	(3.90)	1.71	27	(3.26)	1.63
Hurumu	33	(19.67)	4.88	64	(21.12)	5.85	61	(22.92)	5.72
Yayu	66	(12.75)	4.01	132	(14.01)	3.98	78	(9.37)	2.89
Wealth quintiles									
Lowest (Poorest)	68	(27.19)	2.98	85	(19.75)	2.08	71	(18.17)	2.07
Second	45	(15.47)	1.84	110	(24.69)	1.87	67	(16.34)	1.62
Middle	60	(22.48)	1.92	86	(14.93)	1.09	76	(19.54)	1.47
Fourth	53	(20.80)	2.20	91	(17.68)	1.32	79	(21.60)	1.41
Highest	35	(14.06)	2.46	102	(22.96)	4.16	85	(24.35)	3.85

employment, crop production and marketing, livestock production and marketing, and non-agricultural activities and revenue generated from these practices. The feeling of influence in these areas generally increased with age, specifically for wage employment, livestock production and marketing, and revenue generated from wage employment, crop production, and livestock production. This finding is consistent with previously cited evidence that older women in the country are more likely to participate in health and livelihood decision making^{10,11}. Indeed,

characteristics associated with increased decision making such as higher family size, higher socioeconomic status, and knowledge of maternal and child health typically come with age as women gain authority through motherhood and/or participation in livelihood-generating activities. However, our analysis found that the proportion of women who agreed that unmarried women are expected to participate in income-generating activities was highest for youth and young adults, suggesting a slight difference from the older generation in expectations around women’s

Table 2: Generational differences in gender attitudes in Oromia, Ethiopia; N=1,113

	Youth (15–24)		Young adult (25–34)		Older adult (35–49)		Chi Square P-value
	n	(%)	n	(%)	n	(%)	
It is acceptable for unmarried adolescents to be sexually active							
Agree	4	(1.59)	13	(2.05)	20	(5.88)	<0.01
Neutral	4	(1.16)	9	(1.54)	14	(2.46)	
Disagree	253	(97.24)	452	(96.42)	344	(91.66)	
It is acceptable for unmarried adolescents to use contraception to avoid pregnancy							
Agree	86	(32.14)	162	(33.80)	122	(34.27)	0.23
Neutral	39	(11.31)	53	(10.58)	60	(14.20)	
Disagree	136	(56.55)	259	(55.62)	196	(51.53)	
Married women are expected to participate in income-generating activities							
Agree	245	(94.92)	447	(94.38)	355	(94.31)	0.11
Neutral	5	(2.19)	16	(2.97)	16	(4.13)	
Disagree	11	(2.89)	11	(2.64)	7	(1.56)	
Married women are NOT expected to hand over the income to their husband							
Agree	106	(39.57)	215	(45.68)	163	(44.89)	0.15
Neutral	30	(12.61)	60	(13.14)	44	(11.80)	
Disagree	125	(47.83)	199	(41.17)	171	(43.31)	
Unmarried women are expected to participate in income-generating activities							
Agree	231	(87.64)	417	(88.43)	316	(84.25)	<0.01
Neutral	16	(6.54)	34	(7.54)	47	(11.82)	
Disagree	14	(5.82)	23	(4.03)	15	(3.93)	
Unmarried women are NOT expected to hand over their income to their parents							
Agree	114	(46.58)	184	(41.37)	155	(42.53)	0.21
Neutral	49	(19.02)	95	(20.62)	84	(22.45)	
Disagree	98	(34.40)	195	(38.01)	139	(35.01)	
A couple's decision about the number of children to have should NOT be left up to the men							
Agree	203	(80.44)	379	(80.97)	296	(80.24)	0.98
Neutral	22	(6.66)	39	(6.90)	34	(7.25)	
Disagree	36	(12.90)	56	(12.12)	48	(12.51)	
I have a lot of influence in household decision making about:							
Wage employment paid in cash or in-kind							
Agree	212	(77.98)	390	(80.64)	314	(83.10)	<0.01
Neutral	29	(16.10)	45	(11.65)	27	(7.22)	
Disagree	20	(5.93)	39	(7.71)	37	(9.68)	
Revenue generated from wage employment paid in cash or in-kind							
Agree	200	(74.28)	366	(75.83)	304	(81.92)	<0.01
Neutral	33	(16.72)	55	(13.59)	40	(10.23)	
Disagree	28	(9.00)	53	(10.58)	34	(7.85)	
Crop production and marketing (among those engaged in crop production, n=805)							
Agree	148	(79.20)	255	(76.06)	243	(82.59)	0.10
Neutral	15	(9.98)	26	(10.28)	20	(6.45)	
Disagree	19	(10.82)	45	(13.65)	34	(10.96)	
Revenue generated from crop production and marketing (among those engaged in crop production, n=805)							
Agree	139	(73.25)	249	(75.41)	240	(82.93)	0.02
Neutral	21	(14.59)	33	(12.14)	24	(7.99)	
Disagree	22	(12.16)	44	(12.45)	33	(9.07)	

Livestock production and marketing (among those engaged in livestock production, n=537)						
Agree	87	(81.34)	187	(81.16)	179	(88.84) 0.01
Neutral	4	(4.03)	14	(6.83)	9	(4.21)
Disagree	14	(14.64)	28	(12.01)	15	(6.95)
Revenue generated from livestock production and marketing (among those engaged in livestock production, n=537)						
Agree	82	(75.72)	184	(79.85)	172	(86.03) 0.02
Neutral	8	(9.18)	16	(7.78)	15	(6.89)
Disagree	15	(15.10)	29	(12.37)	16	(7.08)
Non-agricultural economic activities (small businesses) (among those engaged in small businesses, n=301)						
Agree	60	(90.14)	126	(90.83)	83	(88.71) 0.63*
Neutral	4	(5.79)	7	(6.24)	8	(6.29)
Disagree	4	(5.79)	3	(2.93)	6	(5.0)
Revenue generated from non-agricultural economic activities (small businesses) (among those engaged in small businesses, n=301)						
Agree	58	(88.79)	121	(86.52)	84	(90.09) 0.32*
Neutral	3	(3.42)	11	(10.92)	8	(6.29)
Disagree	7	(7.79)	5	(2.56)	4	(3.62)

*Fisher's exact test

participation in economic activity. The youth age group was also more likely to have a secondary or higher level of education, potentially increasing their opportunities for income generation.

Policies and programs that promote economic opportunities for women may therefore contribute to shifting roles in decision making toward more gender equity. Additionally, in a context in which adolescent sexual behavior is generally not approved of, even within the same age group, it is important that adolescents and youth are supported in decision making about their own sexual and reproductive health needs, including in seeking and obtaining family planning services. Our analysis showed that while acceptance of adolescent sexual behavior was very low (at about 3%), support for the use of contraception was somewhat higher (at around 33%). Policies and programs should continue to support the agency of young people and the provision of services that are confidential and safe.

Limitations

One limitation of this study is that the survey from which the data were obtained was not designed to assess gender-related attitudes alone; rather, the measures were included in a large survey collecting data on an array of topics relating to the reproductive health, livelihood, and agricultural and forest conservation practices of households. The

measures of gender-related attitudes and perceptions of decision making tended to reflect these lines of inquiry. As a result, additional measures of gender-related attitudes are likely missing from the assessment. Another potential limitation of this work is that the attitudinal measures may be subject to bias, such as response bias reflecting social desirability, acquiescence bias related to the measures' construction, or interviewer-introduced bias related to the age and/or sex of the interviewer. Most interviewers were young adults affiliated with Jimma University, and though an attempt was made to hire mostly female data collectors, the final team was composed of a mix of females and males. It is not known the extent to which this may have impacted our findings. Finally, the sampling procedure used to identify respondents for the FUTURES baseline survey identified the "lead" female of the household (i.e., the women most likely to participate in household decision making). As a result, few adolescent and youth respondents were unmarried. It is not known whether, or to what extent, marital status impacted the gender-related attitudes presented here.

Conclusion

Attitudes about women's involvement in sexual activity, livelihood generation, and decision-making capability can vary by age group. Programs

and policies in Ethiopia aiming to increase women's agency, especially through increasing opportunities for income generation, should consider the various gender norms in place at a generational level which may impact women's participation in decision making. As younger women increasingly have access to secondary education and livelihood training, it is crucial to consider age, family, and household factors that may impact their ability to fully participate in economic decision making.

Participation in household decision making is an essential aspect of women's empowerment and has been linked to increased access to health services, including increased decision-making power for modern family planning use²⁷. Evidence also shows that women's increased decision-making power within their families is linked to higher crop production and dietary diversity, specifically in rural Ethiopia²⁸, and reduction of under-five mortality²⁹, indicating the increased participation in decision making benefits not only women, but all household members.

Further study is needed to explore the extent to which differences in gender role attitudes and gender norms by generational differences (by age group) may affect the ability of women, especially young women, to make decisions related to contraceptive use, participate in income-generation activities, and have input as to how their earnings are used within a household.

Acknowledgements

Research was supported by the United States Agency for International Development (USAID) under the terms of the Data for Impact (D4I) associate award 7200AA18LA00008, which is implemented by the Carolina Population Center at the University of North Carolina at Chapel Hill, in partnership with Palladium International, LLC; ICF Macro, Inc.; John Snow, Inc.; and Tulane University. The views expressed here do not necessarily reflect the views of USAID or the United States government. We thank Alami Kebede and Gadisa Assefa for facilitating enumerator training, the data collection teams for their hard work, and the survey participants for speaking with us.

Competing interests

The authors have no relevant financial or non-financial conflict of interests to disclose.

Compliance with ethical standards

Research involving Human Participants and/or Animals: The questionnaire and methodology for this study were approved by the Jimma University College of Agriculture and Veterinary Medicine Research Ethical Review Board (Ref. No. R/GS/S22/2021), the Faculty of Public Health Ethical Review Board (Ref. No. IHRPG 1/2021), and the Institutional Review Board of the University of North Carolina at Chapel Hill (IRB# 21-2143).

Informed consent

Informed consent was obtained from all individual participants included in the study.

References

1. van der Horst M. Gender Role Attitudes. In: Michalos, A.C. (Ed.). *Encyclopedia of Quality of Life and Well-Being Research*. Netherlands: Springer, 2014, 2451-2453.
2. Welch CJ, Alemu B, Msaki T, Sengendo M, Kigutha H and Wolff A. *Improving Household Food Security. Institutions, Gender, and Integrated Approaches*. U.S.A: BASIS Management Entity, 2000.
3. Kassie M, Wagura Ndiritu S and Stage J. What Determines Gender Inequality in Household Food Security in Kenya? Application of Exogenous Switching Treatment Regression. *World Development* 2014; 56: 153-171.
4. Deere CD and Doss C. The gender asset gap: What do we know and why does it matter? *Feminist Economics* 2006; 12(1-2): 1-50.
5. Swaminathan H, Suchitra JY and Lahoti R. *KHAS: Measuring the gender asset gap*. Bangalore: Indian Institute of Management Bangalore. 2011.
6. Cislighi B and Heise L. Gender norms and social norms: Differences, similarities and why they matter in prevention science. *Sociology of health & illness* 2020; 42(2): 407-422.
7. VanderEnde KE, Yount KM, Dynes MM and Sibley LM. Community-level correlates of intimate partner violence against women globally: A systematic review. *Social Science & Medicine* 2012, 75(7): 1143-1155.
8. Heise LL and Kotsadam A. Cross-national and multilevel correlates of partner violence: An analysis of data

- from population-based surveys. *The Lancet Global Health* 2015; 3(6): e332–e340.
9. Jung NM, de Bairros FS, Pattussi MP, Pauli S and Neutzling MB. Gender differences in the prevalence of household food insecurity: a systematic review and meta-analysis. *Public Health Nutrition* 2017; 20(5): 902–916.
 10. Gupta GR, Parkhurst JO, Ogden JA, Aggleton P and Mahal A. Structural approaches to HIV prevention. *The Lancet* 2008; 372: 764–775.
 11. Schuler SR, Rottach E and Mukiri P. Gender norms and family planning decision-making in Tanzania: a qualitative study. *J Public Health Afr* 2011; 2(2): e25.
 12. Oyediran K, Isiugo-Abanihe UC and Bankole A. Correlates of Spousal Communication on Fertility and Family Planning among The Yoruba of Nigeria. *Journal of Comparative Family Studies* 2006; 37(3): 441–460.
 13. Isiugo-Abanihe UC. Male role and responsibility in fertility and reproductive health in Nigeria. Nigeria: Ababa Press, 2003, print.
 14. de Looze M, Madkour AS, Huijts T, Moreau N and Currie C. Country-Level Gender Equality and Adolescents' Contraceptive Use in Europe, Canada and Israel: Findings from 33 Countries. *Perspect Sex Reprod Health* 2019; 51(1): 43–53.
 15. Schuler, SR and Hashemi SM. Credit programs, women's empowerment, and contraceptive use in rural Bangladesh. *Studies in family planning* 1994; 65–76.
 16. Gage, Anastasia J. Women's socioeconomic position and contraceptive behavior in Togo. *Studies in family planning* 1995; 264–277.
 17. Do M and Kurimoto N. Women's empowerment and choice of contraceptive methods in selected African countries. *International perspectives on sexual and reproductive health* 2012; 23–33.
 18. Regional Report for Africa. *Social Institutions and Gender Index*. Paris, France: OECD Publishing, 2021.
 19. Gebrehanna E and Seyoum A. Assessment of Health and Socio-Economic Indicators in Buno Bedele and Ilu Abba Bora Zones of Oromia Regional State, Ethiopia.
 20. Central Statistical Agency (CSA) [Ethiopia] and ICF. 2016. Ethiopia Demographic and Health Survey 2016. Addis Ababa, Ethiopia and Maryland, USA: Central Statistical Agency and ICF.
 21. Central Statistical Agency (CSA) [Ethiopia] and ORC Macro. 2006. Ethiopia Demographic and Health Survey 2005. Addis Ababa, Ethiopia and Calverton, Maryland, USA: CSA and ORC Macro.
 22. Alemayehu M and Meskele M. Health care decision making autonomy of women from rural districts of Southern Ethiopia: a community based cross-sectional study. *Int J Womens Health* 2017; 9: 213–221.
 23. Akuma A, Yadessa T and Yadessa F. Woman's autonomy on maternal health service utilization and associated factors in Ambo town, west Showa zone, Ethiopia. 2019; 6: 77–81.
 24. Nigatu D, Gebremariam A, Abera M, Setegn T and Deribe K. Factors associated with women's autonomy regarding material and child health care utilization in Bale Zone: a community based cross-sectional study. *BMC Women's Health* 2014; 14(1): 1–9.
 25. Hartung C, Lerer A, Anokwa Y, Tseng C, Brunette W and Borriello G. Open data kit: tools to build information services for developing regions. *Proceedings of the 4th ACM/IEEE International Conference on Information Communication Technologies and Development* 2010; 18: 1–12.
 26. National Adolescent and Youth Health Strategy 2016–2020. Federal Democratic Republic of Ethiopia: Ministry of Health, 2016.
 27. Dadi D, Bogale D, Minda Z and Megersa S. Decision-Making Power of Married Women on Family Planning Use and Associated Factors in Dinsho Woreda, South East Ethiopia. *Open Access J Contracept* 2020; 11: 15–23.
 28. Sariyev O, Loos TK and Khor LY. Intra-household decision-making, production diversity, and dietary quality: a panel data analysis of Ethiopian rural households. *Food Sec* 2021; 13: 181–197.
 29. Fantahun, M, Berhane Y, Wall S, Byass P and Högberg U. Women's involvement in household decision-making and strengthening social capital—crucial factors for child survival in Ethiopia. *Acta Pædiatrica* 2007; 96: 582–589.

Additional File 1

Questions used to measure gender-related attitudes

Please say whether you “strongly agree,” “agree,” “neither agree nor disagree,” “disagree,” or “strongly disagree” with the following statements:

Acceptable sexual and reproductive behaviors

1. It is acceptable for unmarried adolescents to be sexually active.
2. It is acceptable for unmarried adolescents to use contraception to avoid pregnancy.
3. A couple's decision about the number of children to have should NOT be left up to the man.

Acceptable economic livelihood behaviors

4. Married women in this community are expected to participate in income-generating activities.
5. Married women who earn income are NOT expected to hand over the income to their husband.
6. Unmarried women in this community are expected to participate in income-generating activities.

7. Unmarried women who earn income are NOT expected to hand over the income to their parents.

Influence in household decision making

8. I have a lot of influence in household decision making on wage employment paid in cash or in-kind.

9. I have a lot of influence in household decision making on revenue generated from wage employment paid in cash or in-kind.

10. I have a lot of influence in household decision making about crop production and marketing.

11. I have a lot of influence in household decision making on revenue generated from crop production and marketing.

12. I have a lot of influence in household decision making about livestock production and marketing.

13. I have a lot of influence in household decision making on revenue generated from livestock production and marketing.

14. I have a lot of influence in household decision making about non-agricultural economic activities: small businesses, self-employment, buying and selling.

I have a lot of influence in household decision making on revenue generated from non-agricultural economic activities: small businesses, self-employment, buying and selling.